

Library Management Education and Reality: A Clearer Connection

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Abstract

The results of a study of a collaborative digital library development project suggested that activities positively associated with project success included various forms of connection work, such as integrating diverse people, organizations and collections of information. The digital library study results are juxtaposed with the results of a survey of the skills and interests of 106 library school students, which revealed that though few aspire to be library managers per se, students reported strong interest in the type of collaborative and synthetic work found to be success factors in the digital library project. The comparison suggests a disconnection between theoretical management concepts, student perceptions of library management and real-world practice in library management education. A hybrid library management course and practicum is proposed, one which de-emphasizes fictional case studies in favor of providing opportunities for students to evaluate management concepts by observing practice, and to challenge their perceptions of what management is.

Introduction

A recent Library Journal article (Jacobsen 2004) tracked forty members of the UCLA MLS class of 1988, fifteen years into their professional careers. While the entire article provides a unique and effective reality check about career paths and expectations, relevant here is the graduates' consensus opinion about the relative value of their coursework:

“When asked about meaningful library school coursework, the Class of ‘88 said that cataloging was the acknowledged foundation...followed by information-seeking behavior and a good solid handle on the reference interview. Management courses were the big question mark. Some respondents felt they were out of step with what graduates needed, while others lavished praise on their management professors' ability to teach from experience.”

This conclusion should not surprise anyone familiar with management education in LIS. While current students might understandably view management as a required course that has little immediate relevance to the career they wish to pursue, the fact that this attitude persists a decade and a half into students' professional careers is more troubling.

Budd (2003) reviewed courses and syllabi from 50 ALA-accredited master's programs in LIS to address the question of how well the subtle and varied skills required in library management are being taught in MLS programs. While cautioning the extent to which syllabi are reliable indicators of course content, he writes:

“...courses tend to focus considerably more on specific processes that arise in libraries, and less on the conceptual bases for addressing the processes.” (p. 162)

While it is outside the scope of this chapter to rehash the larger schism between the diverse views of students, professionals and researchers about how any subset of the LIS curriculum should be taught, understanding and articulating the difference between student perceptions of management and real-world practice is conceptual work, and should be one of the primary goals of library management education.

This chapter begins by reviewing some recent research that has called for an expanded view of library management, then juxtaposes the results of a study of the management of a digital library design project with the results of a three-year survey of library school student attitudes about various aspects of library operations. Though students reported little interest and skill in management per se, they reported strong interest in management success factors found in the literature and identified in the digital library design project as forms of ‘connection work’: creating connections across diverse people, organizations and collections of information. The chapter concludes with a brief discussion of the implications of recasting library management education to reflect these results via a management practicum component.

Background

Budd is certainly not the only researcher to have identified weaknesses in library management education as a whole. Frye (2001) reflects on emerging management challenges in academic libraries, where new university norms include for-profit models, lower budgets, supporting undergraduates with high technological needs and expectations, and undermining the “hegemony” of existing departmental boundaries by catalyzing cross-disciplinary research. Frye identifies several characteristics of an academic library leader, surprisingly few of which involve library-specific skills or knowledge: crafting a coherent vision and persuading talented people to embrace and work toward it, understanding and overcoming institutional resistance and creating relationships across diverse organizations. Similarly, Mosher (2001) sees a transformation of the role of research library directors from “keepers” of texts to “agent-provocateur”:

“By ‘agent-provocateur’ we mean nothing hostile or anti-social, but a role for the library director as teacher, philosopher of values, instigator, innovator and provocative administrator: the librarian as a “change agent” on the university stage.” (p. 313)

Kingston (2002) focused on the job tasks of five library managers at different levels of management, from a supervisor of a single individual to a supervisor of 141, and found that at all levels, relationship management was critical. Buckland (2003) seeks both “bolder” and more focused library research in his discussion of five “grand challenges” for library research, the first of which is the question of how library services might be made more meaningful to the people they serve. Buckland discusses bibliotherapy and affective factors related to information seeking as being of primary importance, providing another dimension to Kingston’s relationship management: that of the relationship between people and the information they seek, a much subtler form of understanding the library customer than is generally taught in library management courses.

