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Subject matrices: An innovative, collaborative approach to serving the agricultural sciences

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In 2009, Kansas State University Libraries (K-State Libraries) moved from subject-based departments to user-based departments. From this change, subject matrices, including the Agriculture and Biological Science Matrix, were developed to address subject-related issues. This matrix is comprised of librarians from many K-State Libraries' departments and is a conduit for sharing information interdepartmentally and developing collaborative opportunities. Libraries wishing to maintain a traditional subject-liaison model can adapt key principles underlying the matrix. Subject liaisons can go beyond siloed perspectives by soliciting advice from individuals outside the library. Another approach is to disturb established structures and introduce selective pressure to inspire innovation.

Keywords Collaboration, library organization, science librarianship, organizational change

Introduction

After reorganizing, K-State Libraries no longer have subject librarians. K-State Libraries' public services moved from traditional subject-based departments to Undergraduate & Community Services (UCS) and Faculty & Graduate Services (FGS) departments, based around patron classification and how patrons use information. This library reorganization occurred when library

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administration identified a need to reorganize technical services which evolved into a complete library reorganization with the intent that this organizational model would be more patron and university-goal centered while simultaneously addressing tightening budgets (Hoeve, Urton, and Bell, 2014, p. 178). This model emphasizes collaboration through internal teams called “subject matrices.” Theoretically, these matrices provide a way for librarians and other stakeholders with a common interest in a certain subject to communicate, collaborate on projects, and share knowledge. The K-State Libraries Agriculture and Biological Sciences matrix was formed as a result of these organizational changes and provides a subject “home” for librarians who have few people in their respective departments with shared subject interests. Additionally, subject matrices benefit the library and its users by increasing interdepartmental communication in the library.

Many librarians, upon hearing that K-State Libraries no longer have subject librarians, are very confused by K-State Libraries’ organizational structure. While librarians no longer have the job title of “Subject Librarian”, there continue to be librarians with subject expertise at K-State Libraries, particularly in three departments of the new organization (Content Development & Acquisitions (CDA); FGS; and UCS). Librarians from other institutions often focus on how this organizational structure is very different from the library in which they work rather than considering how a subject matrix might benefit their library. In this article, the authors will answer the question, “How might subject matrices or the ideas behind subject matrices benefit patrons and librarians at my institution?” Librarians interested in the detailed organizational aspects of K-State Libraries may wish to consult Hoeve, Urton, and Bell (2014) who address the reorganization of K-State Libraries in a comprehensive manner including organizational

structure, assessment, librarian roles, and the various matrices created as a result of the reorganization. They also provide a useful definition of a subject matrix in this context: “an ad hoc team operating within the new organization to enhance communication and expand subject expertise” (2014, pg 177).

Who is involved in the matrix?

For those unfamiliar with the concept of a matrix in an organization, there is some confusion about what a matrix in a library is. The authors have encountered people who thought that a library matrix is a group of books or resources, similar to a library collection. Instead, the matrix is a group of librarians and professional staff with expertise and/or interest in agriculture or the biological sciences. Librarians from five of six K-State Libraries’ departments located on four of five floors of Hale Library, the main library on campus, are involved. This matrix has emerged as a community interested in agriculture and the biological sciences by bringing people together from many departments. This holistic approach increases opportunities for the matrix and the library, such as bringing in other agricultural informationists from across campus. Opening matrix membership beyond the library enables more effective communication with patrons, which in turn helps K-State Libraries better serve their needs. This approach also increases collaboration opportunities between the library and teaching or research faculty and recognizes the interdisciplinary nature of current research.

While the matrix membership share a common subject interest, individuals within the matrix bring a variety of skill sets, a diversity of knowledge, and a wealth of experience to the matrix. This heterogeneity helps the matrix make more informed decisions about projects to pursue,

purchases to suggest, resources to promote, and challenges to tackle. It also leads to richer, more insightful discussions because viewpoints commonly accepted in one part of the organization are often disputed by individuals from other parts of the organization. Perhaps the greatest benefit of this breadth and depth of talent is the truly expansive network of contacts and allies it supplies.

K-State Libraries Agriculture & Biological Sciences Matrix membership

Title	Number	K-State Libraries Department
Content Development Librarian	1	CDA
Data Services Librarian	1	FGS
Faculty & Graduate Services Librarians	2	FGS
Instructional Design Librarian	1	UCS
Public Services Archivist	1	University Archives & Special Collections
Scholarly Communications Librarians	2	Scholarly Communications & Publishing
Undergraduate & Community Services Librarians	2	UCS
Undergraduate Specialists	2	UCS
Research & Extension Librarian	1	**

** Employed by the College of Agriculture rather than K-State Libraries

Principles of the matrix

The K-State Libraries Agriculture & Biological Sciences matrix is based upon six principles. It is subject-based, user-centered, collaborative, voluntary, egalitarian, and social.

- **Subject-based**

While each librarian in the matrix has their own subject focus such as agriculture, human nutrition, or biology, coming together in one place is useful since the subjects overlap so frequently. Librarians who are in more function-based positions such as the Data Services Librarian or Instructional Design librarian are also interested in agricultural and biological sciences and bring their unique views to the matrix.

