

Dynamic Research Support for Academic Libraries

Edited by
Starr Hoffman

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Contents

Editor and contributors	v
Preface	ix
<i>Starr Hoffman</i>	
Introduction: a vision for supporting research	xiii
<i>Starr Hoffman</i>	
PART 1 TRAINING AND INFRASTRUCTURE	1
Introduction to Part 1	3
<i>Starr Hoffman</i>	
1 Constructing a model for Mexican libraries in the 21st century	9
<i>Alberto Santiago Martinez</i>	
2 Researching illustrated books in art history: a brief history of the Biblioteca Digital Ovidiana project	21
<i>Fátima Díez-Platas</i>	
3 The ‘Developing Librarian’ digital scholarship pilot training project	33
<i>Richard Freeman</i>	
PART 2 DATA SERVICES AND DATA LITERACY	45
Introduction to Part 2	47
<i>Jackie Carter</i>	
4 Training researchers to manage data for better results, re-use and long-term access	53
<i>Heather Coates</i>	

5 Data services for the research lifecycle: the Digital Social Science Center69
Ashley Jester

6 Mapping unusual research needs: supporting GIS across non-traditional disciplines83
Karen Munro

PART 3: RESEARCH AS A CONVERSATION97

Introduction to Part 399
Starr Hoffman

7 Implementing open access across a large university: a case study107
Dominic Tate

8 Bridging the gap: easing the transition to higher education with an information literacy MOOC119
Mariann Løkse, Helene N. Andreassen, Torstein Låg and Mark Stenersen

9 Metadata enhancement through name authority in the UNT Digital Library133
Hannah Tarver and Mark Phillips

Index.....149

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Preface

Rationale for this book

There are many books on reference services, how to support research and learning, and related initiatives such as data services, digital humanities support and data management. However, there are few, if any, that provide illustrative examples of these varied services in one volume, viewing them as correlated, emerging models of research support.

Higher education and academic libraries are in a period of rapid evolution. Technology, pedagogical shifts and programmatic changes in education mean that libraries must continually evaluate and adjust their services to meet new needs. Research and learning across institutions is becoming more team-based, crossing disciplines and dependent on increasingly sophisticated and varied data. To provide valuable services in this shifting, diverse environment, libraries must think about new ways to support research on their campuses, including collaborating across library and departmental boundaries.

This book is intended to enrich and expand your vision of research support in academic libraries by:

- inspiring you to think creatively about new services
- sparking ideas of potential collaborations within and outside the library, increasing awareness of functional areas that are potential key partners
- providing specific examples of new services, as well as the decision-making and implementation process
- providing a broad array of examples across different kinds of institutions
- shifting from a mindset of research and instruction services, metadata creation, data services, etc., as separate initiatives, toward a broad view of 'research support.'

This volume is not intended as a checklist of ‘must-haves’ for every academic library. Each institution, and each library, serves a different group of students, faculty, and staff, and varies by mission, size, academic focus and more. Thus, there is no ‘one size fits all’ service model. Instead, these projects and support models are presented to inspire initiatives that fit your specific institution’s needs and mission.

‘Research support’ as defined in this book

As implied above, the phrase ‘research support’ in this book encompasses more than the traditional academic library definition of ‘reference’ or ‘research and instructional services.’

‘Research support’ isn’t something limited to large research libraries. Academic libraries of all sizes, missions and locations – including liberal arts institutions, community colleges and others that are teaching-focused – are shifting to broader forms of research support. After all, ‘research’ is merely the pursuit or creation of new knowledge. This quote from Zora Neale Hurston (1942) speaks to a simple passion for this activity, ‘Research is formalized curiosity. It is poking and prying with a purpose.’ This curiosity takes place on every campus, regardless of its mission or size.

Nor is ‘research support’ exclusive to the sciences, social sciences, or other disciplines that use quantitative data. The term ‘research’ is used in this book to describe a wide variety of scholarship across the disciplines. The term ‘data’ in the following chapters includes not only quantitative data, but also qualitative data, images, literary texts, or anything else that may be an object of study.

Audience

The intended audience for this book includes academic librarians, other LIS professionals, and library or higher education administrators. The book is also relevant as a text for instructors and students in library and information science programs. It will introduce them to the increasingly collaborative and fluid nature of research services in academic libraries, and provide specific case studies that may be discussed in class. As described above, the book is appropriate for a variety of institutions, regardless of location, size or mission.

A global context

Academic libraries do not operate in a geographic vacuum. In this global environment, our students and faculty come from many different countries. Based on their varied backgrounds, our users have different

expectations and assumptions about library practices. Therefore, this book was designed with an international audience in mind. Its authors come from several different countries, in an effort to represent a variety of experiences across different institutions and locations.

Overview of contents

This book is divided into three parts. Each part begins with an introduction laying out the theme or theory of that section, paving the way for the chapters that follow. The individual chapters illustrate specific examples of new models of research support. Each chapter describes the model in question, and includes practical information such as decision-making processes, development and implementation.

The introduction, 'A vision for supporting research,' discusses how an exploratory, collaborative library culture contributes to the development of dynamic research services.

Part 1 is titled 'Training and Infrastructure,' and in the introduction I describe the role of staff development and library spaces in research support. Chapter 1, 'Constructing a model for Mexican libraries in the 21st century' by Alberto Santiago Martinez, describes a library renovation and expansion project designed to better support digital scholarship at El Colegio de México (Mexico). Chapter 2, 'Researching illustrated books in art history: a brief history of the Biblioteca Digital Ovidiana project' by Fátima Díez-Platas at the University of Santiago de Compostela (Spain), describes how digitizing a collection of illustrated books has enhanced art history scholarship across Europe. Chapter 3, 'The "Developing Librarian" digital scholarship pilot training project' by Richard Freeman, describes how librarians at the University of Florida (USA) learned digital scholarship skills in order to support their institution's growing research in the digital humanities.

