



The Interdisciplinary Academic Library: A Medical Humanities Case Study

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abstract: This paper sets out to identify the ways in which academic libraries can further interdisciplinary scholarship on campus. The medical humanities is presented as an example to interrogate the current practices in academic libraries and to inform future efforts in support of interdisciplinarity. Text mining was employed to illuminate trends in this interdisciplinary field using program descriptions from universities with “very high research activity” as a data set for analysis. Based on these data, this article proposes best practices and opportunities for engagement in the medical humanities that may be applicable to other interdisciplinary fields served by research libraries.

Introduction

Interdisciplinary projects and fields of inquiry have been hallmarks of humanities research and teaching for several decades, inspired by institutional pressures as well as a growing recognition of the permeable boundaries that separate departments. Interdisciplinarity is increasingly seen as an opportunity to enrich teaching and learning, to expand the reach of scholarship, and to address pressing areas of research interest in an era of social and cultural tension. Academic libraries are well situated to provide a forum for interdisciplinary exchange and to support interdisciplinary work in ways that extend, rather than undermine, traditional support for academic disciplines. The library’s habitual practices of research assistance, instruction, and provision of a space

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for intellectual exchange can be leveraged to promote and engage with scholarship outside of departmental confines. Because of its universality as a research, teaching, and learning space, the academic library can incorporate diverse research practices, collabora-

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tion, and interdisciplinary modes of inquiry as part of its core mission. If the goal of humanistic education is to produce individuals who have, in the words of Michel de Montaigne, "a well-informed rather than a well-filled brain," then it is the role of the library to support humanistic education through the creation of collections, services, and spaces that embrace interdisciplinary inquiry and aid the reexamination of academic boundaries imposed by the modern

university.¹ Library support for the medical humanities is a practical representation of interdisciplinarity capable of revealing insights applicable to library engagement with other programs and modes of inquiry.

The medical humanities is an interdisciplinary field incorporating concepts, practices, and preoccupations from the health sciences, the history of medicine, disability studies, the sociology of health, medicine in literature, and humanistic approaches to the practice and teaching of medicine. The collection development manual of the United States National Library of Medicine defines the *medical humanities* as "the study of the intersection of medicine and humanistic disciplines such as philosophy, religion, literature, and the fine and performing arts." The manual adds:

This field emphasizes the humane aspects of medicine and health care and has expanded to include research in social sciences disciplines that are informed by humanistic scholarship, such as cultural studies, anthropology, and medical sociology. The literature is diverse, and includes scholarly research, reflective essays, and critical interpretations of artistic and literary works.²

A variety of departments on campus carry out medical humanities research. Furthermore, it is important to note the crucial role of the medical humanities in the pedagogy of some health sciences programs, which view it as a means of cultivating empathy and a broader perspective among future medical professionals.³ This emphasis on teaching and learning is consistent with academic library priorities, making it an important avenue by which to strengthen the library's role in the provision of information literacy, as well as an opportunity to interrogate current practices in information literacy.

Data Analysis

To understand the priorities expressed in medical humanities programs and centers, this article applies the methodology of text mining to elucidate trends in the data. Text mining using Voyant Tools (voyanttools.org) can assist with framing areas of inquiry