According to Budd, the most commonly used textbook in library management courses is Robert Stueart and Barbara Moran’s *Library and Information Center Management* (Stueart and Moran, 2002). Currently in its sixth edition, the Stueart and Moran textbook is divided into seven sections: Evolving, Planning, Organizing, Human Resources, Leading, Coordinating, and Managing in the 21st Century (which spans less than ten pages). Though it contains an impressive distillation of management theory and tools, its main focus is on the practicalities of running a library: funding, staffing, mission statements, and so on. One would be hard pressed to imagine it as a manifesto for an aspiring agent-provocateur.

“Management isn’t primarily about supervising others...management’s real genius is turning complexity and specialization into performance.”

—Joan Magretta, *What Management Is* (p. 6)

You will not find Joan Magretta’s name on an LIS faculty Website, but you will find it on the editorial masthead of *Harvard Business Review*. Her book *What Management Is* (Magretta 2002) is an example of an alternative or complementary textbook that might be used as a non-library-centric introduction to management concepts and realities, with its focus on management challenges of well-known companies in a variety of industries. For example, branding is one of the most important concepts in management. It is the institutional identity, purposefully packaged and projected to its target audience via words, images and everyday experience. All organizations—for profit or not—attempt to create and perpetuate a brand identity, and one of the primary factors for the success of any organization is the extent to which its brand is known and embraced by its target audience.

The library “brand” is connected with the core value of the institution: providing access to information. Introducing the concept of branding by starting with library values might seem the logical approach in a library management course, but introducing the general concept of branding with examples from outside the library allows students to evaluate for themselves which aspects of the concept relate to libraries, and which don’t. Airlines, clothing companies, motorcycle manufacturers—all attempt to emphasize or de-emphasize particular aspects of their product or service and transform it into an identity-bestowing object. Who flies British Airways as opposed to Southwest? Who rides a Harley versus a Triumph?

Who uses the library? Who are our competitors? What aspects of our service should we emphasize or de-emphasize accordingly?

All organizations struggle to differentiate and communicate their brand, and all have obstacles to overcome. An overly library-centric view risks the perpetuation of the notion that due to their unique mission, libraries cannot learn from, or be compared to, other types of organizations. However, from a branding standpoint, it is precisely that uniqueness that should be actively compared.

habit, *n.* A shackle for the free.

—Ambrose Bierce, *The Devil's Dictionary*

Overall, there is a sense in the literature that library management, like librarianship itself, has been limited primarily by external forces, such as university administration, or a social environment that deprives those in service professions. However, the individuals within the library and information professions must accept some responsibility as well. The foundation for any kind of change must arise from a more nuanced understanding of what management is—and can be—both inside and outside the library. One way to gather such data is to observe innovative library management projects.

Case study: The Management of a Digital Library Development Project

This section will discuss the management implications of a digital library development project where a diverse array of environmental scientists, librarians, archivists, educators, managers and system builders from a variety of different institutions came together to build a university-based environmental science digital library. The investigation was focused on the concept of connection work, defined as activity creating opportunities for the exchange of diverse types of knowledge. Data was collected via fieldwork, observations, interviews and document analysis, resulting in a series of social network diagrams depicting information sharing relationships at four critical points in the project as identified by the participants, and a narrative of the first grant-funded year of the project. Narrative analysis revealed several management-related activities that participants believed contributed to the success of the project, which can be summarized as the ability to see connections between diverse people, organizations and collections.

