STUDY LEAVE REPORT

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Radical Collaboration[1]: Medical Librarians, Student Scholarship Competencies and Academic Learning Communities in the 21st Century

(Alternate title: Medical Librarians as the "Venn" of Practitioner & Student Research Literacy Skills[2])

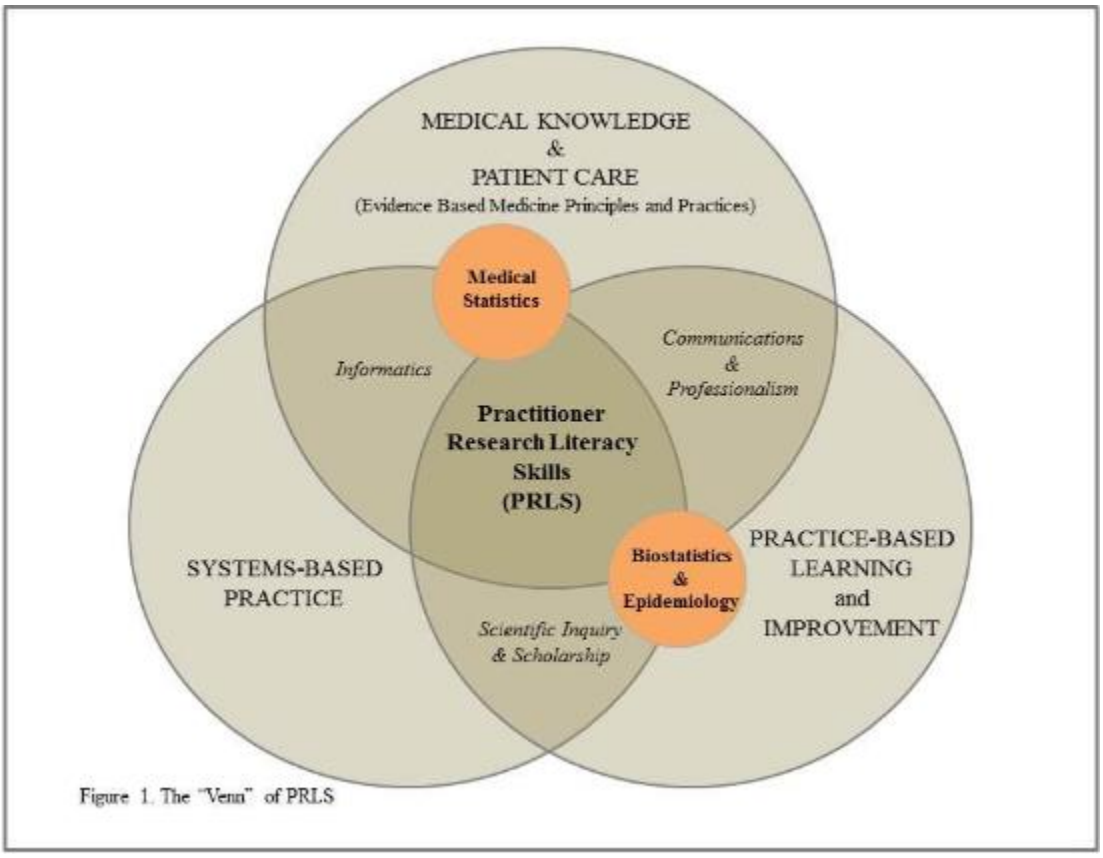

Figure 1. The "Venn" of PRLS

Des Cruser, A., Brown, S. K., Ingram, J. R., Papa, F., Podawiltz, A. L., Lee, D., & Knox, V. (2012). Practitioner research literacy skills in undergraduate medical education: thinking globally, acting locally. *Medical Science Educator*, *22*(3), 169.

INTRODUCTION

After almost ten years of working as the Island Medical Program librarian at the University of Victoria Libraries, I was granted a six month study leave which I took from August 1, 2013 to January 31, 2014. As my position reports to two different administrators, the University Librarian and the Regional Associate Dean, Vancouver Island and Head, Division of Medical Sciences, and is primarily funded by the University of British Columbia, I wanted to ensure that my project would be of interest to both administrators, both universities, to my profession, and to myself.
A colleague of mine, Lindsay Alcock (formerly Glynn), Head of Memorial University's Health Sciences Library, agreed to be my co-investigator on this project. Lindsay Alcock is the founding editor (2006) of *Evidence Based Library and Information Practice* and has created a much used critical appraisal tool for library and information research.[3]

PROJECT OBJECTIVES

To determine the extent of undergraduate medical program librarian involvement in student learning communities and in facilitating student achievement of scholarship and research competencies in American Association of Medical Colleges (AAMC) - accredited Canadian and American medical schools.