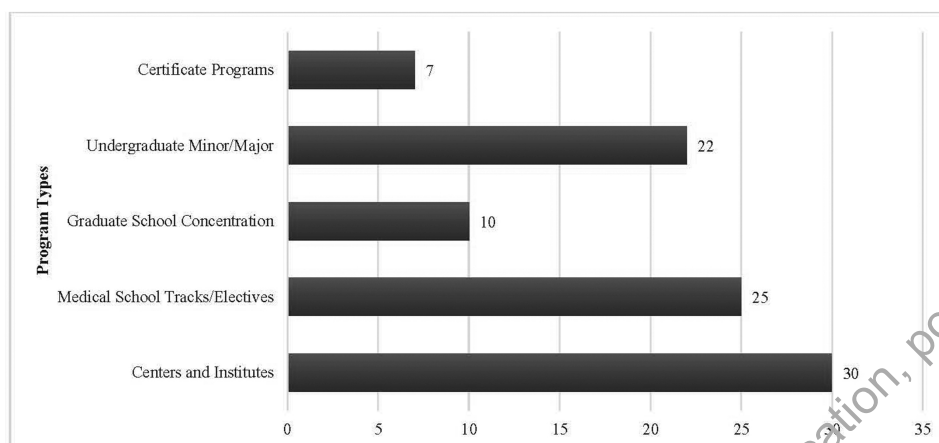


Figure 1. Categories of medical humanities programs at R1 institutions, doctoral universities with “very high research activity,” as defined by the Carnegie Classification of Institutions of Higher Education.

using word frequency.⁴ Program descriptions of medical humanities offerings from institutions classified R1, doctoral universities with “very high research activity” as defined by the Carnegie Classification of Institutions of Higher Education, were used to develop a corpus. The corpus was then divided into five categories of program: certificate, undergraduate major, graduate degree, medical school concentration, and center or institute. Text mining of the five individual corpora as well as analysis of all programs combined was carried out, identifying the frequency of terms to illuminate priorities, inform modes of engagement, and guide the concentration of efforts from the academic library’s perspective.

Aside from a rare independent lecture or singular course within a department, all results in the defined data set fit into one of the five aforementioned categories. These anomalies were excluded because of the difficulty of establishing their sustainability and their long-term evidentiary value as demonstrating a departmental or institutional commitment to the medical humanities. The program descriptions were then harvested from the websites, categorized, and text mined using Voyant Tools. Each of the five categories was analyzed independently and combined to identify the frequency of significant terms appearing in the National Library of Medicine definition of the *medical humanities*.⁵

Medicine or *medical* was the most frequent term across all five program descriptions. The medical school electives and tracks category had the highest frequency of these words, which comprised 3.72 percent of the terms in the program descriptions. The words *medicine* or *medical* appeared with greater frequency than *humanities/humanistic* across all program types. Therefore, the two-word phrase *medical humanities* did not always occur in the descriptions, which suggests an emphasis on the clinical aspects of the program rather than the humanistic ones. Across all programs combined, *medicine* appeared as the most frequent term, 454 times or 2.93 percent of the total word usage in the corpus. *Humanities/humanistic* occurred 277 times or 1.79 percent of the total word usage.



Table 1.
Frequency of terms used in descriptions of medical humanities programs

Terms	Certificate (n = 836 words)	Undergraduate major/minor (n = 2,988 words)	Graduate school concentration (n = 1,828 words)	Frequency of terms by program types		
				Medical school track/elective (n = 4,561 words)	Center/institute (n = 5,235 words)	Combined (n=15,485)
medicine / medical	(22) 2.63% (454) 2.93%	(85) 2.84%	(36) 1.97%	(170) 3.72%	(141) 2.69%	
humanities / humanistic	(12) 1.43%	(55) 1.84%	(18) 0.98%	(105) 2.3%	(87) 1.66%	(277) 1.79%
philosophy	(2) 0.24%	(7) 0.23%	(6) 0.33%	(7) 0.15%	(12) 0.23%	(34) 0.22%
religion	(0) 0	(1) 0.03%	(1) 0.05%	(3) 0.06%	(3) 0.06%	(8) 0.05%
literature	(2) 0.24%	(7) 0.23%	(6) 0.33%	(13) 0.28%	(8) 0.15%	(36) 0.23%
art(s)	(3) 0.36%	(16) 0.53%	(8) 0.44%	(46) 1.0%	(21) 0.41%	(94) 0.60%
social science	(1) 0.12%	(10) 0.33%	(3) 0.16%	(9) 0.20%	(5) 0.09%	(28) 0.18%
culture	(9) 1.07%	(20) 0.67%	(8) 0.44%	(9) 0.20%	(19) 0.36%	(65) 0.42%
anthropology	(0) 0	(4) 0.13%	(2) 0.11%	(6) 0.13%	(3) 0.06%	(15) 0.10%
sociology	(0) 0	(2) 0.07%	(1) 0.05%	(3) 0.06%	(1) 0.02%	(7) 0.04%