Part 2, titled 'Data services and data literacy,' opens with an introduction by Jackie Carter, University of Manchester on the importance of data support in academic research. Chapter 4, 'Training researchers to manage data for better results, re-use and long-term access' by Heather Coates, provides an example of a data literacy program developed at Indiana University-Purdue University Indianapolis (USA). Chapter 5, 'Data services for the research lifecycle: the Digital Social Science Center' by Ashley Jester, describes a combined research and data services model implemented at Columbia University in the city of New York (USA). In Chapter 6, 'Mapping unusual research needs: supporting GIS across non-traditional disciplines,' Karen Munro details support for architecture and journalism students using geographic information systems (GIS) at the University of Oregon (USA).

In the introduction to Part 3, titled 'Research as a conversation,' I discuss

academic library initiatives to support the dissemination, discovery and critical analysis of research. Chapter 7, 'Implementing open access across a large university: a case study,' by Dominic Tate, describes implementing open access for research outputs at the University of Edinburgh (UK). Chapter 8, 'Bridging the gap: easing the transition to higher education with an information literacy MOOC,' by Mariann Løkse, Helene N. Andreassen, Torstein Låg and Mark Stenersen of UiT, The Arctic University of Norway (Norway), describes the development of an online information literacy course. Chapter 9, 'Metadata enhancement through name authority in the UNT Digital Library' by Hannah Tarver and Mark Phillips, describes the importance of descriptive, rich metadata to making research findable at the University of North Texas (USA).

How to use this book

It is our hope that the selective examples provided in this book inspire you to develop new services, to think creatively about your interactions with faculty and students and to reach across library and institutional boundaries to form dynamic collaborations. Think of the following chapters not as strict guidelines, but as jumping-off points from which to build rich services that serve your specific institution best.

Starr Hoffman

Reference

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Introduction: a vision for supporting research

Starr Hoffman

What is ‘research support?’

The traditional model of a public services librarian sitting at a desk, answering student questions, no longer adequately captures the experience of many academic librarians. Some still sit at reference desks, but those desks have changed, often incorporating a variety of services such as circulation and technological support. Librarians themselves may be on call nearby while students or paraprofessionals sit at the desk, answering directional and transactional questions. Librarians may find that reference questions swiftly transform into impromptu sessions on information literacy, or tutorials on interpreting quantitative statistics, or methods of sharing research.

In addition to these reference-desk-adjacent inquiries, librarian support for student and faculty work is expanding to include areas such as the digital humanities and data management, which have traditionally been performed by specialists in areas outside the reference and instruction realm. Academic libraries are realizing the power of existing liaison or subject librarian relationships with faculty, and many are mining those relationships to offer discipline-specific support for open access publishing, data use and management, and other services.

Research support isn’t something limited to large-scale research libraries. Academic libraries of all sizes, missions and locations – including small liberal arts and community colleges – are shifting to broader forms of research support. After all, ‘research’ is not something specific to one discipline; it is the pursuit or creation of new knowledge. This idea can also be expressed as ‘inquiry,’ research as an exploration and process of asking questions (Pagowsky, 2014). Guided inquiry is a learning technique in which students are taught to ask themselves questions such as: ‘What do I want to learn?’, ‘How do I learn it?’, ‘What did I learn?’ and ‘How will I use what I learned?’ (Kuhlthau, Maniotes and Caspari, 2007).

Likewise, Kenneth Burke's (1974) metaphor of 'research as a conversation' is one that can be applied equally to all disciplines. Burke (1974) describes the research process as being like walking into a room where a conversation has been going on for a while. After listening to the conversation for a while, you join in with your own point of view. Some people agree with you and provide further evidence, while others counter your argument. Nicole Pagowsky (2014) describes this process as 'examining the connections and ongoing narratives between different scholarly pieces'. Instead of merely being consumers of information, this model encourages students to become active critics, engaging with existing scholarly work and in turn themselves creating new knowledge to contribute to the conversation.

Inquiry and research as a conversation are tied intimately to the 'critlib' movement in information literacy, engaging students in critical thinking and questioning traditional notions of authority (Accardi, Drabinski and Kumbier, 2010). Using these 'critlib' methods in information literacy can expand the research conversation to become more diverse and inclusive, as well as challenge students to not merely memorize the indicators of a peer-reviewed scholarly journal, but to create their own criteria for evaluating meaningful and robust scholarship.

As we expand our traditional print-focused mode of information literacy to include media literacy or transliteracy, we must also consider related concepts such as data literacy. Students are faced with an increasing amount and variety of information and upon graduation will be expected to navigate it all with fluency. We must expand our instruction to prepare students to explore and evaluate any kind of information. Thus, through critlib and teaching new forms of literacy, information literacy is also an important part of research support.

Research in our institutions is becoming increasingly team-driven and interdisciplinary. Thus, our users have increasingly sophisticated needs for methodological and analytical support, data management, and research dissemination. Our role as academic librarians is to partner with our students and faculty during this process and provide a holistic suite of research and instructional services. In this context, 'research support' can refer to anything that a library does that supports the activity of scholarship and research at its parent institution. As we develop these services, we should create a library culture that encompasses three themes: exploration, learning and collaboration.

An exploratory culture

Just as research is an iterative process, so should be our exploration and improvement of services. Instead of being static, we should evolve with our

institution and respond to our users' needs by continuously improving our services.

We can accomplish this iterative change through several methods. First, we must encourage a culture of exploration. As librarians, it's important that we feel free to play, to experiment with new technologies and new ideas. In order for our constituents to see research libraries as dynamic spaces where research happens, we must cultivate our own interests and explore new things.

It is important to create an environment where risk is seen as positive. In this environment, a new library service that draws only a few users or has an otherwise disappointing outcome should not be labelled a failure. Rather, such an outcome should be viewed as a data point from which we learn, adjust and try something new. That's what research is, trying something with an uncertain outcome – whether the results are positive or negative, they deserve to be discussed and utilized. Nothing can be learned without making some mistakes.