RESEARCH QUESTIONS

1. How many AAMC-accredited medical school program librarians in Canada and the USA are mentors (or equivalent) in undergraduate academic learning communities?
2. How are librarians with appointments in AAMC-accredited medical schools currently helping undergraduate medical students achieve scholarship/research (including scholarship 2.0 and research 2.0) competencies as well as digital and information literacy competencies?
3. How do Deans of Curriculum (or designates) at Canadian and American AAMC-accredited undergraduate medical schools perceive program librarians' roles in helping students achieve scholarship and research competencies?

DEFINITIONS

Embedded librarians

Jezmynne Dene's definition of an embedded in librarianship, "the geological concept of an element in a mineral, an "integral part to the whole."[4] As David Shumaker puts it "an element without which the whole could not be what it is."[5] Key characteristics of embedded librarians include going out of the library and into library user groups, building strong relationship, providing customized and value added services, working as team members and collaborators, and contributing to the success of ongoing projects.

Recent literature states that "embedded librarians play a major leadership role in pushing an academic co-creator model for scholarship…where students, faculty, and librarians are all co-creators of the research and learning process."[6]

Hidden curriculum

The hidden curriculum is a "set of influences that function at the level of organizational structure and culture including, for example, implicit rules to survive the institution such as customs, rituals, and taken for granted aspects."[7] Typically, in medical schools, library and information literacy instruction is considered part of the hidden curriculum in that no curricular time is formally allotted to information and digital literacies training. It is taken for granted that students either know or will learn library skills without formal instruction. This situation results in academic medical librarians building relationships with teaching faculty and course directors

in the hope of getting an 'in' to offer a one-shot workshop within a course. In the education, medicine and librarian literatures, the role of librarians in student learning communities has not been well examined. Only a couple of papers specifically focus on librarians roles in learning communities.

Learning communities

"Generically defined, a learning community is an intentional community for students and/or faculty designed to enhance and maximize student learning. By restructuring traditional academic and/or social components of the student environment, leaders of schools with learning communities intend to foster among students a higher level of student engagement and intellectual interaction with peers, faculty, curriculum, and/or their own individual intellectual development.4 The term *learning community* encompasses a broad range of intervention models that vary in purpose, structure, activities, and size depending on the context, culture, and needs of a particular environment.5"

GRANTS

In the fall of 2013, my co-investigator and I applied for and were awarded a 2013 Canadian Association of Research Libraries/Association des bibliotheques de recherché du Canada *Research in Librarianship Grant* of $500. The money will be used to hire an undergraduate student for 4 to 6 weeks to help us with data entry and formatting once survey results are in.

ETHICS APPROVAL

My co-investigator and I applied for ethics approval at both Memorial University and the University of Victoria. Items submitted for each ethics review application included an overview of the methodology, the survey introduction emails, two surveys, 2 letters of information for implied consent, and letters of information for listserv distribution of surveys. Our University of Victoria ethics application received a Certificate of Approval in the spring of 2014. Full ethics clearance was granted by the Memorial University Interdisciplinary Committee on Ethics in Human Research on July 30, 2014.

BACKGROUND – WHY THIS TOPIC?

1. **My interest**

   I first became interested in *academic learning communities* in 2009 when I read *Defining and describing medical learning communities: results of a national survey*.[8] At the same time, much discussion amongst academic librarians was focused on the need for librarians to take on emerging roles to meet 21st century needs. Concurrently, several significant reports were published on the need to reform the undergraduate medical curricula to meet 21st century requirements. I could see that embedding librarians within student learning communities might address many of the concerns raised in the library and medical education literatures. "Learning communities contribute positively to stakeholders' perceptions of the educational environment, and in medicine they facilitate increased interaction among medical students as well as between students and faculty members."[9]

   Ferguson's study[10] reported that, among other things, that academic learning communities can be used to deliver curriculum, however, it did not mention any findings of academic learning communities used for scholarship or research purposes. In fact, Ferguson's research finds that most student learning communities are used for social purposes. Willis and Deardorff, however, in 2011, wrote a paper suggesting that scholarship/research be a defined purpose of undergraduate student learning communities.[11]

In the education, medicine and librarian literatures, the role of librarians in student learning communities has not been well examined with only a few articles found. My co-investigator and I are interested in exploring academic learning communities to see if they might be good environments in which to address the 'hidden' curriculum on scholarship and research, particularly where a librarian is an integral part of an academic learning community.

2. **The imperative for 21st century academic librarians to take on new roles in the academic enterprise**

   Recent academic library literature states that to remain relevant in the 21st century, librarians need to change the roles they play in the academic enterprise from service providers to 'embedded' members of research teams and student activities.[12]

   Dewey says that the "imperative for academic librarians [is] to become embedded in the priorities of teaching, learning, and research in truly relevant ways" and that the question is "*how* to leverage collaboration in the most effective way for librarians to gain sufficient entrée into teaching, learning, and research."[13] "The embedded librarian: Strategic campus collaborations." *Resource Sharing & Information Networks* 17.1-2 (2005): 11.