While *religion* appeared as part of the National Library of Medicine definition, this analysis shows that few medical humanities programs have adopted the concept. The word *religion*, including variations of the root word, appeared only 8 times in the total corpus of 15,485 words. Aside from *medical* and *humanities*, the term *art(s)* occurred the most frequently, 94 times, followed by *culture*, 65 times. The word *art* appears in medical school elective descriptions more often than in any other program type. This supports the premise that, while the medical specialty tends to take the forefront, the field of medical humanities shows strong interdisciplinary representation and needs library support that may fall outside traditional disciplinary structures.

All the substantial terms used to define *medical humanities* by the National Library of Medicine appear somewhere in the corpus. The corpus embodies the interdisciplinary nature of this field with representation of several disciplines, including literature, anthropology, sociology, and philosophy. A multitude of programs such as these coming together to create a field of inquiry and to research and address real-world issues can only happen with intentionality and support from multiple departments and resources on campus. As an interdisciplinary and intellectually flexible space intended to support research and teaching across campus, the library is well positioned to support these kinds of programs and initiatives in productive and innovative ways.

Overall, this analysis points to diversity among medical humanities programs, as well as to a fundamental interdisciplinarity reflected in their descriptions and missions. Additionally, the varying levels of institutional commitment and visibility evidenced by differences between degree programs, centers, and graduate tracks demonstrate the potential difficulty of providing effective library service. Despite the challenges, however, the medical humanities offers opportunities to recontextualize the library as an interdisciplinary space and the librarian as an interdisciplinary scholar.

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Interdisciplinarity in the Library

The past 20 years have seen a trend in academic libraries to address research, instruction, and collection services using a subject liaison model, whereby librarians liaise with one or more departments according to their subject expertise or interest. This system ensures that each department on campus has a dedicated librarian to handle instruction requests, research consultations, and collection development. The subject-based liaison model has had mixed success at many libraries, and some institutions have shifted focus away from subject areas and toward functional specialties, such as the digital humanities or



research data management.⁶ Judith Smith, Marci Brandenburg, Marisa Conte, and Jean Song highlight the challenges faced by health sciences liaison librarians working with interdisciplinary researchers.⁷ Martin Simmons and Sheila Corrall studied graduate education in library and information science in the United Kingdom, with particular emphasis on the ways in which librarians are, and are not, educated to become subject liaisons. Simmons and Corrall noted the gaps between education and practice, particularly in the context of teaching.⁸ Jessica Koos and Laurel Scheinfeld surveyed health sciences librarians to better understand their backgrounds, observing that comparatively few had any background in the health sciences before becoming librarians.⁹ Their study focuses on implications for librarian recruitment and training. Maralynn Jones notes the importance of librarians in the context of interdisciplinary instruction and underscores the challenge they face in learning the disciplinary “languages” of two fields.¹⁰ This speaks to the pressure on the subject liaison model when liaisons must deal not only with two or more subjects but also with work that lies in the interstices between them.

In addition to better leveraging existing librarian expertise, the functional liaison model removes barriers to key and emerging library services, while allowing librarians to more deeply specialize in these areas. It also has the potential to offer more flexibility for the support of topics and research areas that transcend traditional departmental boundaries,

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library. As demonstrated in the analysis of program description data, certificate programs can be an incubator for interdisciplinarity on campus. Certificate programs may also represent a department’s intention to provide instruction and credentials in an emerging area to increase students’ marketability.¹¹ Libraries tend to overlook certificate programs

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while assigning liaison roles, although these programs could represent opportunities for the library to contribute to new initiatives and fields of study.