- **User-centered**

The matrix focuses intently on meeting the goals of our current and potential patrons. Much of this is accomplished through discussions about unique ways to serve library patrons and effective methods of publicizing resources they might find useful. Though the members of the matrix come from several departments, they share a commitment to helping patrons accomplish their personal goals. They also assist each other with efforts to change library centric approaches and decisions that may unnecessarily frustrate patrons.

- **Collaborative**

To facilitate learning from one another, all projects are accomplished through teams. Small teams split off from the matrix to volunteer for projects. This allows matrix members to only pursue projects that fit with their job description, skill set, interest level, and time restrictions.

- **Voluntary**

All members of the matrix chose to join the matrix; they were not told to join by supervisors or library administration. Matrix members choose the amount of time they spend working on matrix activities. They are free to leave the matrix temporarily or permanently.

- Egalitarian

Agendas and projects are selected by the group, not by an official leader like a department head or an assistant dean. Everyone in the matrix has a voice and is encouraged to share what they know about what is happening on campus or in their departments.

- Social

The matrix increases communication and learning by incorporating field trips and informal conversations about topics of interest to the group. Additionally, it provides a subject home for librarians who are in departments organized around patron types, rather than around disciplines.

Current matrix projects

The original purpose of subject matrices, such as the Agriculture and Biological Science matrix, in K-State Libraries reorganization was to serve as collaborative, information sharing groups, based around a broad subject area. The lack of information about what people in other departments within K-State Libraries are doing is a perennial complaint since reorganizing (Hoeve, Urton, & Bell, 2014, p. 199). At matrix meetings upcoming class assignments, content purchases, instruction, and presentation opportunities are discussed in order to assure that matrix membership receives the most current information about what is going on in the library and on campus. This should improve day-to-day services to patrons but the effectiveness of this strategy

has not been evaluated yet. In addition, this subject matrix proves to be a useful group for pursuing a variety of projects, detailed below.

- Dust Bowl exhibit

During the summer of 2013, the matrix decided to submit a proposal to bring an ALA traveling exhibit about the Dust Bowl to K-State (American Library Association, n.d.). While the proposal was not accepted, the matrix remained interested in the Dust Bowl due to its historical importance in the state and K-State Libraries' strong collections on the topic. As an alternative to the ALA exhibit, the matrix is creating exhibits and events, using the Dust Bowl as a common theme, for K-State Libraries 2015 Earth Week celebrations. This matrix is collaborating with K-State Libraries Sustainability Matrix to plan the exhibits and events.

- The "dandelion" newsletter

Another project born from the matrix is the creation of a unique newsletter that promotes information resources to library users. The newsletter is unique because it is a collection of short articles that can be sent to different news outlets. In this sense, it is more like a dandelion than a newsletter, as the stories are "blown" to many different places. Some potential outlets include traditional university news outlets like departmental and unit newsletters or Kansas State University's daily email to all faculty, *K-State Today*. The news articles are designed to be customized for each news outlet's intended audience. The subject matter of the newsletter is resources for agriculture and biological sciences information. Individuals within the matrix write articles depending upon their time constraints and interest. Those with the greatest interest in the newsletter are collaborating with K-State Libraries' writer/editor for advice on topics and the best places to publish the content created as a result of this project. In order to increase participation and content creation, the matrix is

currently planning a small writing retreat for matrix members to spend an hour or two writing articles for the newsletter.

- Field trips and presentations

As a part of matrix meetings the group has dedicated time to learn from each other and the environment in which the matrix works. We have learned from each other through presentations and “field trips” to various locations around campus. The Data Services Librarian spoke about data management plans and the preservation of data. The Scholarly Communications Librarian spoke about issues in Open Access publishing. Many members of the matrix presented about conferences they recently attended that were of interest to the group.

The matrix has also taken time to visit agriculture and biological sciences “attractions” across campus such as the Kansas State University Gardens and a photography exhibit about the tallgrass prairie. These field trips set aside time for informal conversations and build relationships amongst the matrix membership which can lead to collaboration opportunities.

Ideas for adopting matrix principles at your library

Regardless of your position or the type of library in which you work, you can champion several of the principles underlying K-State Libraries Agriculture and Biological Sciences matrix.

Subject liaisons can go beyond siloed perspectives by actively seeking advice from individuals with whom they may not frequently interact. Individuals with functional expertise, such as copyright experts or data services librarians can approach instruction or reference librarians and offer to help develop lessons or resource guides. Supervisors and administrators can introduce

clear expectations for collaboration into position descriptions and evaluation criteria or require faculty to provide evidence of meeting learning and faculty research needs. Below we identify several other techniques that can help you move beyond the limitations of siloed expertise.