3. **Calls to reform undergraduate medical education to meet 21st century societal demands**

   There have been extensive recent calls nationally and internationally to reform the undergraduate medical education context from the Flexnerian model of medical education to a new paradigm.[14151617] Each of these reports make the following recommendations for revising the undergraduate medical education curriculum**:**

   a. To move from a time-based educational paradigm to a *competency-based paradigm*
   A competency-based paradigm can be defined as "an approach to designing medical training that is focused on outcomes in the form of the abilities of graduates."[18]

   b. **To increase opportunities for *student scholarship and research***
      - ✓ *The Future of Medical Education in Canada (FMEC)* report makes 10 recommendations, the third of which is to "build on the scientific basis of medicine."[19]
      - ✓ "In 2006 the Association of American Medical Colleges (AAMC) raised the competency bar with a bold statement that every future physician should receive a thorough education in the basic principles of research, and that this academic component should become an accreditation standard for undergraduate and for graduate medical education."[20]
      - ✓ The Liaison Committee on Medical Education (LCME) states: "An institution that offers a medical education program should make available sufficient opportunities for medical students to participate in research and other scholarly activities of its faculty and encourage and support medical student participation."[21]
      - ✓ "Opportunities for medical students to pursue scholarly interests or independent projects are rare within standard medical education curricula."[22]
      - ✓ "As scientific research is rapidly evolving from its status as a largely individual endeavor to that of a highly collaborative, interdisciplinary activity, research training for undergraduate medical students should also inculcate the spirit of teamwork."[23]

- ✓ One of the reasons that more student research and scholarship opportunities are needed is because it has been known for some time that most undergraduate medical students don't usually pursue clinical research after graduation and that "the number of clinical academics participating in research is shrinking."[24]
- ✓ Calls for more opportunities for student scholarship and research in the medical literature[2526]
- ✓ "The Boyer commission report has dramatically reformed how universities should approach undergraduate education. In particular, it was advocated that research-based learning should be the standard for any given undergraduate education."[27]
- ✓ As scientific inquiry provides the basis for advancing health care, research interests and skills must be developed to foster a new generation of health researchers.[28]

c. To better address *the 'hidden' curriculum*

The Future of medical education in Canada (FMEC): a collective vision for MD education report states that "Faculties of Medicine must therefore ensure that the hidden curriculum is regularly identified and addressed by students, educators, and faculty throughout all stages of learning."[29]

d. **To *diversify learning contexts* to ensure student learning takes into account the 21st century digital and more student-centred learning environment**

Recent literature on higher education stresses the need for better student support, engagement and learning in the 21st century digital context.[30]

- ✓ Create experiential learning contexts for students, based on constructionist, socio-cultural and communities of practice theories. Student learning contexts need to be diversified, "in part to ensure that online learning be a part of student curriculum and to ensure that students work in small groups or communities."[31] Situated learning allows the incorporation of other learning perspectives and includes workplace learning and experiential learning. Viewing medical education through the lens of situated learning suggests teaching and learning approaches that maximise participation and build on community processes to enhance both collective and individual learning."[32]
- ✓ The Carnegie Report by Cooke and Irby envisions a medical education system that…"creates opportunities for integrative and collaborative learning, inculcates habits of inquiry and improvement, and provides a supportive learning environment for the professional formation of students" and also," Develop[s] habits of inquiry and improvement into medical education at all levels."[33]

METHODOLOGIES

1. *Literature searches* on the following topics were conducted

- ✓ 21st century education conceptual and theoretical paradigms including constructivism and Social Development Theory (Vygotsky), competency-based education models, experiential learning models including learning communities, student-centred learning, and situated learning.
- ✓ The changing technological paradigm and 21st century technologies in the research
- ✓ Digital literacies competency development
- ✓ New and emerging roles for medical and academic librarians

Indexes, Databases, Search Engines and Websites Searched

- ✓ The following databases were searched for *published literature:* PubMed, Google Scholar, LISA, Web of Science, and ERIC
- ✓ For grey literature the following web search engines and sources were searched: DuckDuckGo; Google; Slideshare; Twitter; the websites of AAMC-accredited undergraduate medical schools; academic and medical library associations; medical education associations; and think tanks such as Educause, The Pew Research Centre, the Carnegie Foundation, the Josiah Macy Jr. Foundation, etc.

Inclusion criteria

- ✓ English language
- ✓ Literature published between 2009 and 2014. (We chose to begin our searches in 2009 in order, partly, to update the Ferguson survey of medical schools with academic learning communities.)[34]

Search Techniques

Apart from standard **search techniques**, I used Bate's meta-strategy of 'berrypicking,'[35]as well as snowballing[36], citation searching[37], and author tracking techniques.