Whether weaving together disparate types of knowledge or simple pieces of cloth, connections are made at the boundaries. The concept of a boundary object is useful not just to draw conceptual borders between communities or knowledge forms—an inherently inexact activity—but to examine areas of interaction and how meaning is negotiated across them. People from different backgrounds are “often helped to communicate by a shared object: a rock, a diagram, a collection of stories and observations, a pile of computer code, and so on” (Agre 2000). Bowker and Star (1999, p. 15-16), provide a more formal definition of boundary objects:

“...we speak of classifications as objects for cooperation across social worlds, or as boundary objects (Star and Griesemer 1989). Drawing from earlier studies of interdisciplinary scientific cooperation, we define boundary objects as those objects that both inhabit several communities of practice *and* satisfy the informational requirements of each of them...[they are] both ambiguous and constant; they may be abstract or concrete.”

It is important to note that the word ‘satisfy’ is not used here in the sense of total fulfillment as when repaying a loan, but in the weaker sense of incomplete, though passable, success (OED, 2003). Boundary objects mediate the different goals and perspectives of diverse actors, and serve as a means of coordination, alignment and translation. They are dynamic, adjusted as needed to fit changing situations.

Klein (1990, pp. 189-190) offers a list of ‘integrative techniques’ people use to work toward integrative synthesis in multidisciplinary environments. Note that most of these techniques involve boundary objects and connection work of some sort:

- Regular meetings
- Internal and external presentations
- Joint organizing and planning
- Periodic reports and reviews
- Joint presentations, publications and papers
- Common data
- Common vocabulary
- Common equipment
- Common facilities
- Common objectives
- Articulating differences among team members
- Performing iterations
- Involving the client/user/customer
- Using established techniques
- Analysis of common object/objective
- Focusing on a common enemy
- Informal gatherings
- Role negotiation

The environmental information system that is the object of this study brings together environmental data sets, archival photographs, mission logs of research expeditions, oral histories and other diverse content into a single merged collection. It was imagined from the beginning not just as a collection of disparate items, but as an integrated resource that would present a more holistic and realistic view of environmental science to both researchers and the general public. Having researchers and professionals come together to help design the system and combining the disparate collections was supposed to create new knowledge, in the sort of “integrative synthesis” that typifies true interdisciplinarity (Klein 1990, p. 118). This was one of the most captivating rationales for the project: the potential for a university library to create “hybrid knowledge” (Gazan

2004) by the juxtaposition and integration of diverse resources. This was a ripe environment in which to observe innovative library management practice.

Though it is always debatable to identify one moment when a project begins, the first seeds of the environmental information system were sown two years before the grant proposal was written. The University[†] had hired a new University Librarian who had a strong background in digital libraries. One of his goals was to provide better access to the disparate and unique collections of the University, many of which had been underutilized.

“[The University Librarian] provided the initial focus. From day one, he wanted to innovate in digital libraries...”

—Associate University Librarian

Shortly after arriving at the University, the University Librarian formed the Digital Library Innovation Team (DLIT). As a starting point, the DLIT developed a mission statement to describe the University’s digital library effort:

“The [University] Libraries will create for the [University] community a comprehensive digital library program to provide a powerful, useful, and exciting environment for access to digital information and knowledge. The Libraries will catalyze and develop collaborations among the campus’ various information and knowledge centers to enhance scholarship and research.”

While few mission statements can be lauded for their modesty or understatement, relevant here is the notion of libraries as catalysts, taking an active role in developing collaborations between disparate units of the University. In its original definition, a catalyst increases the rate of a chemical reaction or process, but the word has been extended in common usage to include senses of initiation and transformation more generally (OED 2003). This gets to the very core of connection work: it is an active, conscious process, an attempt to create beneficial synergies that would otherwise be made less efficiently, or not at all:

“I’ve been convinced you can use one medium as a way of navigating another, with unanticipated results, which can give you new knowledge. By bringing photos, text, and data from multiple agencies together, you get different views—maybe perspectives is a better word—on the same stuff. Like the fish catch stats in combo with [historical] photos, you can get two senses of the economic history of local tuna fisheries. When you study the two collections together, you can get there, but if you studied each alone, you couldn’t.”