This idea of exploration segues into the concept of responsiveness. Higher education is in a period of immense change. As libraries, we're constantly affected by new technologies and evolving methods of information dissemination. We must be observant of these changing student and faculty needs, and be ready to respond quickly. Just as we use feedback in reference interviews to respond and adapt on the fly to patron needs, we should draw on that skill to adapt our services as needed.

This continual exploratory process of response and risk must be tied to assessment. Assessment is also iterative; as we observe our constituents' changing needs and respond with new services, we continually assess their outcomes by collecting evidence. In turn we use that data to improve the service, thus continually evolving – assessment should not be a circle, but rather a spiral. We assess in order to use that evidence to act upon and create something new the next time around.

Everyone in the library should be a partner in this process. Just because the term 'assessment' is assigned to a specific position or department doesn't mean that this activity is relegated to only that person or that area. Assessment is a process in which we are all collaboratively involved, because it affects how we move forward. Even those who aren't directly involved in assessment planning or the data collection process should be invested in the assessment results, using them to inform what is done and how it is accomplished. Assessment makes our initial exploration relevant and meaningful, and helps us to continuously evolve and move forward.

A culture of learning

This culture of exploration is intimately connected to the concept of lifelong, continual learning. As a library, we should foster a learning culture not only among students and faculty, but also among ourselves as librarians. By encouraging growth in each other, we are poised to reskill ourselves to meet new research needs and thus become more effective partners in our institutions.

Community is an important aspect of fostering a learning culture. As a profession, librarianship is good at the individual level of professional development. However, we should also harness the power of community, viewing our colleagues as learning partners. For many, it is easier to learn in an environment in which others are also learning. A learning community, whether formal or informal, provides encouragement, companionship and guidance. Community members can help each other through difficult concepts or technologies, as well as keep one another accountable for their learning.

There are multiple ways to create learning communities. Groups can be formed within functional library divisions, or across the libraries. These groups may be formed to explore a specific skill or technology, may be broadly exploratory (without a specific skill in mind), or may be designed to produce a specific research output. Such groups are most effective when driven by their members, created out of their own shared desire to learn, rather than dictated by management. The community's learning goal may be influenced by institutional needs, but ultimately will be driven and shaped by its members' interests and passions.

An example of such a group is the 'Developing Librarian' project undertaken by Columbia University Libraries' Humanities and History Team (2013). This group of librarians decided to undertake a digital humanities project in order to reskill themselves to support similar scholarly work. As an added benefit, the digital humanities outcome itself, a digital history of the Morningside Heights neighbourhood that surrounds Columbia's campus, is itself a valuable research output that provides value back to the community. This project has capitalized on existing librarian subject expertise and local collections, while also training librarians in software (like Omeka) and various skills (such as manipulating and cleaning digital assets). This kind of reskilling, particularly for liaison or subject expert librarians, provides nearly unlimited opportunities for libraries to support research (Aukland, 2012; Jaguszewski and Williams, 2013; Schonfeld and Rutner, 2012).

Collaboration and engagement

As the role of liaison librarians evolves, we must collaborate and engage with

the university as true partners. If we look for examples, we will find a variety of partnering models. A classic example is formal physical embedding, a librarian who has an assigned location and office hours in an academic department. Such collocation of librarians, students and faculty enables embedded librarians to be effective, visible partners in department activities. It also facilitates librarian familiarity with a discipline's research processes and unique needs. However, informal engagement can be just as significant. This might be regularly engaging with faculty and students in their academic space, for instance, by attending events and meetings. It's possible to be a part of that academic culture without the structure of set hours or location. An alternative model of informal embedding might be setting up office hours in the public area of an academic department, similar to the office hours that faculty provide for their students. The end goal of these activities is to make the library's research support more visible, and to find new opportunities in which to engage as research partners.

Alternatively, engagement can be expanded to partner with support departments like centres for instruction, academic support centres and student affairs offices. Libraries share common goals with many of these areas, particularly in supporting student learning and faculty research; partnering on events and services could be powerful. In particular, co-hosting workshops and other events could increase the reach of both the library and the participating department, while incurring only half the cost and/or staff involvement that each department would typically sustain. Libraries could work with these support departments to potentially develop new, collaborative services that are highly flexible.

Such collaborations might extend to offices for sponsored research, partnering to share information and services on locating grants, writing proposals, and data management. In institutions where institutional repositories or data management are handled by external, non-library departments, libraries could consider partnering with them to create seamless research support structures for faculty. Even the simple act of sharing information with external departments – telling them about library services and asking about what they offer – can increase referrals and help both the library and external departments reach a broader audience.

True collaboration lies in librarians paralleling faculty as researchers. The future of the reference librarian lies in becoming an integral partner in the research process of students and faculty. Librarians are highly skilled in organizing, synthesizing and disseminating information, all of which are key research skills. Many academic librarians have additional expertise in subject areas, making them ideal research partners. This partnership might take formal shape as a librarian becoming co-investigator on a grant-funded research project, or may be as simple as a series of conversations about methodology.

This idea of research partners builds on the recent evolution of the liaison or subject librarian as a partner with other library functional areas, such as data management and scholarly communication. Liaison librarians must partner with library specialists in these areas to provide dynamic, comprehensive research services. Liaisons may partner with specialists by helping draft data management plans, consulting on copyright and helping disseminate research in institutional repositories and open access journals. As cited earlier, recent reports on liaison librarian roles from the Association of Research Libraries (Jaguszewski and Williams, 2013) and Research Libraries UK (Aukland, 2012) document examples of collaborative reskilling of subject specialists in these areas, thus broadening the types of academic library research support.

To further emphasize the central role of the library in the research process, many institutions are sharing research outputs in library space, by hosting researcher lectures and sharing research images or posters in library spaces. Other approaches could include sharing research results from a variety of disciplines in an interdisciplinary lightning round or pecha kucha session (brief presentations of 20 slides shown for 20 seconds each).