Of the resulting articles found, over 200 met our criteria. *A copy of the draft bibliography is available, upon request.*

2. Web-based surveys

Two exploratory, semi-structured, web-based surveys using both closed and open-ended options were developed. They were informed, in part, and with the authors' permissions, by adapting survey questions used in the following research:

- ✓ **Ferguson, K. J**., Wolter, E. M., Yarbrough, D. B., Carline, J. D., & Krupat, E. (2009). Defining and describing medical learning communities: results of a national survey. *Academic Medicine*, *84*(11), 1549-1556.
- ✓ **Haddow, G**. (2012). Knowledge, skills and attributes for academic reference librarians. *Australian Academic & Research Libraries*, *43*(3), 231-248.
- ✓ **Marz, R**., Dekker, F. W., Van Schravendijk, C., O'Flynn, S., & Ross, M. T. (2013). Tuning research competences for Bologna three cycles in medicine: report of a MEDINE2 European consensus survey. *Perspectives on medical education*, *2*(4), 181-195.

One survey is designed for medical librarians with appointments in AAMC-accredited undergraduate medical schools; the other is designed for Deans of Curriculum (or equivalent) at AAMC-accredited undergraduate medical schools. The surveys both focus on the character of student learning communities at AAMC-accredited Canadian and American undergraduate medical schools; their focus, or not, on student research and scholarship learning outcomes; and the role(s), if any, of librarian members of learning communities.

NEXT STEPS & TIMELINE

January to February 2015

- ✓ Invitations to each of the two surveys will be distributed
  - Each of the two surveys will be run for 3 weeks
  - A reminder will be sent out with the survey invitations, 1 week prior to the closing dates of the surveys
  - Data will be collected

- ✓ Results of the two surveys will be run & cleaned
- ✓ Data analysis

February to March 2015

- ✓ Data analysis
- ✓ An undergraduate student will be hired to help us organized data and bibliographic management files

March to June 2015

- ✓ Dissemination activities
- ✓ My co-investigator and I will prepare and give presentations at 2015 medical librarian and medical education conferences

June to September 2015

- ✓ My co-investigator and I will prepare a manuscript for submission to a peer-reviewed academic journal in either the medical education or medical librarianship fields. We are committed to ensuring that any resulting publication(s) will available via open access
- ✓ My co-investigator and I will promote our research findings via social media

REFLECTIONS

It would ideal if librarians could meet with a research advisor or mentor before going on a study leave, in order to ensure that the scope of one's project is realistic and achievable within the time allotted. A consultation with a methodology expert, too, might help make librarian study leaves more rigorous. I think it would benefit students (and librarians, to), to have a qualitative methodologies consultation office in the Learning Commons.

Grant writing took a lot more time than I had anticipated. Librarians should try to complete and submit grant applications for study leave projects *before* the study leave period actually begins, in order to ensure adequate study leave time for working on the project itself. I would like to suggest that the Assessment Office and the Grants and Awards librarian create a helpful checklist of suggestions regarding preparing for a study leave, providing more detailed information than that provided on the University of Victoria's Office of the Vice-President Academic and Provost's webpage regarding Study Leaves. I envision this checklist being similar to a project management charter but with details provided specific to study leave processes.

Having to obtain ethics approval from two universities, in our case the University of Victoria and Memorial University, while valuable, takes a long time.

In retrospect, my project topic was far too ambitious to accomplish in 6 months, a year's leave would have been a more appropriate length of time in which to complete my project. The project was too broad in scope, and any one of the topics noted in the *Background – Why This Topic?* section of this report could, alone, have formed the basis for a study leave project. It was quite difficult to avoid scope creep in doing the literature searches as the topics involved are each complex and linked to relevant, wider literatures. I spent many, many months before, during and after my study leave period reading the relevant articles retrieved. The project should be completed by mid to late 2015.

Personally, because I picked a very time-consuming project to work on, I found that six months away from the library was not enough time for me to return to work feeling refreshed. I was so busy with my research routine that I had very little time in which to relax and de-stress. Ideally, I would have liked to have had the opportunity to take a 12 month study leave so that my project could have been completed by then and I would have had more time to de-stress, slow down, and have a break from my regular routine. I hope that the possibility of 12 month study leaves will be considered in future faculty union agreements.

On any future study leaves I take, I will attempt to choose an important, but *much more focused* project. Ideally, I would also like to travel to another jurisdiction to do my research. The perspectives one gains from living and working within another culture are beneficial, both personally and professionally. I am particularly interested in working in a developing country, or at Stanford, Columbia, Duke or Harvard medical schools and libraries.

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