—University Librarian

[†] The name and certain details of the system are withheld to protect the privacy of the participants, in accordance with UCLA Office for Protection of Research Subjects policy.

Coming up the initial vision is one challenge, but communicating it effectively is another. Did the other participants buy into this vision?

“I don’t think we thought we were revolutionizing academic libraries or anything. But there was an excitement then...this new guy coming in, young and forceful. You wanted to be part of it.”

—DLIT team member

The paper trail continues with a document from May 2000 which summarizes ‘discussions to date’ and outlines next steps in the digital library effort. It is an informal document in which the University Librarian essentially summarizes and responds to the recommendations of the DLIT:

“DL development priorities should be driven by the needs/interests of our primary clientele, initiatives should reflect who we are as a campus and a community, and development should be opportunistic (in the best sense of the word)...So, in my mind our discussions to date argue for a [Research Institute]-based (but including content from other collections as appropriate) content creation project with an environmental focus.”

—University Librarian

The Research Institute is connected with the university and generates a significant amount of collection items and demand for library services—an important player to include in a project such as this. The University Librarian’s goal of content creation can be understood in both a stronger and a weaker sense. The weaker sense is that simply by digitizing print materials, one can be said to be creating digital content. In the stronger sense, digitizing and juxtaposing different forms and types of content can be thought of as the production of hybrid knowledge. However, at this early point in the project, there was little evidence to support one interpretation over another.

The University Librarian’s reference to user-driven priorities might be seen as an obligatory statement, so common as to scarcely merit comment. Beneath it, however, is evidence of libraries’ longstanding habit of deference to users both real and imagined. One way to interpret this statement is: no digital library initiative will be developed without prior user demand. The danger of taking this posture is that a library or any information organization might, consciously or not, abdicate its expertise and creativity. In this case, however, the University Librarian reclaims some flexibility by including the statement about ‘opportunistic’ development. Library administrators are well positioned to identify opportunities actively, not reactively, and decide how best to act on them.

Certainly not all of the decision-making processes in this project relied on rational debate and abstract visions about the role of the academic library. The development and management of any information system is situated in a social and political context, and these institutional actors shape planning and practice as well. An excerpt from an internal document from the DLIT provides a glimpse of relationship management processes at work:

“Generally, in suggesting a content creation project I am mindful of who we are, where we are, and the value of defining a niche predicated on both. In suggesting a [Research Institute]-based content creation project, I am mindful of [the Research Institute Director] as a powerful political ally...In suggesting the possible desirability of developing (an) open archive(s), I am mindful of the likely advantages (political, financial, etc.) of aligning ourselves with those.”

—University Librarian

The concept of aligning the interests of diverse actors in this project appeared again and again, and out of the mouths of many individuals connected with the project. Even when grant funding was being discussed, the idea of interpretation, integration and synthesis as a means to move the project forward recurred:

“I have a long track record with grants and the State Library, I’m very familiar with the selection process. The [State Library] already features some content from our [Research Institute] archive. That was the first directory using LSTA grant and federal money, a few million over a few years to create an online archive. So we framed it as leveraging that investment that had already been made. Funding agencies like to leverage past work.”

—University Librarian

One way to think about “leveraging past work” is connecting a proposed project with work that has come before. Having the ability to see and articulate connections across projects provides an advantage when seeking grant funding. A successful grant proposal will link the stated or perceived goals of the funding agency with those of the project as explicitly as possible, even when the connection might be rather tenuous. But merely reciting bullet points is generally not enough. Something surprising or innovative must come out of these goals—a ‘hook’—to get a funding agency interested.

“Part of the art of grant writing is interpreting vague language in a way that lets you do what you want to do. If we could digitize a chunk of our collections, partner with related institutions and provide Web access, that would make them happy enough. But I knew what would distinguish our proposal was the integration aspect, bringing together this variety of resources. So we really hung our hat on that.”

