Adapting an Embedded Model of Librarianship, College by College

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This page lists questions we have about your paper. The numbers displayed at left can be found in the text of the paper for reference. In addition, please review your paper as a whole for correctness.

Q1: Au: Please provide access date.

TABLE OF CONTENTS LISTING

The table of contents for the journal will list your paper exactly as it appears below:

Adapting an Embedded Model of Librarianship, College by College

Lindsay Blake, Kim Mears, Kathy Davies, Darra Ballance, Peter Shipman, Maryska Connolly-Brown, and Julie K. Gaines
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Librarians are increasingly moving out of the library and into the wider university setting as patrons spend more time seeking information online and less visiting the library. The move to embed librarians in colleges, departments, or customer groups has been going on for some time but has recently received more attention as libraries work to find new ways to reach patrons that no longer need to come to the physical library. Few universities have attempted to embed all their librarians. This case study describes how one group of health sciences librarians dispersed its professional staff throughout its campuses and medical centers.

KEYWORDS Embedded librarians, faculty, hospital, liaison librarians, office hours

INTRODUCTION

As libraries and library patrons move forward into an increasingly online setting, librarians find themselves freed from the reference desk and responsible for the task of caring for a large physical collection. Librarians now reach...
outside of the traditional library space more frequently and connect with their patrons more directly through traditional faculty roles of scholarship, teaching, and service. While the meaning of embedded varies among libraries, Greenblatt librarians chose to look at embedded librarianship as presented by David Shumacher: “The librarian becomes a part of the customer community rather than a service provider standing apart.” Librarians at Johns Hopkins and Emory University have embedded themselves in their communities full-time. Other librarians embed themselves part-time in colleges or provide reference or service points in the patron space. The librarians at the Robert B. Greenblatt MD Library on the Georgia Regents University (GRU) health sciences campuses moved their services outside of the library space and established themselves in the campus and hospital communities.

Georgia Regents University, located in Augusta, GA, was formed in January 2013 through the consolidation of Augusta State University and Georgia Health Sciences University. The formation of GRU was unique in that it created a new comprehensive research university in the state. The newly formed Georgia Regents University brought challenges and opportunities to the Libraries, one of which was the move from liaison to embedded roles for the librarians on the health sciences campuses. Of the ten librarians working on the health sciences campuses, seven are currently embedded. Only the Director of Libraries, the Digital Services Librarian, and the Chair of Content Management remain in liaison roles.

Since 1989, Greenblatt Library administration has designated librarians as liaisons to the various colleges and departments on the GRU health sciences campus. The purpose of the liaison program was to allow librarians to develop a close working relationship with the faculty, staff, and students from each discipline. While these liaisons participated in a number of activities outside the library, such as attending departmental meetings and teaching classes, the majority of this work was still completed within the library. While many students used the library for class work and studying, faculty members visited the library in far fewer numbers. The librarians wanted to reinvigorate their relationships with faculty and clinicians, two groups that librarians often had little contact with, while still maintaining student services.

LITERATURE REVIEW

It can be debated whether the embedded librarian concept began in medical libraries or in the academic and special libraries setting. The literature from the latter setting is certainly the most prolific and varied in its concepts of embeddedness: from embedding an online component into a single course to full physical or cultural integration into an academic college or business unit. In the case report of the embedded librarians at the University of Calgary, Clyde and Lee describe the shift from reference work to a more...
flexible, individualized system. Some Calgary librarians were physically relocated to multipurpose locations within a college, while some maintained their original work location within a small satellite library (e.g., law, music). The model achieved many benefits including increased visibility of the librarians leading to more curricular involvement.\(^\text{5}\)

David Shumaker conducted extensive studies of embedded librarians within the special library setting. The change to this model “is both driven and enabled by the increasingly digital, networked and mobile society we live in.”\(^\text{1}\) The embedded model changes the nature of library service to a more proactive, participatory model. According to Shumaker, this change must be viewed as a partnership. In order to make the partnership succeed, certain elements must exist: work space for the librarian with their customer group; inclusion in group communications and collaboration; invitations to meetings; senior management sponsorship (from both the library and the customer group); and feedback on projects. Pitfalls to success may include inadequate attention to workload leveling (the librarian is overwhelmed with requests from the group) and loss of cohesion among the library staff once they begin spending more time outside the library.

