2001

A framework for the multiple roles of librarians in problem-based learning

Jolene M. Miller

A Framework
for the Multiple Roles of Librarians
in Problem-Based Learning

Jolene M. Miller

ABSTRACT. Librarians are playing numerous roles within problem-based learning curricula. While many of these roles are described in the literature, there is no framework to describe and organize these roles. This paper proposes such a framework. It arranges librarian roles according to level of curricular involvement and includes the following levels: assistance at the reference desk, instruction at the reference desk, course-related instruction, resource management and utilization, consultation with faculty and students, and group facilitation. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: <getinfo@haworth pressinc.com> Website: <http://www.HaworthPress.com>   2001 by The Haworth Press, Inc. All rights reserved.]

KEYWORDS. Problem-based learning, medical school curricula, librarian involvement, planning framework

INTRODUCTION

Supporting problem-based learning (PBL) is a role for an increasing number of health science libraries. PBL is an educational technique used to supplement or replace traditional lecture-based courses. It al-

Jolene M. Miller is Reference/Education Librarian, R. H. Mulford Library, Medical College of Ohio, 3045 Arlington Avenue, Toledo, OH 43614-5805. She received her MLS from Kent State University and is a doctoral student in educational research and measurement from the University of Toledo. This paper was originally presented as a poster presentation at the annual meeting of the Academic Library Association of Ohio, November 3, 2000, Ashland University, Ashland, OH.

lows "information to be mastered in the same context it will be used."[1] Although there is no single form of a PBL curriculum, it involves small groups of students who meet regularly to learn basic science material using clinical cases. From these cases, students generate learning objectives to be achieved by gathering information from the health sciences library, personal libraries, and conversations with others. Findings are discussed at the following group meeting. Because PBL requires extensive use of information resources, librarians are often involved in the PBL process. This paper describes a framework that organizes the activities in which librarians serving a PBL program might engage.

WHY A FRAMEWORK IS NEEDED

While many papers have been published on the role of libraries and librarians in PBL programs, none have provided a comprehensive structure of librarians' activities. This framework attempts to fill that gap in the literature. As a planning tool, it can help librarians deal with questions such as "What do we currently do for the PBL program?" "What else can we do for the PBL program?" "Given our financial and political constraints, what activities are most important for our library to provide?" Granted, not all of the levels described in this paper can be achieved by every librarian. Institutional structures and politics may make some of these activities unavailable to librarians, especially those without faculty status. Even if the political climate is favorable, the library's budget and workflow may restrict a librarian's ability to participate within the PBL program.[2]

A FRAMEWORK OF LIBRARIAN INVOLVEMENT IN PBL

The PBL activities of librarians can be arranged in a number of ways, the most useful being level of integration into the PBL curriculum. Library faculty are challenged to "have a responsibility for medical student knowledge and outcome,"[3] and the best way to accomplish this is to work toward integration into the curriculum. The proposed framework consists of the following activities:

1. Assistance at the Reference Desk
2. Instruction at the Reference Desk
3. Course-Related Instruction

4. Resource Management and Utilization
5. Consultation with Faculty and Students
6. Group Facilitation

It is important to realize that this arrangement is based solely on level of curricular integration, not upon level of importance of the activities. If a judgement about the relative importance of these activities must be made, it must be made within an individual library, based upon institutional circumstances. In these situations, this framework can be useful in decision-making as it demonstrates the range of activities that are possible.

Assistance at the Reference Desk

The activity considered to represent the least amount of curricular integration is providing assistance at the reference desk because it can be provided even when there is no involvement in the PBL curriculum. This activity is characterized by interaction with students at the reference desk, helping them select appropriate resources for their learning objectives. Students in PBL programs ask questions more frequently than students in conventional curricula and these questions tend to be more complex.[2]

Instruction at the Reference Desk

Within the framework, instruction at the reference desk has been separated from the assistance at the reference desk because instruction is closer to the goals of the curriculum than directing students to resources. In practice, however, assistance and instruction are so closely intertwined that it can be hard to see them as separate activities. The importance of instruction at the reference desk is reflected in the literature. Watkins, in her description of the experiences of the librarians supporting PBL programs, states, "In reality, based on the experiences of the PBL librarians group, most of the education takes place informally at the point of need."[3] In addition, the increase in demand for instruction–both formal and informal–has been dramatic in PBL institutions.[2]

At the reference desk, librarians commonly teach students how to use specific resources: how the online catalog can be used to identify what journal titles the library owns, how to find practice guidelines on MD

Consult or the National Guideline Clearinghouse, or how to use MEDLINE to identify review articles. Less common is teaching the critical thinking skills of information seeking, such as helping students understand why they didn't find the information they needed in MEDLINE and select another type of resource that might be a better choice. This kind of teaching can be characterized by questions such as "Given your learning issue, what type of resource do you think would be a good place to begin?" "Why do you think you retrieved these types of results?" and "From what perspectives can you approach this learning issue? How do these perspectives influence your source selection?" Not all interactions at the desk lend themselves to this type of instruction, of course, but those that do can be the most rewarding encounters from both the librarian's and the student's perspectives.