—University Librarian

The University Librarian was the most central individual in the social network during the initial phase of the project. He set the agenda, invited people from various University libraries and community institutions to participate, guided discussions, and evaluated and prioritized the recommendations of the project team. He was also the connector between the Digital Library Innovation Team, the Director of the Research

Institute, the State Library and the digital library community in general. However, the importance of staying connected with the larger political and economic environment, and having the ability to see connections and anticipate opportunity, cannot be overstated:

“There’s a big political angle to this too. There’s a budget crisis, and a big boom of 18-year-olds coming into the university system. Priority one is educating these kids, so there’s less of an emphasis on preserving these collections that are pretty much just sitting there occupying space and resources. People are freaking out, and this panic has made them more open to the idea of sharing their collections, digitizing them, partnering with libraries, and listening to our ideas. It gives the library more influence, which is a good thing for everyone. Crisis makes people very creative.”

—University Librarian

Though the University Librarian is the primary focus in this discussion, other project participants also reported doing connection work, in various forms, that they identified collectively as contributing to the success of the project. For example, the environmental scientists and the information specialists participating in the design of the system had vastly different conceptions of the system’s goals. The scientists saw the project primarily as the means to digitize environmental data sets and create a database, and thought other collections were “just along for the ride.” Though the scientists did participate in conversations outside their domain of expertise, for example about appropriate metadata, they tended to be interested in metadata issues only insofar as they made the environmental data sets accessible. This suggests a difference in the “relative informational value” of different collection items and access points, in terms of Budd’s (2002, p. 97) sense of warrant. A common access point in many databases is a statement about an item’s form, which sometimes appears as a Resource Type or Document Type field, with a value like text, image or data set. In a usability study conducted on a beta version of the system, geography students and instructors often suggested that the forms of information are an indicator of whether an item is likely to be useful or not. In contrast, the information specialists who conceived and built the site worked from the assumption that all forms could be equally useful, if they could be presented in an integrated way.

Throughout the project, other examples of connection work included document-related activities such as merging different classification schemes, social processes such as patterns of knowledge sharing and linking otherwise disconnected individuals, and creative acts such as imposing a unifying narrative across merged collections. In the social network analysis, the people who did connection work linked otherwise disconnected individuals, received information from a variety of others, were able to articulate the roles and goals of diverse others, interacted with members of multiple communities, and could perceive connections between disparate information forms. In the eyes of the project participants, what moved the project forward was incidents of connection work, not the application of library management theory or best practices found in a textbook.

General barriers to connection work in this project included contested collaboration, lack of shared vision about the goals of the system, institutional differences and differences in the prestige of the diverse actors. Though the stage had been set for a collaborative design project, environmental scientists primarily wanted digital access to archival resources, new data sets and to have their work portrayed in historical context. The information specialists wished to use their knowledge of the disparate yet related collections to create a system that could catalyze new knowledge. The grant provided the funding and infrastructure, but opportunities for idea exchange were more and more rarely acted upon as the project moved forward. Interestingly, the fragmentation of the constituent groups in the project increased as the University Librarian's involvement decreased. The University Librarian's initial vision to catalyze new knowledge was implemented in the design phase by someone without as much institutional clout. It is certainly debatable whether research scientists or outside institutions would have responded to the University Librarian's personal influence had he been more involved throughout the project, but his later absence did correlate with a general decline in connection work.

The results suggest that though some of the collaborative and integrative aspirations of the project were not ultimately achieved, evidence of various forms of connection work and integration was found in the project. Interviews with project participants and the results of the usability study support the suggestion that the most successful aspects of the system were those where some connection work took place.