Librarians can also partner with faculty on instruction. Many institutions have already begun this by embedding information literacy into their undergraduate curriculum. As librarians form deeper relationships with faculty, they can seek additional opportunities to engage with their courses. Research methods courses are natural places to insert information literacy, to either engage with a class several times or to co-teach it with a faculty member. Incorporating the library into these foundational research courses ensures that students understand not only where to find information, but more importantly how to evaluate and process it. Additionally, as subject experts, librarians may seek opportunities to guest-lecture for courses, to share and expand on their specific subject expertise.

These are merely some of the broad spectrum of ways in which libraries can engage and collaborate as research partners with students and faculty, and across the institution.

Do less, but deeper

For far too long, the mantra in many libraries has been ‘do more with less,’ the idea that we should somehow solve shrinking budgets by creating more projects and services despite time and budget constraints. This inevitably results in a slew of half-finished projects and frazzled librarians. While the desire to do more is creditable and speaks to passion for librarianship, all too often implementing ‘more with less’ results in a lack of buy-in, creates a perception that administration doesn’t understand the realities of staff

workloads and ultimately can lead to staff burnout. Our librarians and staff deserve more respect and care than this model allows.

Aside from considerations of limited time, staff, and money, there is good reason to limit what is accomplished in libraries. Each academic library resides in a specific situation with a unique collection, has specific strengths, and serves a parent institution of a certain size, funding control, student body and mission. Institutions are best served by focus – by limiting library services to what institutions need most and what libraries do best. ‘What institutions need most’ means focusing on the parent institution’s programmatic priorities and strengths as well as its users’ most frequent needs. ‘What libraries do best’ means assessing staff talents, collection strengths and the realistic possibilities of physical spaces to provide services in which librarians and library spaces shine. We shouldn’t try to recreate what every other library is doing – instead, we should look for what our specific institution needs, and what we already do best, and tailor our approach accordingly. Relevant self-assessment questions include:

- What is the one thing that is most important for our library users?
- What activity takes up the most time in our library – is it related to that most important user need?
- If not, how can we reduce the time spent on this activity?

By limiting the services provided and the projects created, libraries can enable their staff to spend more time and care on each. This results in services that are well thought-out and planned, regularly assessed and fluidly responsive to changing user needs. Further, it enables staff to maintain passion and enthusiasm for the work they do, ensuring that they are able to do it at a higher quality than if their attention and energy are split between a myriad activities. Prioritization and restraint are valuable tools for academic libraries. Libraries can prioritize by asking questions such as:

- Does this service support the mission and vision of the library? Of our parent institution?
- Is it meaningful?
- What may we have to cut or reduce to accomplish this?
- How can we best utilize our existing resources, staff expertise and talents, collection strengths, facility advantages?
- What is the measurable gain for our constituents?

The ideas presented in the following chapters are presented as case studies, examples from which each may pull what is most relevant for their situation.

They are not intended as a list of required activities, but as a menu from which to select what fits best. Adapt these ideas as needed, and apply the ‘small apartment’ mantra – for every new thing, one old thing must go. This idea is as relevant for library initiatives as it is for shoes!

Conclusion

Our role as academic librarians is to explore, to learn, to collaborate as true partners in the university. There is no single magical answer or essential service, nor can any academic library implement all of the ideas in this volume. Each institution, and each library, serves a different constituency. Our institutions vary by mission, size, funding control, academic focus, curricular strength, student body, region and more. There is no ‘one size fits all’ for academic libraries: they are as varied as the parent institutions that they serve. By investigating academic library trends and casting them in the environment of our institutions, we can determine which services work best in our specific context.

We must be ready to learn, evolve, and to change as our institution changes. As librarians, we are uniquely suited for this. We are trained to seek out, to learn, and we are passionate about this work. We must channel these talents and create strong relationships in order to support a thriving learning and research culture at our institutions.

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PART 1

Training and infrastructure

Introduction to Part 1

Starr Hoffman

Often, articles and books on research support in academic libraries focus on services. While services and service models will certainly be explored in later sections of this book, this initial section takes a closer look at more fundamental concerns: library infrastructure and training librarians for new support models.

Planning for change

Looking at training and infrastructure necessitates first taking a holistic view of our libraries through the lens of organizational development. The key goal that organizational development seeks to achieve is to become an adaptive, flexible organization, to continuously improve. Why is continual improvement needed in academic libraries? It's needed because we operate in a culture of change.

Higher education is in a state of flux, seeking ways to be more transparent, accountable and cost-effective. As new practices in teaching, learning and research continually emerge, student and faculty work is being shaped by them. As libraries, we're constantly affected by new technologies and evolving methods of information dissemination. Library budgets are likely to never return to their pre-recession highs. We must be observant of these conditions, and of changing student and faculty needs, and be ready to respond quickly.

Planning for change should begin by evaluating the library's current infrastructure, staff skills and institutional needs. Evaluating the infrastructure might include listing any necessary maintenance activities, as well as assessing how the current space is used. Space assessments could include ethnographic observations of student and faculty use of library space, such as those detailed by Nancy Fried Foster and Susan Gibbons in their ground-breaking study at

the University of Rochester (Foster and Gibbons, 2007).

Following the work of Foster and Gibbons, ethnographic and observation studies are increasing in popularity (Council on Library and Information Resources, 2012). These methods involve observing users in the library space (and in some cases, how they research and learn outside the library), to learn more about their habits and values. These methods include taking note of where users are in the library space and what they are doing in it at different times throughout the day. They also include wayfinding studies, observing how users move through space in the library. Some projects use GPS units to observe student movement and study habits throughout the campus, to ascertain hidden needs that the library doesn't currently meet (Kinsley et al., 2014). Foster's methods also encourage users' input in space design, using techniques such as charrettes (collaborative design meetings) and student space proposals. These should be considered alongside evidence of faculty and student needs as exhibited in instruments such as the 'Library as Place' dimension in LibQUAL+, as well as institution-wide reports and discussions (Association of Research Libraries, n.d.).