Nevertheless, libraries working with subject-based liaison models can still provide effective support for interdisciplinary programs, assuming a willingness to reexamine budgetary structures, engagement practices, and attitudes toward collaboration. Many libraries allocate resources for both serials and monographs according to departmental divisions. Interdisciplinary programs necessitate an interrogation of this practice, particularly if a core collection must be curated outside faculty requests. The literature bears this out, as libraries have turned this challenge of interdisciplinary collection development into an opportunity to rethink their allocations and create more responsive collections.¹² Ewa Dzurak, Kerry Falloon, and Jonathan Cope discuss a project

ies, providing a springboard for librarians to partner with one another and with scholars working in interdisciplinary fields. This adaptability is crucial in the context of the medical humanities, which involves students and scholars from a variety of areas, with diverse needs and expectations of the

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to analyze the East Asian Studies collection at the College of Staten Island Library in Staten Island, New York, emphasizing the difficulty of considering existing collections and building new ones from an interdisciplinary perspective.¹³ Their method privileges a close relationship with the faculty and an open-minded approach to new directions. Jennifer Mayer surveys performing arts students in an effort to understand how their interdisciplinary work in music, dance, and other fields complicates their relationship to library resources.¹⁴ In her treatment of collection mapping for urban studies, Linda Wadas insists on the importance of understanding the field, its history, and its conceptual considerations to build responsive, flexible collections.¹⁵ Masha Misco addresses the issue of librarians charged with interdisciplinary fields in a paradigm of subject liaisonship.¹⁶

Area studies librarians work both within and outside the subject liaison system, facing unique challenges regarding their collection development and instruction responsibilities. The need for familiarity with a field is underscored by Kendra Spahr and Stephanie Wiegand in their treatment of resources for librarians building collections in support of newer areas of study, such as sports management. Librarians engaged in bolstering sustainability studies face similar challenges by virtue of the interdisciplinary, emerging nature of the field.¹⁷ Madeleine Charney highlights this challenge in the broader context of creating campus partnerships with the library in service of sustainability studies.¹⁸

The scholarly literature demonstrates, in several areas, the challenges and opportunities inherent in library engagement with interdisciplinary research. The current study contributes to this discourse by situating the medical humanities within a broader consideration of interdisciplinarity and flexibility in academic libraries. In some instances, the humanistic nature of the medical humanities fits well with more traditional modes of inquiry in a department. In some literature and history departments, the department's existing relationship with and expectations of the library supports scholarship in medical humanities well. In other instances, medical humanities engages with practices, issues, and conventions that differ from other work in the department. Health sciences programs often expect certain resources and services from the library, such as structured literature reviews; instruction on point-of-care tools, designed for medical professionals to quickly look up information when they are with a patient; and critical appraisal of the medical evidence. Some of the standard services for clinical training may be less useful to scholars and students engaged in medical humanities work. The interdisciplinary nature of medical humanities research requires the library to approach collection development and liaison work from a place of flexibility. Libraries must

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be open-minded about content and disciplinary mores when working in interdisciplinary areas; additionally, they must remain flexible regarding acquisitions. As Gretchen Reynolds, Cynthia Holt, and J. C. Walsh note, the liaison librarian, or even the embedded librarian, has a vital role to play in ensuring that the library understands departmental priorities regarding interdisciplinarity.¹⁹ Their research suggests that liaison or embedded librarians can mitigate the limitations of traditional approaches to collection development, which focus on subjects as defined by academic departments. Reynolds and her coauthors also offer a counterpoint to a liaison-focused model, noting that interdisciplinary collection needs can be served by emerging acquisition models that de-emphasize the individual liaison, such as patron-driven acquisition (PDA) models or larger funds spanning multiple departments.²⁰ Elizabeth Hoppe and Courtney Seymour also praise the PDA or purchase on demand (POD) model for supporting interdisciplinary purchases, particularly as a way of accommodating student requests.²¹ This observation has interesting implications for the concept of departmental engagement and its ability to inform collection development decisions. The diversity of programs treated in the medical humanities case study, as well as the potential challenges posed by scholarly work across such divergent fields as humanities, history, and medicine, suggest that reliance on PDA models would not replace librarian involvement in selection and curation. Differences in methodology and expectations of the library among departments engaged in medical humanities research make the liaison relationship crucial to effective library support of this work. However, the incorporation of a limited PDA model would help to diversify the library's collections in both interdisciplinary and under-supported areas. Though these challenges might vary among interdisciplinary areas, they are not unique to the medical humanities. The liaison librarian or, more probably, a collaboration among liaison librarians is an effective strategy for ensuring library support of, and advocacy for, interdisciplinarity.