In sum, indicators of connection work during the digital library project's initial phase included:

- The University Librarian's initial vision to connect disparate University libraries via a digital library initiative
- The formation of the Digital Library Innovation Team
- The DLIT's stated goal of 'catalyzing' research collaborations between disparate University research units via 'content creation'
- DLIT brainstorming meetings, where candidate collections for digitization were debated and linked to user needs and University missions
- The linkage of digitization project goals with those of funding agencies
- Targeting a wide audience including researchers and the public
- Collaborating with nonacademic institutions.
- Consulting with scientists about content decisions
- Integrating disparate collections in a conscious attempt to create new knowledge

Throughout the project, activities identified by the participants as most effective were those which required the ability to identify and integrate diverse people, organizations and resources, as well as sheer creativity. The results of this case study support the idea that the actual work of library managers and administrators, at least in some environments, does justify an analogy as glamorous and intriguing as agent-provocateur. But what do students think?

Library management skills and interests survey

To help determine library school student attitudes about various aspects of library operations, a survey was administered to 106 library school students at three different institutions over the course of three years. Students were given a list of 40 statements about their work styles, attitudes and preferences, and were asked to rate each statement on a scale of 1 (strongly disagree) to 5 (strongly agree). The complete instrument can be found in the Appendix (and it should be noted that some questions were intentionally poorly worded to serve as a research methods and survey instrument evaluation exercise).

While this research is still ongoing, Table 1 lists the statements that the students to date have most strongly agreed with, while Table 2 lists the statements that students have most strongly disagreed with.

Table 1
Statements that LIS students have most strongly agreed with ($n=106$)

Statement	Mean
I enjoy solving problems	4.32
I enjoy the physical atmosphere of libraries	4.27
I'm good at integrating diverse views or conflicting data to arrive at a decision	4.23
I feel more comfortable making a decision when I have data to back it up	4.13
I like being a source of information	4.10
I'm good at collecting, synthesizing, and analyzing information	4.00
I can communicate with a wide variety of people	3.97

Table 2
Statements that LIS students have most strongly disagreed with ($n=106$)

Statement	Mean
I'd like to manage people	2.69
I'm good at giving presentations and public speaking	2.77
I'd like to manage projects	2.81
Analyzing how work is done is as important as doing the work	2.86
I'd like to direct a library someday	2.95
I thrive on change, and am always looking for ways to 'shake things up'	3.02

The results summarized in Tables 1 and 2 suggest a fundamental disconnect between what management is, and what students think it is. Any of the seven statements shown in Table 1, those with which students most strongly agreed, could form a significant part of a library manager's job description. However, when you package the same attitudes and activities and call them management, students' interest and confidence wither.

In addition, most management courses include at least a mention of the contingency theory of leadership (Fiedler 1967), which, briefly stated, posits a dynamic

interaction between individual leadership skills and a favorable situation. Some students interpret this as evidence that since management decisions can only be understood in the context of their application, a management course is essentially moot. A passage extracted from one student's library management course evaluation further illustrates the problem:

“I found the case study exercises we did in class useful, but it seemed like most of the discussion had to center around getting a handle on the context of the fictional situation, not the wider issues (much as you tried to steer conversation in that direction).”

This student is exactly right. The data from the digital library development project was collected over the course of a ten-month participant observation, and even being present to observe the dynamics of the design process was not sufficient to uncover project success factors until the interview instrument was refined several times, and participants' interview responses were analyzed and compared to one another. Most project participants claimed some conceptual underpinnings to their decision making, but their decisions were always tempered by the messy reality of the situation, where one's skill with people is almost always more important than one's skill with spreadsheets.

Integrating diverse views, communicating with a variety of people, collecting and synthesizing information—following the data analysis method of the digital library study, all of these statements would be coded as instances of connection work, and positively associated with success in a collaborative project. However, the results of the survey also suggest that library management instructors are in the unenviable position of having to ‘teach uphill’—they must attempt to overcome negative student perceptions of the course content in addition to teaching the content itself. What can be done to demonstrate a clearer connection between management concepts from outside the library with library management in practice, and more importantly, to give students a reason to challenge their own conceptions of what management is?