Evaluating librarian skills can be done through a skills inventory. Broadly defined skills assessment tools already exist, but for this purpose creating one tailored to the specific situation may be more useful. Skills inventories may include 'soft skills' like leadership and communication as well as experience with specific software, devices, research methodologies, content areas, etc. Having a list of software, devices and skills perceived to be potentially useful for future services can be helpful. However, it is also useful to include blank space where librarians can include additional skills, particularly ones that might fill unanticipated needs (for instance, a librarian with graphic design experience could create promotional fliers for new research services). Including a scale, such as 'novice, intermediate, or advanced,' can encourage librarians to include skills of which they may not yet be confident, but with which they nonetheless have familiarity. Such inventories can reveal previously hidden skills and talents that may be tapped.

Evaluating the institution's needs should be performed on a variety of levels. A clear place to begin, as mentioned earlier, is by reading institutional reports, including strategic plans and departmental self-studies. Any available documentation related to accreditation or curriculum reviews may be helpful. Faculty needs are often expressed in bodies such as the Faculty Senate. Student needs may be revealed by careful reading of the student newspaper, as well as the minutes of meetings of student government associations and other student organizations. Additionally, individual interviews and focus groups with students and faculty may be used to gain further insight into recurring themes.

As with any decision, all of this information will be used to inform what

to prioritize, what to delay and what to give up. The skills inventory may identify multiple opportunities to capitalize on existing staff competencies, but these must be balanced against the greatest needs of the institution.

Considering the infrastructure

Usually, the older our institutions become, the more building maintenance issues we must face. All too often, when budgets are low, regular maintenance and repairs are deferred indefinitely, causing even worse issues decades later (Brown and Gamber, 2002). Additionally, many libraries were designed for the era of the printed book, with lots of shelving, few areas for group interaction, and few windows, which doesn't lend them well to modern library activities. However, even libraries built just a few years ago may face issues of infrastructure, as technological advances and use patterns change ever more rapidly. Building accessibility is an additional concern, beyond considerations of how the space fits the current research needs of students and faculty. Clients with special needs must be considered in all areas and for all services and collections, not only when considering entryways and elevators (Henning, 2015).

An organization-wide focus on user experience is an emerging library trend related to infrastructure (Schmidt, 2011; Schmidt and Etches, 2012; Walton, 2015). In studies of academic libraries, a common finding is that there is no single best user experience. For instance, the same user survey may indicate strong student preference for group space and simultaneous strong student preference for individual space. Academic libraries serve multiple user groups, and even within those groups, users often have very different feelings and desires about their library experience. Thus, situational design is an important goal – that is, designing services, spaces and collections in such a way that users can create the experience that they want.

A popular interpretation of this principle is designing library spaces to be flexible, with modular or moveable furniture and fixtures, such as mobile whiteboards or dividers (Bazillion, 2001). (This is a physical parallel to responsive web design, which automatically adjusts the library website to the screen size of the user's computer or mobile device.) Ideally, these moveable pieces are placed in large, open spaces which can then be easily reconfigured for a variety of uses. The first goal of this situational design is to allow for users to create the space and experience that they want. But a second benefit is that open spaces and non-permanent fixtures mean that the space will potentially allow for future growth, for ways of using libraries that we cannot yet imagine (Henning, 2015). There is no way to effectively 'future-proof' a library building, of course, but creating flexible spaces is a step toward that goal.

Training for new research models

As mentioned in the introduction to this volume, recent reports have popularized the idea of reskilling liaison or subject expert librarians (Aukland, 2012; Daniel et al., 2011; Jaguszewski and Williams, 2013). Often, this entails utilizing their subject expertise in new ways, such as curating online exhibits, creating digital collections, or supporting faculty in digital humanities scholarship. These reports emphasize that because the advent of online searching and more sophisticated library catalogues are beginning to shift the emphasis of reference transactions away from discovery, librarians should be trained in new support activities. The key in this is both to find effective reskilling methods and to repurpose existing subject expertise and skills as much as possible.

There are a variety of options available for training. In the case of learning new tools or software, these can be accomplished through hands-on workshops, webinars, handouts, tutorials or information discussions (Bresnahan and Johnson, 2013). One chapter in this section will speak specifically about the efficacy of a reskilling through a learning community that worked on a project, and incorporated a variety of these training methods throughout the process.

The pivotal role that library administration plays in learning communities like these is providing support. This support includes providing adequate staff time and space for this exploration (Bakkalbasi, Jaggars and Rockenbach, 2015; Columbia University Libraries' Humanities and History Team, 2013). Support may additionally include financial or other resource support and recognizing staff for their accomplishments in these groups. However, the creation and direction of these groups should be initiated by group members, so that the learning goals are created by library faculty and staff, not by managers or administrators. Learning is most effective when it is self-directed.

Fostering learning communities is just one method of support reskilling and development. Other methods include providing time and funding for conferences and formal training opportunities. Even more important is indicating the value that library administration places on developing and reskilling their staff. This value can be indicated and spread throughout the organization by recognizing staff participation in research and learning activities and encouraging staff to share their learning experiences with the rest of the library (Oyelude, 2015).

Recognizing staff research and sharing learning experiences can be encouraged through regularly disseminating staff presentations and publications, as well as publicizing staff involvement in professional organizations. Internal poster presentations and post-conference debriefing sessions allow staff to share their research with each other, and to spread positive learning outcomes from conferences and training throughout the library.

Ultimately, developing an engaged and skilled library staff is the key to creating a thriving library culture that provides dynamic research support.

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Constructing a model for Mexican libraries in the 21st century

Alberto Santiago Martinez

Introduction

Changes in the academic practices of universities are requiring the research libraries that support them to transform in order to provide effective and relevant information services. The rise of digital scholarship in social sciences and humanities requires liberal arts institutions to adopt new strategies for conducting research and instruction. Unfortunately, older libraries are often ill-equipped to support the ever-growing needs of their academic communities. This is especially true in countries such as Mexico, where many research libraries continue to uphold traditional service models. This can pose a significant challenge to the knowledge production and dissemination of the local campus community.

