PERSPECTIVES ON…

Data in context: Using case studies to generate a common understanding of data in academic libraries

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ARTICLE INFO

ABSTRACT

As new expectations emerge in librarianship, librarians find themselves engaging with researchers throughout the entire research process. This includes during early stages, when research outputs are in their infancy. This shift means that any librarian might be faced with a 'data question' and be able to assist without necessarily being a 'data' expert. As libraries approach professional development in this field, additional difficulties occur as data cannot be easily understood without context. Instead of attempting to comprehensively cover this broad, nuanced, and sometimes vague topic, the authors took a different approach. In order to place 'data' in definable contexts, the authors created local, real-world case studies to introduce this topic to the library. This article describes the professional development event, complete with case studies, their development, discussion questions, and observations. As faculty and staff answered guided questions, they self-identified the value of existing librarian capabilities such as the reference interview, information location, and referral systems. This enabled library faculty and staff from across the library to engage positively and proactively, without any extensive background in this field.

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INTRODUCTION

It's hard to get away from the word 'data' these days. It's in the news, on our cell phone plans, and ubiquitously used when discussing academic research. Like many words that are co-opted for other purposes, data often has different meanings based on context. The word 'data' is sometimes used synonymously with the word 'information', while at other times it may only refer to numbers. Some have found that the word 'data' has been largely limited to mean numbers (Nicholson & Bennett, 2015), while others apply the word to a variety of non-numeric resources (Schreibman, Siemens, & Unsworth, 2004). The inexactness of the term 'data' and what it refers to presents a challenge in learning about the rapidly changing area of data. Even for the purposes of this article, data is defined broadly as "units of information observed, collected, or created in the course of research" (Erway, 2013). When using a definition as broad as Erway's, the term 'data' cannot easily be understood without additional context.

The ubiquity of the term 'data' also contributes to academic librarians' confusion when new positions are created with 'data' in their titles; constituents call for 'data' services, and strategic plans become more 'data' focused. In reference interviews, librarians must take the time to define the term in order to begin to tackle the real need, but when speaking with colleagues, librarians may not have a common framework that leads to mutual understanding. The flexibility in meaning of the word 'data' can get in the way of understanding the nuances in this emerging field of librarianship.

As librarians, it can be tempting to create an authoritative vocabulary around emerging fields in an effort to reduce confusion. However, outside the librarian community, authoritative vocabularies are rarely widely adopted, and the changing landscape may make terms irrelevant in a short period of time. Without being prescriptive, how do we begin to parse out what data means in academic libraries and, more importantly, to academic librarian positions?

'Data' needs context. When the term 'data' is placed within the context of specific types of research, disciplines, and needs, it becomes much easier to understand how the word is defined in that context, regardless of what it may mean in a different context. The approach taken in this article is to highlight a different avenue in creating a common understanding of data and data services in libraries, one that does not rely on developing nuanced language, but rather places 'data' in definable contexts and precise scenarios. By illustrating what data looks like to various types of patrons and in various scenarios, a framework of what data means in academic libraries can begin to emerge. More specifically, case studies, generated from real-life scenarios, can be used to illustrate the experiences that librarians encounter in serving and resolving patrons' data needs. Ultimately, case studies can begin to

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establish a shared understanding of data and data services in academic libraries.

This article details how the authors designed and deployed an event that empowered library faculty and staff to:

- explore how 'data' was affecting their positions,
- recognize and identify colleagues across the libraries that were struggling with common themes, and
- collectively resolve case studies involving common, but nuanced data scenarios.

Instead of attempting to comprehensively cover the broad, nuanced, and vague topic of 'data in libraries', the authors used case studies developed from real-world situations encountered at the Ohio State University (OSU) Libraries to promote positive and proactive engagement in this emerging field. These case studies were fundamental in simplifying the overwhelming and rapidly changing data landscape into something that each library faculty and staff person could readily understand, discuss, and resolve. In the process, we discovered that data issues arise across the spectrum of academic librarianship, sometimes in unanticipated areas.

What these case studies highlight is that the shift that is occurring in academic librarianship may not be simply a shift from organization of information to organization of data, but instead a shift in where libraries and librarians embed themselves in the research process. As Bracke (2011) points out, "librarians traditionally manage the end of the research process. Library collections are the products of research, and librarians create services based upon usage of collections" (p. 70). Bracke (2011) goes on to suggest that, "researchers need to locate and access data collections, not simply articles, monographs and gray literature. Meeting these needs requires involvement earlier in the research process, ideally as participants in research design" (p. 71).