Conclusion

The common themes in the library management literature, case study and survey results seem somewhat paradoxical. There are calls for more conceptual content in library management courses, and a parallel need for more realistic examples of management concepts in the context of their application. An approach to library management education that takes the middle path, and relies on fictional case studies and teaching best practices for “generic” academic, public, school or special libraries risks a one-size-fits-all portrayal of library management that students know very well is not realistic.

A library manager is concerned with successful execution of the goals of the organization, but within that apparently narrow charge there is abundant opportunity to manage relationships, integrate diverse people, organizations and information, assess and anticipate environmental factors, and work creatively. In the digital library development study, people who did connection work were identified as more critical to the success of

the project than people who had the word ‘manager’ in their title. With sufficient immersion in other library environments, different and even less-obvious success factors could be found, yielding more data with which to support or challenge high-level management concepts.

A hybrid library management course and practicum is proposed here, one that introduces management concepts outside the library, and gives students the opportunity to evaluate for themselves which can be applied to particular library situations. To provide real world context, students could then be placed in a library for the latter part of the course, with the charge of evaluating how the concepts are being addressed by a particular group or within a particular project. For example, having learned about branding, marketing and competitive intelligence in the first part of the course, one might investigate how the local public library branch is marketing its storytimes, as more and more diverse organizations are offering similar parent-child experiences, such as ‘mommy and me’ yoga classes. Observing and asking how decisions are made, and juxtaposing how similar issues are treated in non-library organizations, can yield educational benefit for the students, and benefits for the practicum site as well.

The educational infrastructure to pilot this sort of hybrid library management course is already in place. Most library schools have an internship or practicum built into their degree programs, but few link the practicum experience explicitly with management (two notable exceptions are Emporia State, which offers an Information Management practicum, and Pittsburgh’s Supervisor of Library Science Certificate program, which has a school library management practicum). There are service learning and community engagement course credit opportunities in many programs that could be extended to support a hybrid management course as well.

At bottom, the means by which students are provided a broader and more realistic picture of the work of library managers is less important than the task itself. This chapter began by reviewing previous work suggesting that the role of a library manager has evolved from passive caretaker to active integrator of diverse people, organizations and collections, which the results of the digital library development study supported. The skills associated with success—the ability to see connections—are precisely those that students report not just having, but enjoying. All they need is room to run.

Appendix: Library management skills and interests instrument

Circle the number that best corresponds to your opinion about each statement. Take time to consider the implications of your response to each statement, and answer as honestly as you can.

1 – Strongly disagree | 2 – Disagree | 3 – Neutral or no opinion | 4 – Agree | 5 – Strongly agree