This chapter presents a case study of the library renovation and expansion project implemented at The Daniel Cosío Villegas Library at El Colegio de México (Colmex) in Mexico City. In 2012, the university took on the task of renovating and expanding its sole library. The project goal was to create a flagship library that would be a model for 21st-century research libraries across Mexico. However, defining what a Mexican library should be for the 21st century is a daunting task, given that national literature on the topic is sparse and international models may not be relevant for Mexican libraries in general, nor in the unique situation of the Colmex library. The library conducted a series of studies to understand the behaviour, opinions and requirements of the campus community with the intention of creating a user-oriented solution.

Through an iterative planning process, we developed a plan that pairs traditional library services (to which the community was accustomed) along with new types of digital scholarship support services. This was accomplished in part by designing spaces that adapt to evolving research and pedagogical practices while also considering the library's regional context. The result is a

plan that will transform the traditional model of the Daniel Cosío Villegas Library into one that caters to new modes of information access, interaction, learning, creation and dissemination. Implementing this plan will result in significant organizational restructuring as well as the acquisition and the development of new technologies, tools and services.

Background

Colmex is a prestigious institute of higher learning in Mexico City that is dedicated to research and instruction in the humanities and social sciences. The academic community is composed of approximately 443 students, of which 205 are pursuing PhDs, 164 pursuing master's, and 64 earning bachelor's degrees. The teaching and research faculty is composed of 399 professors. Campus community members come from North and South America, Africa and Europe. However, they are principally of Mexican and Latin American descent.

Courses are offered in political science, demography, economics, Asian and African studies, history, linguistics, literature and sociology. Undergraduate courses are offered in public administration and international studies. Scholarly communication on campus is usually carried out through traditional avenues including print publications, academic gatherings, round-table discussions and seminars.

The university's only building was designed by the architects Abraham Zabludovsky and Teodoro González de León and was constructed in 1976. The building is a registered landmark and was featured in a 2015 architectural exhibition at the Museum of Modern Art in New York (Cruz, 2015). The original design requirements specified that the architecture should not only support traditional university activities, but also be built to foster interdisciplinary interaction between the entire campus community (Cruz, 2014).

The Daniel Cosío Villegas Library is the university's sole library building. Since its foundation in 1976, university administrators have recognized the importance of the library's role in supporting academic activities on campus. As such, the library is centrally located and comprises 30% of the building's structure. The library's personnel includes 18 academic librarians with faculty standing, three IT professionals, and 80 clerical staff and paraprofessionals. The library's curatorial efforts have transformed its collection into one of the most important Latin American collections in its areas of specialism. The library has played an important role for both the campus and national academic library practices by driving various national initiatives such as the 1990s migration to OPACs (online publicly accessible catalogues), which spurred other institutions to follow.

The expansion project

The original library's materials storage capacity measured 27,000 linear metres (nearly 88,600 linear feet), with a maximum capacity of close to 700,000 volumes. The library was designed with an expected collection growth capacity of 20 years. However, this capacity was not reached until 2003. When it reached its limit Aria Garza Mercado, the original library planner, took on the task of designing a new library expansion plan to support growth until 2024. Unfortunately, this plan was never implemented, given the lack of resources and budget. In 2012, the university president successfully secured financing for library expansion from the federal government and the university office of development. Following this, the library director was charged with the task of creating the renovation and expansion plan.

A committee composed of library faculty was created to assist the library director in creating the plan, with the aim of outlining the library's needs. The specific objective and scope of the committee were as follows:

- define spaces for the new library expansion
- propose equipment and furniture
- propose spaces.

The director faced the challenge of creating a plan as soon as possible; due to political and legal constraints, the renovation had to be completed within three years. Passing this deadline could result in the loss of money and failure to complete the project.

Given infrastructure needs and additional funding from the university IT unit and the office of development, the project's scope expanded to include a renovation of the library's public space and the entire electrical and communications infrastructure. Due to the project's extent and its impact on the campus, the committee decided to integrate the governing body, architects, university IT, and building and maintenance personnel into the committee to assist in the project definition. The definition of the project was specified by the core committee members with the aid of the non-library stakeholders.

Process

Although there was no formalized project management plan, due to the ever-changing dynamic and relatively short time to develop and implement the renovation, the committee members adopted an agile, iterative process that for the purposes of this chapter will be designated as 'Rounds'. Since our scope was limited to creating documentation, we did not contemplate a review of the implementation. However, the proposed architectural solutions

were submitted for review to the library committee before being approved by the university governing body.

Round 1

The committee began with a series of informal brainstorming sessions in which the entire library staff was encouraged to propose ideas regardless of price, space or viability. The intent of the exercise was to gauge perceptions of what the library should be and for committee members with differing views to come to an understanding. Many of the proposed ideas were based on literature reviews and on visits to other institutions. Ideas included building a space for a café, constructing a research commons and creating a fully fledged multimedia production studio. Additionally, specific library models were also proposed that included the learning resource centre (Martín, 2008) and the commons model (McMullen, 2008).

Simultaneously, the committee conducted a thorough literature review of research library trends. Committee members visited libraries both in Mexico and the USA and attended workshops on academic and research library building projects. Much of the literature reported that both pedagogy and research were increasingly becoming more collaborative, while other reports declared that 'collaboration should undergird all strategic developments of the university, especially at the service function level' (Dillon, 2008; DEFF, 2009). Libraries are increasingly challenged to rethink their role on campus and as an institution (Dillon, 2008). While many library missions are evolving, the library should continue to be the 'locus of expertise and innovation regarding scholarly information, how to find it, and how to use it' (Courant, 2008). The notion of library as a space for books is being challenged, as libraries increasingly acquire new types of resources both physical and digital (Neal, 2012). A new preference for digital materials is converting traditional ideas of the library as a storehouse for information into an institution dedicated to digitizing and opening new forms of interaction and access to resources. There seems to be a pattern in library building projects. For example, Andrew McDonald (2006) specifies key elements that should be considered during the planning process of a library building project. These elements include creating spaces that are functional, adaptable, varied, interactive, efficient, and suitable for information technology, and that have 'oomph.' This was echoed by Steelcase (2013), whose white paper stated that library spaces should be adaptable, furniture should foment collaboration and interaction, and libraries should be generally aesthetically pleasing.