In some instances, however, interdisciplinary research areas may have no liaison. Some institutions face this challenge in the context of other interdisciplinary programs in the health sciences, such as social work.²²

The ability to think beyond a discipline is a core competency of many librarian positions and should be actively nurtured to strengthen the profession's capacity to support research, teaching, and learning beyond departmental limitations.

This sort of lacuna is problematic in two ways. First, while researchers may have access to a liaison librarian through the department, that person may not be equipped to support their work outside or adjacent to the primary field of the department. Second, the failure of the subject-liaison model to consider extra-departmental research negates the possibility of librarians being encouraged to cultivate interest and expertise in interdisciplinary areas of inquiry. As Megan Curran notes, the medical humanities fits libraries well for precisely this reason, observing that, by virtue of librarians'

training—an undergraduate degree followed by a masters in library science, perhaps in addition to other graduate degrees—all librarians are the product of an interdisciplinary education.²³ The ability to think beyond a discipline is a core competency of many librar-

ian positions and should be actively nurtured to strengthen the profession's capacity to support research, teaching, and learning beyond departmental limitations. All liaison librarians must learn the "language," scholarly preoccupations, and research practices of the disciplines they support. Librarians working with interdisciplinary research face the additional challenge of becoming comfortable in multiple fields of study with the caveat that interdisciplinary research often arises from the application of the methodologies and modes of inquiry of one field to the questions of another.²⁴

Teaching interdisciplinary awareness is a task best shared by classroom faculty and librarians, as noted by Jones.²⁵ She observes that interdisciplinary work requires scholars and students to function within multiple disciplines before understanding, and ultimately transcending, the barriers between fields. Citing Allen Repko and the then-current Association of College and Research Libraries Information Literacy Competency Standards for Higher Education, Jones proposes that librarians play a central role in helping students become aware of discipline-specific databases and methods while learning to combine them to produce new insight. Engaging with Lisa Lattuca's notion of disciplinary "language," Jones discusses the importance of keyword formation in information literacy instruction for students doing interdisciplinary work. These insights, taken together, form a framework within which to consider library instruction in the medical humanities. Students in the field must embrace both the medical and the humanistic and, often, the historical, to find relevant sources. As liaisons, instructors, and curators, librarians are well suited to provide this research assistance alone or in collaborative teams.

Implications for Library Collaboration

The library's role in interdisciplinary initiatives is threefold, encompassing collections, services, and spaces. In addition to the efforts required to build new collections for interdisciplinary areas, existing resources may need to be compiled and repackaged to appeal to interdisciplinary scholars and to ensure their discoverability beyond the discipline or disciplines for which they were purchased. The medical humanities guide at Stony Brook University Libraries in Stony Brook, New York, brings together traditional searching techniques for books and e-books as well as instruction on the use of evidence-based medical resources (<http://guides.library.stonybrook.edu/medical-humanities/home>). Monographs that had already been added to the collection in support of relevant disciplines were then highlighted as potential resources in support of medical humanities research. These titles come both from the main campus library, which supports the humanities and social sciences, as well as from the health sciences library, which has traditionally focused on serving the medical and allied health programs. To proactively support the medical humanities, existing resources from various disciplines were brought together to create a cohesive collection, as well as to provide an intellectual home for any future acquisitions in the medical humanities. This proactive approach also represents to the

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faculty and students interested in this type of interdisciplinary program that the library is willing to work outside departmental boundaries in support of their research.