In the health sciences, librarians’ roles have evolved over time, adapting due to the change in the information needs of their clientele.\(^\text{6}\) While health sciences librarians have traditionally been subject specialists, the embedded model encourages more direct work with a specific department or team. The concept of the embedded librarian has long been a part of the history of health sciences librarianship. In the mid-1970s, Gertrude Lamb identified a gap between medicine the discipline and the information applied to patient care.\(^\text{7}\) Her opinion was that a clinical medical librarian embedded in the patient care team would help bridge that gap and make the librarian more central in clinical care.\(^\text{7,8}\) The embedded and clinical librarian models were not only created to “bridge gaps,” but to “reconnect users and librarians outside the traditional library environment.”\(^\text{3}\) In 2000, Davidoff and Florance introduced a new idea, the informationist, advancing the idea of the clinical librarian and clinical information interventions.\(^\text{9}\) The informationist serves as a member of the health care team and learns “the practical, working skills of retrieving, synthesizing, and presenting medical information.”\(^\text{9}\) Health sciences librarians redefining their role as embedded and going beyond the traditional library work demonstrates a value-added service in many institutions.\(^\text{10}\)

As embedded librarians, these health professionals act more as partners with their clientele rather than serving in a supporting role.\(^\text{11}\) These partnerships along with the organization’s mission promote different models for the integrated librarian. On academic health sciences campuses, librarians become partners or members of the teams in the different academic departments on campus.\(^\text{12}\) In clinical or hospital settings, librarians become members of the patient care team. One model does not fit all groups, and often within one institution, there are different embedded models being implemented.
THE BEGINNING

To create new opportunities, GRU library administration, in collaboration with the liaison librarians, proactively explored a model of library services that would bring librarians to their customers. Building upon existing liaison relationships, library administration worked with the campus and college administrations to obtain office space for librarians in the various colleges. The Library Director met with each college dean to discuss services and the benefits of implementing an embedded model. The deans were asked to provide space near faculty and student areas. Office space was identified for librarians in the Colleges of Nursing, Allied Health, and Dental Medicine. A new medical education building is under construction which will include space for the embedded medical and dental librarians.

The move to spaces outside the library has not been the only change. Embedded librarians have also initiated meeting with deans, department chairs, and faculty to promote embedded and library services. While certain positions were already embedded physically, other librarians needed to find not only space, but their niche in the college. The nursing librarian, GRU/UGA partnership campus librarian, and clinical librarian were developed to be specifically embedded from the beginning, while the Dentistry, allied health, and medicine librarians had to develop embedded models.

Medical College of Georgia

The chair of Research and Education Services and the clinical librarian had established liaison roles within Medical College of Georgia (MCG) before transitioning to the new embedded library service model. The former instruction program consisted of a basic orientation for first-year students, a refresher lecture during the second year, and student assistance with public health county research projects. The librarian served on the Curriculum Oversight Committee to share information on library resources, perform literature searching, and provide faculty orientations.

During the initial stage of the embedded service model, the instructional program shifted to a two-step approach for the first two years. Changes to Liaison Committee for Medical Education (LCME) standards led to a redesign of the bioinformatics curriculum. The program redesign begins in the first and second years with potential to extend the revised curriculum into third and fourth clinical years.

Embedded library faculty are assets in meeting standards for both LCME requirements and the Southern Association of Colleges accreditation process. Librarians provide podcast information resources, assist with nonclinical topics, and participate in LCME planning. The recent formation of Georgia Regents University resulted in a myriad of information requests regarding library resources and services. Library faculty review curriculum resource
needs to support new education programs, for example, a Health Professions Education Certificate.

Opportunities for scholarly collaborations have expanded as a result of the new integrated service model. The chair and the clinical librarian are full team members in two major initiatives for medical education assessment: the Database and Repository of Educational Measures provides access to free peer-reviewed assessment tools and Transformation in Medical Education links assessment to medical students’ clinical and behavioral milestones. Librarians are partnering with the MCG Educational Innovation Institute to pursue multiple publication and presentation venues.