The planning committee conducted a series of informal interviews with various reference librarians, library co-ordinators and the faculty to understand the needs of the community. This exercise revealed a trend among

faculty, who were becoming increasingly involved or interested in digital projects. Many tenured faculty members were beginning to request assistance with the creation of personal websites, thematic blogs, publishing e-books, online video interviews and presentations, and the use of computing resources to work with datasets both for research and communication.

Although the university faculty has been working with digital technologies since the 1970s, it wasn't until the mid-2000s that a majority of the tenured faculty began leveraging technologies for academic purposes (Lara, 2015). Such projects include Lingmex (an online linguistic bibliographic database), a digital library focusing on the history of petroleum in Mexico, quantitative economic history databases and primary resource databases for the study of armed political movements in Latin America (de León Portilla, 2012). Similarly, in 2012, the university created a digital education programme dedicated to recording and broadcasting video lectures by notable academic figures both on campus and nationally. The programme has met with much success. In the majority of these cases, the library played a significant role as collaborators, project leaders, programmers and evaluators, and as resource curators.

The library has pioneered digital innovation both nationally and locally. It was the first among its peer institutions to migrate to an OPAC in the 1990s and paved the way for standardized cataloguing processes in Mexico (Arriola Navarrete, 2002). Its first non-OPAC digital project began in 1998 with the digitization and creation of *Legislación Mexicana*, a digital edition that allowed full-text access and searching of Mexico's legislation from 1687 to 1902. Since then, the library has participated in various digitization projects that include participation in The Biblioteca Cervantes Project and the digitization of the university's complete body of academic journals, dissertations and theses. The library has also participated in and led various digital initiatives nationally to establish Mexican digital libraries, repositories and information access networks.

The digitization of the library resources was done through subcontracting and at an informal digitization unit operated by a two-person team working with a flatbed scanner. The majority of digital projects on campus were carried out in an ad hoc fashion. Decision-making in regard to digitization, metadata creations and systems development was done without documentation or formalized workflows, and with little regard to long-term access, continued growth or systems maintenance and support. Nonetheless, these projects demonstrated the library's capacity to innovate and increased visibility and access for the university's intellectual works and information resources, both to academics and the general public.

Based on this information, the committee began designing plans for the library expansion. One of the first proposals was to implement a model based

on the learning resource centre and commons models. This way, the library can support an ever-growing undergraduate population that was not considered in the original plan. With the increase in digitization, the committee also agreed that the library should have a dedicated state-of-the-art digitization centre, with specialists available both for the library and its community.

The planning committee recognized a strategic opportunity to improve the development of Colmex's digital project development by expanding library services through provision of academic systems design and development workshops for the entire campus. The library also decided to loan technological equipment including tablets, audio and video equipment, and adaptors. The library also plans to offer systems development consulting services. In order to do the latter, the library will produce a series of formalized policies and manuals for the development of digital projects. This will include digitization policies for preservation and access, workflows for maintenance and support, metadata policies, best practices and digital curation policies. In essence, we proposed what will eventually become the digital scholarship support service unit within the library.

These preliminary proposals were presented to the community by conducting an informal focus group of 15 students. Overall, the students believed that the proposed solutions were a good start and made suggestions of their own. The project committee also gave the students a guided tour to ascertain their opinions regarding the library's spaces and services. While carrying out this exercise, the committee sought information about both the use and non-use of the library. The walkthrough revealed that students felt that the library design was dated, lacked colour and was both uninviting and uncomfortable. The students confirmed that much of their work was collaborative, and that the library spaces were not conducive to that type of work. Furthermore, the group agreed that the furniture intended for individual quiet study was not suitable for long-term use. The informal group space was too close in proximity to the quiet study spaces and did not provide sufficient sound isolation. The students stated that their primary reason for utilizing the library was due to the resources and services it offered. Because of the space issues, many of the respondents entered the library only when they needed to consult materials or speak to a librarian, but rarely stayed there to work.

Additionally, the focus group respondents mentioned various national and international library projects, such as Denmark's Black Diamond library and Mexico's Vasconcelos 'megalibrary,' as examples of great libraries. They expressed a desire to have a library that (while not of that size) shares with those libraries a more modern, dynamic design and layout. The focus group sessions concluded with requests for a digital maps collection and GIS centre

furnished with tactile interfaces for map plotting, visualization and interaction.

Round 2

The focus group data provided much insight into the perceptions of the student body and surprised a few of the committee members. The exercise revealed the need for a plan that would significantly transform the library in order to meet user needs. Thus, the library and the university office of development contracted two notable American consultants with expertise in planning library buildings to assist the committee and validate their plan to the university governing body and architects. Through a second series of interviews and meetings with notable members of the campus community and the architect in charge of the project (Teodoro González de León), the consultants helped formalize a plan of action that included the following:

- Understand the needs of the community.
- Outline the strategic objectives to meet user needs.
- Identify services, both current and new, which would support this strategy.
- Design spaces that would be best suited for carrying out said services.
- Specify required equipment and technology for these services.
- Determine human capital requirements (staffing, skills and capabilities).
- Produce technical documentation in conjunction with the architects and campus building and maintenance staff.

To outline user needs, the committee conducted a series of usage studies to ascertain the services and resources that the library provided to the campus. These exercises considered use of both the physical and virtual offerings of the library, including information resources, spaces and services. Studying the library's online services included the library portals and other online products, and was achieved through usability studies with Morae Usability Suite. Usage statistics were analysed with Google Analytics and by examining server logs for search terms and reference service reports. These studies revealed a pattern of increased usage of the library's online systems. Analysis of the search patterns of the library portal revealed an increasing preference for e-books and online databases. Web analytics revealed that users were increasingly utilizing mobile platforms to access library portals, results which parallel national studies of internet usage in Mexico (Asociación Mexicana de Internet, 2015).