I'm a 'big picture' sort of person; I like generating ideas and strategies	1	2	3	4	5
I'd like to direct a library someday	1	2	3	4	5
I'd like to manage projects	1	2	3	4	5
I'd like to manage people	1	2	3	4	5
I enjoy the technical side of librarianship	1	2	3	4	5
I enjoy the personal/service side of librarianship	1	2	3	4	5
I enjoy the intellectual side of librarianship	1	2	3	4	5
I enjoy the physical atmosphere of libraries	1	2	3	4	5
I like working with people outside my group and/or outside the organization	1	2	3	4	5
My career is only a small part of what makes me happy	1	2	3	4	5
I can communicate with a wide variety of people	1	2	3	4	5
I'm usually aware of how other people are feeling	1	2	3	4	5
I'm usually sensitive to how my words might be received	1	2	3	4	5
I think I'm politically astute; I know when to speak and when to remain silent	1	2	3	4	5
I'm somewhat suspicious of 'leader types'; sometimes lying is part of their job	1	2	3	4	5
I enjoy solving problems	1	2	3	4	5
Analyzing how work is done is as important as doing the work	1	2	3	4	5
I'm good at collecting, synthesizing, and analyzing information	1	2	3	4	5
I'm good at writing	1	2	3	4	5
I'm good at making charts and graphics	1	2	3	4	5
I'm good at giving presentations and public speaking	1	2	3	4	5
I'm good at planning and time management	1	2	3	4	5
I prefer working alone	1	2	3	4	5
I enjoy interacting with others	1	2	3	4	5
I'd rather work for one boss than have to constantly negotiate among equals	1	2	3	4	5
Meetings and process analysis are a waste of time; just let me do my job!	1	2	3	4	5
I tend to feel more loyalty to co-workers than to the organization	1	2	3	4	5
I thrive on change, and am always looking for ways to 'shake things up'	1	2	3	4	5
I like a stable, dependable work environment	1	2	3	4	5
I tend to do things at the last minute	1	2	3	4	5
Working under deadline pressure brings out the best in me	1	2	3	4	5
Co-workers have to earn my respect	1	2	3	4	5
Underperforming co-workers must be confronted	1	2	3	4	5
I'm uncomfortable around conflict	1	2	3	4	5
I actively attempt to resolve conflicts	1	2	3	4	5
I enjoy making decisions	1	2	3	4	5
I like being a source of information	1	2	3	4	5
I tend to follow my intuition when making decisions	1	2	3	4	5
I feel more comfortable making a decision when I have some data to back it up	1	2	3	4	5
I'm good at integrating diverse views or conflicting data to arrive at a decision	1	2	3	4	5

References

- Agre, Philip E. (2000). Information systems analysis and design. Available online at: <http://polaris.gseis.ucla.edu/pagre/240/week6.html>
- Bierce, Ambrose (1911). The devil's dictionary. Cleveland and New York: World Publishing Co.
- Bowker, Geoffrey C. & Star, Susan Leigh (1999). Sorting things out: Classification and its consequences. Cambridge, Mass.: MIT Press.
- Buckland, Michael K. (2003). Five grand challenges for library research. *Library Trends* 51(4), 675-686.
- Budd, John M. (2002). Jesse Shera, social epistemology and praxis. *Social Epistemology* 16(1), 93-98.
- Budd, John M. (2003). Management education for library and information science. In Garten, Edward D. and Williams, Delmus E. (eds.), *Advances in Library Administration and Organization*, vol. 20, 149-163.
- Fiedler, Fred E. (1967). A theory of leadership effectiveness. New York: McGraw-Hill.
- Frye, Billy E. (2001). Some reflections on universities, libraries and leadership. In Garten, Edward D. and Williams, Delmus E. (eds.), *Advances in Library Administration and Organization*, vol. 18, 293-305.
- Gazan, Rich (2004). Creating hybrid knowledge: A role for the professional integrationist. Ph.D. diss., University of California, Los Angeles.
- Jacobsen, Teresa L. (2004). The class of 1988. *Library Journal*. Online at: <http://libraryjournal.com/article/CA434406.html>
- Kingston, Diana (2002). Academic library managers at work: Relationships, contacts and foci of attention. In Garten, Edward D. and Williams, Delmus E. (eds.), *Advances in Library Administration and Organization*, vol. 19, 101-136.
- Klein, Julie T. (1990). *Interdisciplinarity: History, theory and practice*. Detroit: Wayne State University Press.
- Magretta, Joan (2002). *What management is*. New York: Free Press.
- Mosher, Paul H. (2001). The research library director: From keeper to agent-provocateur. In Garten, Edward D. and Williams, Delmus E. (eds.), *Advances in Library Administration and Organization*, vol. 18, 307-316.

OED (2003). Oxford English Dictionary. Available online at: <http://www.oed.com>.

Star, S.L. & Griesemer, J.R. (1989). Institutional ecology, "translations," and boundary objects: Amateurs and professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. *Social Studies of Science* 19, 387-420.

Stueart, Robert D., and Barbara B. Moran (2002; 6th ed.). *Library and information center management*. Greenwood Village, Colo.: Libraries Unlimited.