The interdisciplinarity of the program descriptions treated in this study suggests that, when providing consultations and other kinds of research support, liaisons sup-

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porting the medical humanities may find collaboration with another librarian outside their sphere necessary to provide effective services. In the example of the medical humanities, medical librarians may lack expertise in humanistic approaches to research. Even those who have completed coursework in this area may operate within the liaison or subject-specific framework, focusing primarily on their own areas and having little or no involvement with the development of other collections and resources. They may be unfamiliar with other key faculty, resources, or initiatives outside

their assigned department. On the opposite side of this exchange, a humanities-focused library specialist may be unaware of the data sets or evidence-based resources necessary to define the medically focused portion of a research project.

This partnership, of course, would be driven by the type of program being offered. The diversity of program offerings across R1 institutions shows that interdisciplinary fields of inquiry such as the medical humanities can be approached in several ways. Although centers and institutes may not include formal coursework, many offer an immediate solution for faculty and students with an interest in medical humanities to engage with one another and scholars in the field through events and lectures. Such events are imperative for the perpetuation and growth of initiatives outside traditional departmental boundaries. Libraries may need to revisit their customary practice as it falls outside the scope of traditional departmental structures by which they typically align their support for scholarship. While it seems intuitive to place the medical librarian as the liaison to these centers and institutes, it could be beneficial to have humanities experts heavily involved as well. Medical professionals or faculty members may already be familiar with the resources available in support of their clinically focused research. In the true spirit of interdisciplinary research, however, a librarian with a humanities background may be best qualified to introduce the unique resources that will help to further the research in this area. Operating within a subject liaison model as opposed to a functional liaison model, collaboration seems the most productive way of providing library service to interdisciplinary programs, medical humanities in particular.

Two disciplines can be separated not only by variations in mode of inquiry and resources needed but also by physical distance. Lack of proximity can often act as a barrier to the exchange of ideas. Most of the centers and institutes operate on a medical campus or within a hospital, while the academic programs, such as the graduate and undergraduate courses, are housed within humanities departments. These two spaces may occupy opposite ends of a campus or a different campus altogether. The library may serve as a neutral space or midpoint for meetings of interdisciplinary groups, or as



a venue in which scholars working in interdisciplinary areas can present their research to a more diverse group than they might find in their home department. The library is traditionally seen as a physical space where people may engage with new ideas. Having the interested parties meet outside their own territory might allow for an exchange with a more natural collaborative spirit than if one group has a strong affiliation with the setting. A library hosting events that would naturally bring diverse groups together would benefit all parties. Interdisciplinary programming is an opportunity for the library to strengthen its mission as a space for scholarly exchange, to promote engagement between scholars and students from different departments, and to encourage librarians to collaborate and to develop outside their subject area responsibilities.

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Conclusions

The case of the medical humanities highlights several of the issues surrounding support for interdisciplinary programs and current models within the library. Based on our analysis of engagement with the medical humanities in R1 institutions, collaboration across liaison areas seems essential to ensure the support for faculty and researchers that they have come to expect from a library: collections, services, and spaces. This approach will force librarians to examine their traditional budgetary and resource allocations in the same way that departments and scholars embracing interdisciplinarity must interrogate their own assumptions and practices. The library must be willing to support these collaborations and, where necessary, provide more than one liaison librarian to meet the needs of such research, which tends to be incongruent with the subject liaison model as it is often practiced.

The library has a role to play in ensuring and promoting the fundamental interdisciplinarity of work done in fields like the medical humanities. We see through the program descriptions that, although programs are touted as interdisciplinary in nature, one department or facility often takes ownership, physically or administratively. The library can provide a neutral space, both physical and intellectual, in which interested parties can exchange ideas on an even ground fostering deeper, more meaningful conversations without the influence of traditional departmental contexts.

Libraries must remain agile to meet the needs of developing programs and areas of inquiry on the campus. The changing nature of interdisciplinary programs can mean that librarians must adapt and be flexible about how they provide support. The corpus treated in this paper listed almost 2,500 unique words found in the descriptions of programs of all types. The variability and diversity of the programs lends credence to the argument that each is disparate in its focus, perhaps due to the evolving nature of the



discipline itself. The library's response must also be unique and tailored to the current and potentially fluctuating needs of these programs, providing guidance and expertise where needed.

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