College of Nursing

The Director of Libraries, with input from the Dean of Nursing, revised the job description for the former nursing liaison/information services librarian to create a position dedicated solely to the College of Nursing. Office space was provided among the nursing research faculty. The Dean of Nursing has supported full integration of the librarian into the college, encouraging inclusion in meetings, committees, and communications. The librarian was invited to attend the college’s faculty development retreat and the Dean’s leadership council. The librarian became a member of several college level committees, including the Instructional Technology Advisory Committee (ITAC), the Workload Publication Workgroup, and the Academic Affairs Committee. Through participation on the RN-BSN Program Development and Implementation Team, the librarian has also helped establish a new program for the college.

Teaching opportunities for undergraduate and graduate students have increased from an average of three to eight sessions per semester in evidence-based nursing and research courses. Invitations have been extended to give presentations to the nursing research faculty. The librarian is included in faculty development opportunities within the college and is collaborating with nursing faculty on multiple publication efforts.

Support to hospital nursing staff is offered through the librarian’s role in the Nursing Research and Evidence Based Practice Council. The librarian serves as secretary to the group and provides literature searching and aid in locating, critically appraising, and synthesizing the best evidence. As a result, the group has recommended several practice changes to be implemented in the hospitals.

The availability of an office among the nursing research faculty has resulted in increased student and faculty drop-ins and appointments. Feedback from the Interim Dean of the Center of Nursing Research indicated that students and faculty are pleased with the availability of the librarian within the college. Students often remark that having an assigned librarian is beneficial to their coursework.
College of Allied Health

The College of Allied Health Sciences (CAHS) is a collection of eight programs, each individually accredited, that function as one college under the same administrative body. Initial liaison efforts included primarily guest lectures by faculty request and periodic referral of students in need of research assistance. The completion of a new Health Sciences Building and hiring of a dean supportive of the library enabled the facilitation of greater interaction within the college.

The embedded librarian’s academic support efforts include individual research consultations, literature searches, technology support, instruction in specific databases, and scheduled classroom lectures. Curriculum covered in these lectures is customized to meet the research needs of the class or program to which they are being presented. In addition to instructional sessions, the librarian is physically embedded within the Health Sciences Building for a total of three hours on Tuesdays and Thursdays to provide drop-in research assistance. More involved projects include a supportive and advisory role in the development of systematic reviews and the co-teaching of a graduate, three-credit-hour Bioinformatics course offered in the spring.

The embedded librarian also represents the library as a participating member of the CAHS Faculty Council and the ITAC. At these meetings, the librarian shares news of upcoming library events along with new resources and programs of interest to the college. This is also an opportunity to ask for input into how well the library is meeting their needs and what further collaboration or support is required. For example, in response to a need for round-the-clock research support for students, the librarian developed an online reference portal in the form of a LibGuide. This reference portal provides information about essential databases and journals for each academic program in the college, specific research information and tips, and will eventually expand to include video tutorials and multimedia elements.

College of Dental Medicine

The College of Dental Medicine has historically housed instructional, clinical, and computing resources in a single building served by the dental librarian. As class sizes were increased, a dental school for clinical and administration functions was constructed, with pre-clinical students using other buildings for instruction. The librarian was challenged in finding office hours and locations convenient to users spread across the main campus. Office hours are typically anchored around the lunch break and located in public lobby areas or office space shared with other librarians in several buildings. The soon-to-be completed interdisciplinary instructional building for dental and medical students will have a dedicated office for librarians and will adjoin the dental clinical building, keeping dental faculty and students to two buildings instead
of being spread over the main campus. It will continue to be difficult to obtain similar office space in the clinical building due to space restrictions.

The dental college administration is supportive of the embedded model by including librarian membership on the instructional technology and the dental curriculum committees. Participation in curricular matters, especially in being aware of the college compliance with the Commission on Dental Accreditation standards, is vital.

Being physically present within the dental education setting has increased the librarian’s interaction and familiarity with users. Moving to an embedded model allows the librarian to adopt a more proactive approach. Requests for traditional services such as resources and teaching activities can be improved when the librarian has a deeper knowledge of the college needs. Attending meetings, training sessions, and public lectures are useful in building relationships that lead to promoting more specialized library services. For example, a conversation with a faculty member is leading to librarian participation in a group that mentors newer faculty for professional development.