The usage studies also examined circulation statistics and reference service reports. Observation exercises examined students' study and work habits

throughout campus and demonstrated how students evolve from collaborative work in their early years of study to isolation and independent study in their later years. This could be in part due to the fact that most students are required to publish a thesis or dissertation in order to graduate from their respective programmes. This observation was contrary to the traditional notion that students tend to prefer independent study early in their studies. Much of the original library design attests to this premise. Observation also revealed that early-career students utilize spaces outside the library (such as the cafeteria or outdoor patios) for collaborative work, while upper-level and graduate work is done within the library facilities.

After reflecting on the studies' findings, the committee elaborated a strategy to pair traditional services that have characterized the library as an institution of excellence alongside new services that expand its mission and maintain its relevance both locally and among its peer institutions. With this goal in mind, a plan for comprehensive transformation was created to support new forms of interaction with digital resources, and new types of pedagogical approaches carried out on campus. The end result was the construction of spaces that adapt to the changing needs and requirements of the campus community and support distance learning, virtual and physical collaborative workflows and interweaving of device-neutral physical and digital resources.

The library's traditional, curatorial approach to acquiring pertinent physical resources is important because Latin American publishing is expected to continue producing print-only materials for the foreseeable future. Therefore, the library's expansion plan must consider an increase in shelf space. On the other hand, given the increased preference for electronic resources, we have also considered a scenario in which the library will no longer be a space for storing books, but rather for interacting and producing information. Thus, a second proposed design included the construction of a basement storage facility with high-density compact shelving.

Given that the library expansion was planned as a separate building wing, the committee devised a layout that supported students' evolving study dynamic from collaborative work to independent study. The expansion was designed with collaborative spaces on the first floor, close to the entrance. These spaces are in close proximity to the reference librarians' offices so that they are readily available to provide support. The furniture selected is highly versatile and mobile in order to facilitate teamwork and reorganization of the library space. This collaborative commons also includes various informal reading spaces and seating that foster conversation without fear of disrupting others. This replicates a cafeteria setting, one of the student focus group's preferred spaces for collaboration and conversation. The library extension design was built such that the two buildings were connected through a hallway on each floor. This design is naturally sound-isolating in such a way

that the library annex will support independent study. To support electronic equipment in the library, the layout includes grid-based flush-mount electrical outlets throughout the floors.

The university IT department also created a plan to update cables for the entire network infrastructure, given its age. In order to best utilize the updated network, the committee decided to create rooms equipped with virtual conference and collaboration systems. A multimedia room was designed to assist students with the creation of audio-visual projects, such as interactive web-based documentary systems. These rooms include audio and video interfaces for recording along with web, audio and video editing software. These services tie into the equipment loaning and systems development consulting services proposed in the renovation's original iteration.

The specialized technical nature of these newer services require the library to rethink its current hiring practices. Traditionally, the library has limited itself to hiring persons with a library science background. However, due to the increasing complexity of library projects, we reconsidered this approach and now seek candidates from the greater information sciences, including interaction designers, computer programmers, communications professionals, digital preservationists and others. We hope hiring specialists from diverse academic backgrounds with a deep commitment to service, research and development will help us create library services that support local digital scholarship (Neal, 2012).

The final project plan encompassed an interior space layout based on the project architect's previous designs. The revised design included furnishings, electrical and network outlets and specific spaces (including their dimensions and explanations of their proposed use). The architect adopted the majority of these revisions. The resulting plan created spaces that adapt to the changing needs and requirements of our community. Through its design, the renovated space will support distance learning, virtual and physical collaborative workflows, and device-neutral systems that interweave physical and digital resources.

Challenges

The committee faced administrative, cultural and political challenges while planning the library reconstruction and expansion. A fundamental challenge that the group faced was the persistence of a traditional view of what a library is and does. A significant majority of the university governing body and building planners (architects, interior designers and electricians) originally planned a book-oriented solution that was limited to spaces for quiet study and increased shelving. This clashed with library personnel's objective to

transform the current library into one with dynamic spaces that adapt to user needs, where people collaborate, create digital products, and make a lot of noise. The campus community's traditional view of a library caused some opposition to the project, because the community assumed the new plans would result in less use of the library and its services.

These challenges were overcome through dialogue, data-filled presentations, and interventions from the librarians and consultants. Governing body members' site visits to institutions both nationally and abroad also changed their perceptions of libraries. Institutions that they visited included Stanford University Libraries, Lemieux Library at Seattle University, the University of California Berkeley Library System, Monterrey Institute of Technology and Higher Education's Puebla Campus, and the Instituto Tecnológico Autónomo de México.

The road ahead

As this chapter was written, the clatter of the construction could be heard throughout the library. Library construction was expected to conclude in August 2015, eight months from the ground-breaking. Equipment has been purchased, and the library is slowly starting renovation, one space at a time. While this is under way, the organization itself is also beginning a transformation. For instance, at the library we are creating new positions and retraining personnel to support proposed new services. These new hires and the retraining encompass positions and skills such as electronic resources manager, digital preservation and project management. The library has also taken the initiative to increase internships, both to teach students professional skills that are absent from Mexican LIS curricula and to find staffing solutions at an economically challenging time. As a result of these internships, six digital systems have been created in-house during the same two-year period as the library renovation and expansion plan. This is due in part to the formalization of digital systems creation and the adoption of agile project planning strategies such as Scrum (an iterative planning methodology originally used in software development).

Along with this increase in systems production is a plan to create a more logical digital ecosystem. Every unit, from technical services to reference and IT, as well as the planned digital scholarship staff, are reflecting how each unit's policies, services and processes impact the overall ecosystem of the library. Everyone is working together more than ever, and so considering one unit's impact on another is imperative.

These changes, however, are only the first in a series that must eventually address the need for new types of services. These include quantitative humanistic research, text and data mining, information visualization,

semantic systems development, and others. The interaction with the university governing body during this renovation has changed their perceptions of what a library should be, and has resulted in increased opportunities for the library to expand its role on campus, specifically in the development of digital information services. With this, we hope that the library space will continue to evolve with the library.

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