Course-Related Instruction

   Course-related instruction is the level where most librarians would identify curricular integration. The course director recognizes the importance of information-seeking skills, allots class time for instruction, and invites librarians into the classroom. To the student, this emphasizes the importance and relevance of information-seeking skills.[4] It also demonstrates to students and faculty the unique contribution librarians can make to the medical education team.[5] Libraries supporting PBL programs have been shown to be above the mean in educational activities in terms of numbers of sessions, contact hours, and participants.[6] The types of instructional opportunities described in the literature are varied, including orientation activities, in-class training, refresher courses, required courses, and electives.[3, 4, 7-9]
   There are many benefits of course-related instruction: reinforcing the role of librarians in medical education, the ability to reach many students at a time and to make sure the students are exposed to, at the minimum, basic information-seeking skills. In addition, course-related instruction can provide an "anchor" for instruction at the Reference Desk: "Remember in class when we talked about . . . ?" There are also potential drawbacks associated with course-related instruction. Depending upon the size of the class, for example, a librarian may only have the options of lecture and demonstration, even though she knows that these are the least effective ways for students to learn.

Resource Management and Utilization

This level of the framework deals with the same issue (information resources) from two perspectives (availability and student use). Ideally, resource management for PBL should begin in the early stages of PBL program planning. Because this form of education requires an increased use of information resources,[7, 10] it is important that librarians be involved from the beginning. Librarians on the planning committees can raise important issues, such as the need for increased funding for the library collection so that it can adequately support the PBL students. One of the challenges in this level is that "collection management must be synchronized closely with the curriculum."[3] This challenge can be eased somewhat by librarian participation throughout the planning, implementation, and review processes.

The second component of this stage is gathering and analyzing information about the resources used by students. One goal of this component is providing feedback to the faculty, such as the course director. What resources are the students using? What are the patterns of use? Do they rely upon one or two resources exclusively or are they using a variety of resources, as appropriate? How old are the resources? What kind of Web sites are they using? This data can be used to shed light on the students' use of information, to determine if intervention is necessary (handout or training session), and to improve instruction for the next year's class. In addition, the results can help the library with collection development. Where does the collection seem weak in light of the needs of PBL students? Are there particular cases where students tended to use materials that are too old? Data for this kind of analysis can be collected from a variety of sources. In the literature, library-specific questions on the overall PBL evaluation forms have been used in this manner.[6] In addition, some programs use paper or online reference forms that students must submit for each case.

Consultation with Faculty and Students

This level of the framework consists of two components: (1) consulting during planning and development of the PBL curricula, and (2) consulting with students and faculty during PBL regarding information sources, use, and information-seeking strategies. As noted in the description of the previous level, librarian participation in the initial planning stages can benefit the PBL program by bringing important issues

into the forefront, such as the need for students to learn information-seeking skills and the variety of training options available from the library staff.

Librarian consultation with faculty and staff while PBL is in process differs from assistance at the reference desk because the consultation is formalized. For example, some PBL libraries have established library liaison programs, where librarians are assigned to small student groups to serve as resource consultants.[8-9, 11-12] These librarians provide services such as guidance for resource selection and information-skills instruction. The benefits of this kind of arrangement include working with students over an extended period of time with the opportunity to establish a more collegial relationship than might develop at the reference desk. The experience can improve librarians' understanding of how students use information and how they think about information seeking. It also provides insight into the medical school experience, such as how intimidating the anatomy examinations are and how little time the students have to learn so much material. The major drawback to these activities is the large amount of staff time they entail.