Institute of Public and Preventive Health

In 2012, the university established a new Institute of Public and Preventive Health (IPPH). The centerpiece of the IPPH is the previously existing Georgia Prevention Center, a long-standing center concerned with pediatric public health research, particularly epidemiology. After transitioning out of the embedded position for the College of Nursing, the AHEC librarian was asked to establish an embedded position in the IPPH.

Initial meetings with the Director of Libraries, the AHEC librarian, and the IPPH administrators lead to invitations to speak to faculty regarding research support. An in-depth relationship with an IPPH faculty member, who directs the university’s child care center, motivated the librarian to seek an NN/LM outreach grant award to benefit the child care teachers, the children, and their families. The successful grant application funded a nutrition literacy outreach project that included stipends for the child care teachers, new iPads for each classroom, and education sessions led by the librarian and a dietitian.

In anticipation of the arrival of the new IPPH Director in October 2013, the librarian wished to familiarize this director with the publication patterns of public health researchers at GRU. The librarian performed an analysis of all peer-reviewed journal articles published by IPPH faculty since 2008. This analysis was well-received by the Director. Working with the Director, the librarian has also recently established office hours in the IPPH.

Prior to taking on this embedded project, the AHEC librarian had only a basic understanding of public health. The librarian, in order to collaborate more fully with IPPH faculty, pursued and was awarded a stipend from
The Grace and Harold Sewell Memorial Fund to attend the 2013 American Public Health Association annual conference. Attending the meeting aided greatly in increasing the librarian’s understanding of public health issues and research methods, particularly community-based participatory health research.

GRU/UGA Medical Partnership Campus

As a faculty member at a new medical college campus in Athens, GA, the librarian is active in an environment that fosters new opportunities for integration into all four years of the medical education curriculum. The librarian was hired in 2010 and worked closely with the curriculum team to build the Essentials of Clinical Medicine course for the inaugural class in August 2010. The librarian’s office is located centrally within the medical college building. In addition to traditional roles, the librarian is considered a medical college faculty member and teaches students how to search for evidence-based medicine topics and appraise the medical literature. She assesses the medical students’ searching skills with graded assignments and writes USMLE-style questions for weekly assessments. The librarian also serves as a small group faculty coach for eight students in a Community Health project.

The librarian partnered with the third-year pediatric clerkship to teach during academic half days, and provided instruction for using mobile technology at the bedside. As a co-investigator on a multi-disciplinary research team project, the librarian collaborates with physicians and educators to research the use of mobile technology, specifically iPads, in the third-year internal medicine rotation. The librarian assisted with the data gathering and the training of the faculty and the medical students, which included how to use mobile applications and library resources to answer clinical questions.

Being a faculty member on a new campus has fostered novel collaborations between the librarian and the medical college faculty. Being embedded and a solo librarian has educated faculty on the myriad of skills a librarian can bring to a project. These partnerships have led to scholarly projects, presentations, and publications with the faculty.

GRU Health System

The Clinical Librarian (CL) is integrated into the Departments of Pediatrics and Family Medicine. This position had been filled part-time for three years, requiring the new librarian to start by rebuilding. Attendance at morning report with a follow up of pertinent literature had been established and was continued. The CL approached the residency directors and chairs in both departments to determine how to better integrate into the clinical culture. Discussions led to the CL rounding twice a week with the Family Medicine
inpatient team and twice a week with one of five pediatric inpatient teams at the Children’s Hospital of Georgia (CHOG). The CL continues to work with the residency directors, chairs, and faculty on ways to become more involved in both departments.

After a basic rounding schedule was implemented, the librarian began to explore other areas for involvement. The CL was asked to assist a small group of Pediatric faculty in redesigning the journal club. The CL now meets monthly with third-year residents to complete a search of the literature and discuss the findings. Discussion with the Chairs of Pediatrics and Family Medicine led to the CL being appointed adjunct faculty in both departments. Adjunct status has aided the CL in communicating within the departments and provided greater access to departmental resources. Access to the electronic medical record system (EMR) was petitioned for and granted. EMR access allows the librarian to better tailor requested information searches to specific patients.

The CL shares space with the residents in the adult and children’s hospitals. The CL works with faculty and residents in both departments on grant submissions, scholarly projects, presentations, and publications. This work has led to an article publication and grant submission.