- Disturb your ecosystem

Each person operates within a system of pressures, partners, rewards, and dangers. People tend to adapt to this system in a way that maximizes rewards and minimizes dangers (Bell, 2010). Given that individuals shape their activities in response to the environment of rewards and dangers, it is possible to modify features in the environment to effectively change our own and others' behaviors (Phillips and Gully, 2012). In order to develop incentives for collaboration, a librarian can ask his or her supervisor to explicitly include it in evaluation criteria. A librarian might also suggest that others throughout the campus do the same. Individuals can also become more cognizant of hidden dangers by inviting campus partners to provide honest critiques of the support the library provides to them. While each of these initiatives will introduce stress, the stress is likely to make the organization and the individuals within it more evolutionary fit.

- Get out of your library bubble

Collaboration should happen both within and outside of the library. Often a group of librarians who come together around a similar interest or project would find tremendous benefit in looking to external partners who have access to additional resources or expertise. Since many disciplines are advocating for external collaborations, it is likely that these connections will be mutually beneficial. In higher education, for instance, faculty are often looking for service opportunities to bolster their tenure portfolio. In addition, there may be

instructors or group mentors who are looking for authentic consultation or problem solving opportunities. These partnerships will do much more than yield better decisions and plans; they will also expand understanding of what librarians do and generate invaluable goodwill.

- Formal support for collaboration

Collaboration has many clear benefits. It also has costs and risks that can prevent individuals from pursuing it of their own accord. Library supervisors who incorporate collaboration into job descriptions can make it an understood part of daily work rather than an unstated hope or desire. With expectations for collaboration explicitly stated in job descriptions, it is likely that collaboration will also become part of evaluation criteria. Once this transition occurs, librarians will recognize collaboration as a direct means to earn rewards and advance their careers.

Librarians need not wait for supervisors or administrators to introduce collaboration into expectations. Librarians can approach supervisors or administrators and ask them to consider making collaboration a specific expectation. In addition, librarians involved in collaborations that support library or university strategic goals can pursue an official charge for the group. Librarians who are not yet involved in collaborations can use library and university strategic goals to evaluate needs and build collaborations around those needs.

- Survey your “environment”

Library decisions are often decided on the basis of limited, sometimes irrelevant evidence (Booth, 2009). Libraries sometimes act based on a small, somewhat random set of inputs. If libraries wish to be truly patron-centered, they need to conscientiously adopt a systematic approach to generating decision-making inputs. A vital first step is to develop lists of stakeholder groups within your community. Rather than do this on your own, it is wise to

seek suggestions from other individuals both within and outside of the library. Once stakeholder groups are identified, contact members of those groups to about their goals and the challenges they face in meeting those goals. Consult them about how they might solve these challenges. In addition to using in-person meetings, partner with experts to conduct more formal user needs assessments via surveys, focus groups and interviews.

- Hot topics or brown bag presentations

Librarians sometimes struggle to reach stakeholder communities through passive means such as e-mail, flyers, and online surveys (Massis, 2014). At the same time, many libraries are expanding their traditional focus on information resources to encompass newer roles such as community builder and innovation hub (Association of College and Research Libraries, 2013) One way to help build communities, promote library services, and solicit information from engaged members of stakeholder groups, is to develop a series of brown bag events that will appeal to a wide swath of your community. Librarians should attend as many of these events as possible and be a visible participants. At the close of the brown bags librarians can ask other attendees for their thoughts about what the library can do to help them. Ideas for brown bag series include: invite students to give their perspective on what engages them and sparks curiosity; watch and discuss TED talks; invite campus leaders to discuss current events on campus; or video chat with leaders in academic fields.

Conclusion

While most libraries are not organized in the same way that K-State Libraries is, the philosophies that formed the Agriculture and Biological Sciences Matrix and other subject matrices can be adapted by libraries with a more traditional organizational structure. All of the work of the

matrix involves collaboration which is a trend in libraries and higher education (ACRL Research Planning and Review Committee, 2014). The biggest barriers to introducing these ideas in a library are time and commitment. The Agriculture and Biological Sciences Matrix has not been immune to these barriers. While the group is committed, members of the matrix often have a limited amount of time to devote to matrix activities and there is no head of the matrix with the authority to make the matrix membership do anything the way a department head or library dean could. As a result, some projects the matrix has intended to do remain undone such as a user needs assessment of faculty in agriculture and the sciences. The problem of too many things to do but too little time may decrease as new hires arrive at K-State Libraries. Also, when it makes sense, working with other matrices and/or units within the library can alleviate some of the work load from matrix activities on individual librarians.

As the matrix moves forward, in addition to managing the time commitment from matrix members, it is important that K-State Libraries assess the effectiveness of the subject matrices. As a part of evaluating the reorganization, matrices were evaluated in 2012 through surveying the members of the various matrices to determine which matrices existed and in what activities they were involved (Hoeve, Urton, and Bell, 2014, p. 199-201). Also, K-State Libraries conducts the LibQUAL+ survey every three years, one part of which looks at “perceptions of library service quality” (ARL Statistics and Assessment Program, n.d.). While these two surveys cover library matrices and library service quality, there has not yet been an effort to connect the subject matrices’ activities to service quality. Moving forward, an avenue of inquiry will be to evaluate if the matrices are having a positive effect on service quality.

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