Consulting for group facilitators can take any number of forms. Librarians can be involved in training new facilitators.[6] Some provide training to faculty to increase their knowledge of available resources and to answer general questions regarding students' use of materials.[2, 5, 11] Librarians can also assist in the assessment of students' information search strategies and results.[13-14]

Group Facilitation

The level that indicates the greatest level of curricular integration is librarians serving as small-group facilitators (tutors). In some PBL programs, facilitators are not expected to be content experts, so librarians' lack of basic science or clinical knowledge is not a drawback. In fact, it has been suggested that librarians can function well as facilitators because of the interpersonal and communication skills developed for reference interviewing and assisting library users.[2, 8] The benefits of facilitation are comparable to those of consultation. Additionally, from the perspective of institutional politics, serving as facilitators helps support the notion of librarians as faculty in the eyes of the administrators and in the eyes of the non-library faculty members. One of the challenges of small-group facilitation is feeling confident in one's skills as a facilitator: "What are the best questions I can ask to deepen the stu-

dents' discussion and understanding? How can I fairly assess student performance?" In addition, there may be initial resistance from faculty members and students who do not understand that facilitators are not supposed to serve as content experts.

CONCLUSION

This paper proposes a framework to categorize the activities of librarians supporting PBL programs in their institutions, from providing assistance at the reference desk to facilitating small student groups. With the arrangement of activities based on level of curricular involvement, the framework can be used in library planning and decision making.

REFERENCES

1. Donner, Robert S., and Bickley, Harmon. "Problem-based Learning in American Medical Education: An Overview." Bull Med Libr Assoc 81(July 1993): 294-8.

2. LaBeause, Jan H. "Implications of a Problem-based Learning Curriculum for Health Care Libraries and Librarians: Practical Applications in Preparing for Change." In Handbook of Problem-based Learning, edited by Jocelyn A. Rankin. New York: Medical Library Association and Forbes Custom Publishing, 1999.

3. Watkins, Martha C. "Characteristics of Services and Educational Programs in Libraries Serving Problem-based Curricula: A Group Self-study." Bull Med Libr Assoc 81(July 1993): 306-9.

4. Eldredge, Jonathan D. "A Problem-based Learning Curriculum in Transition: The Emerging Role of the Library." Bull Med Libr Assoc 81(July 1993): 310-5.

5. McGowan, Julie J. "The Role of Health Sciences Librarians in the Teaching and Retention of the Knowledge, Skills, and Attitudes of Lifelong Learning." Bull Med Libr Assoc 83(April 1995): 184-9.

6. Eaton, E.K., and E. Richardson, E. "Strategies for Libraries Serving Problem-based Learning Programs." In Problem-based Learning as an Educational Strategy, edited by P.A.J. Bouhuijs, H.G. Schmidt, and H.J.M. van Berkel. Maastricht, the Netherlands: Network of Community-Oriented Educational Institutions for Health Sciences, 1993.

7. Marshall, Joanne G.; Fitzgerald, Dorothy; Busby, Lorraine; and Heaton, Gwynneth. "A Study of Library Use in Problem-based and Traditional Medical Curricula." Bull Med Libr Assoc 81(July 1993): 299-305.

8. Satterthwaite, Rebecca K.; Helms, Mary E.; Nouravarsani, Rosita; Van Antwerp, Mary; and Woelfl, Nancy N. "Library Faculty Role in Problem-based Learning: Facilitating Small Groups." Bull Med Libr Assoc 83(October 1995): 465-8.

9. Schilling, Katherine; Ginn, David S.; Mickelson, Patricia; and Roth, Loren H. "Integration of Information-seeking Skills and Activities into a Problem-based Curriculum." Bull Med Libr Assoc 83(April 1995): 176-83.

10. Rankin, Jocelyn A. "Problem-based Medical Education: Effect on Library Use." Bull Med Libr Assoc 80(January 1992): 36-43.

11. Ohles, Janet A. "Problem-based Learning: A Library Liaison's Role in Developing Life-long Learning Skills." Med Ref Serv Q 16(Summer 1997): 11-6.

12. Eldredge, Jonathan D.; Teal, Janis B.; Ducharme, Judith C.; Harris, Rebecca M.; Croghan, Lillian; and Perea, James A. "Roles of Library Liaisons in a Problem-based Learning Medical School Curriculum." Health Libraries Review 15(1998): 185-94.

13. Albritton, T. Andrews; Davis, Frank L.; and Karp, Warren B. "A Problem-based Learning Approach to Developing Information-Retrieval Skills." Acad Med 70(May 1995): 438-9.

14. Friden, Kerstin. "The Librarian as a Teacher: Experiences from a Problem-based Setting." In Handbook of Problem-based Learning, edited by Jocelyn A. Rankin. New York: Medical Library Association and Forbes Custom Publishing, 1999.