Thus, a shift in the roles of academic librarians and the emergence of data in library services stems from a need to engage with researchers throughout the research process, including early stages of the process, when research outputs are in their infancy.

DATA SERVICES IN LIBRARIES

The history of data services in libraries varies according to patron needs, the type of library, and librarian interests, skills, and position descriptions. Nearly every academic library has been providing some type of data service ever since census data began being distributed to federal depository libraries. Kellam and Peter (2011) detail the emergence of the demand for libraries to support numerical data services in the twentieth century, the resistance to this demand as digital formats emerged in the mid-century, and the eventual acceptance in the 1990s. Although they recommend both a social science and a 'hard' science data librarian to support numerical data services in the academic library, it is difficult to provide that level of staffing in the current economic climate.

More recently data services in libraries have been expanded to include more than numerical datasets for patrons and occasional storage. Current interpretation of library data services may include education and technical capacity for several components of the research lifecycle: planning for data management, assistance with data collection from text sources, advice on data documentation and metadata, demonstrating impact of dataset publication, and providing tools for dataset discovery, access, and preservation. Some of these activities have been designated as 'data management services'.

It is not uncommon to find that the more traditional activity of locating numerical datasets for patrons and newer data management services are often conflated. The ARL Spec Kit 334 delineated data management services as services that focus on two aspects of the research lifecycle: data management planning at the grant proposal stage and data archiving at the project's end (Fearon & Association of Research

Libraries, 2013). These services have arisen in direct relation to new federal requirements for receiving funding. As such, many research libraries had not deployed any research data management services prior to 2010, when new federal requirements were first debuted (Fearon & Association of Research Libraries, 2013; Tenopir, Birch, & Allard, 2012). Examples of library support for data management includes providing support for crafting data management plans, guidance on data management throughout the research lifecycle, and dataset archiving and dissemination. As of 2013, most (61–87%) of the ARL libraries offered services surrounding mandated data management plans and 74% of the libraries offered some sort of data archiving services (Fearon & Association of Research Libraries, 2013). An ideal representation of complementary library services, including data and more traditional services, has been detailed by the University of Central Florida Libraries Research Lifecycle Committee (2012).

In conjunction with these new services, some institutions have begun to offer professional development opportunities for their librarians. As early as 2012, Jisc supported several initiatives to upskill liaison librarians (Cox et al., 2012). The University of Michigan Library conducted a three-part curriculum for their librarians that involves general data concepts, deep dives into specific areas, and advanced workshops (Martin, 2014; Martin & Oehrli, 2015).

INVOLVEMENT OF ALL LIBRARIANS

The impact of data and data services in academic libraries is not limited to specialized librarians, such as data management or data services librarians. Librarians in both public and technical services are providing services that support researchers' emerging data needs. In fact, a survey in 2012 by Tenopir, Birch, and Allard, found that it was twice as likely for institutions to reassign existing staff to provide research data services as to hire a person. As well, only 12 out of 160 academic libraries that offered research data services had a specialist librarian dedicated to the task. It was far more common for individual discipline librarians and staff to provide research data services (Tenopir et al., 2012).

Even librarians with less of a public-facing role, than their subject, reference, or liaison librarian counterparts, are becoming involved in data issues and services in their line of work. For example, acquisitions librarians and electronic resources librarians are finding expanded roles in negotiating license agreements to include terms that enable researchers to data and text mine library licensed content (Williams, et al., 2014, & Ruttenberg, 2013). Collection development librarians are finding themselves asked to purchase more datasets and subsequently to define how those decisions are guided (Michigan State University, 2014). What the emergence of data-focused services suggests for all librarians is a deeper level of engagement with students, faculty and researchers in order to best support the nuances of individual data needs.

Data services in libraries do not necessarily require new skill sets or more technical acumen, but rather commands broader application of the existing competencies of librarians. "Along with the specialty area of data librarianship, the broader information profession field must be aware of growing data-based research and issues involved in its storage, processing, and use" (Reinhalter & Wittmann, 2014, p364). A little guidance on both resources and how established librarian skills translate makes the realm of research data management more accessible to all librarians.

MATERIALS AND METHODS

THE CASE STUDY ACTIVITY

At Ohio State University Libraries, librarian engagement with academic disciplines and researchers is a priority. In the fall of 2011, a cross-unit group of librarians was charged with identifying strategic opportunities for subject librarians to be involved with the research, teaching and learning, services, and outreach goals of the university.