DISCUSSION

At GRU, functioning as embedded librarians has led to increased visibility and contact with patron groups. This would not have been possible without support from library and college administration. The assistance of college deans, directors, chairs, and residency coordinators has been essential to establishing embedded librarians in office spaces, within communication circles, on key committees, and as visible contributors to the missions of the colleges. Although GRU librarians have been fortunate to have strong administrative support from all sides, this has not always translated into faculty buy in and acceptance. Librarians still have the responsibility of introducing themselves, explaining their services, and demonstrating the value of the role they can play in the overall college structure. Librarians must also take the time to learn the characteristics of their colleges and how best to serve the distinct needs of the students and faculty. The experience at GRU reflects that once librarians are accepted by faculty, students follow suit.

Increased contact allows librarians to offer expanded services at the point of need. Overall, once faculty and students were aware of the librarian in their college, requests for consultations and office drop-ins increased. Figure 1 shows that embedded librarians have had more than 700 reference transactions during the first six months of recorded statistics, including literature searches, assistance with grant applications, scholarly support for students, and basic reference. As a result, librarians spent more time working on projects pertinent to their embedded areas.
While this was the aim of the embedded program, librarians must pay careful attention to their workload in order to maintain a balance between general library projects and embedded work. While one embedded librarian may offer literature searching for all faculty projects, the availability of this service may vary by college due to the high volume of faculty output in certain disciplines. General library projects of collection development, collection analysis for program support, applying for grants, participating in faculty governance, and library committees are all examples of library-focused projects which librarians work on while maintaining embedded activities. Embedded librarians take on a large time and work commitment when moving into a college, since they do so while maintaining their old duties, but the satisfaction gained is well worth the time.

Overall, it seemed that teaching and reference transactions increased due to greater visibility, but more accurate statistics on embedded and pre-embedded activities were not kept for comparison. Statistics for classes, as defined by Association of Academic Health Sciences Libraries, did show an overall increase in the number of classes, students taught, and hours spent in class. Figure 2 shows the number of classes taught by embedded area for a liaison year, the first embedded year, and the first six months of the second embedded year. The number of classes is increasing in most areas, but the growing pains of establishing a new program can be seen as well.
FUTURE DIRECTIONS

After reviewing the past 18 months of the program, the librarians and library administration consider this initiative a success. The librarians plan to extend their services further within each embedded area to fully utilize their skills. Library-wide goals include collaborating with colleges and research faculty in grant preparation and submission, journal publications, and presentations.

Although teaching statistics are maintained for library classes and guest lecture encounters, the embedded librarians found themselves regularly engaged in other types of support activities, which were not being tracked or compiled. Individual reference statistics were loosely collected, but a more robust tracking system was needed to accurately gauge the impact and of the embedded librarian program. SpringShare’s LibAnswers Reference platform, commonly referred to as RefAnayltics, was identified as a possible tool for accomplishing this task. Embedded librarians met a number of times to refine the reporting form design enabling them to collect the statistics that were useful and descriptive.

The data gathered using this method is expected to be advantageous not only in tracking reference encounters but also in identifying embedded areas in which further support or development might be needed in the future. Areas having greater numbers of embedded encounters may be considered

![FIGURE 2](Teaching statistics—Number of classes by college.)
for increased embedded time or as a possible area in which expansion of the program is warranted. Figure 3 shows the number of transactions per embedded area since August 2013.

Future expansion of the embedded program will focus on the GRU Cancer Center where the library has worked extensively assisting researchers to comply with the National Institutes of Health’s Public Access Policy, but does not have a dedicated embedded librarian. With the impending completion of the new J. Harold Harrison, M.D. Education Commons building, office hours will soon be established in a new area on the main campus, allowing the embedded dental and medicine librarians greater access to students and faculty.

CONCLUSION

The library has gained wider recognition in the colleges and campuses due to the efforts of embedded librarians. Word of mouth and continued work by embedded librarians show an increased impact each day. While a core group of faculty and students have recognized that the library was more than a place to study, many more stakeholders are now finding that the library is central to the college experience and that librarians have more to offer outside the library. Embedded librarians are becoming a common sight outside the walls of the library and are recognized across the campuses. This
has resulted in increased job satisfaction for all the librarians at Greenblatt Library.

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