Hybrid Librarians in the 21st Century Library: A Collaborative Service-Staffing Model

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Abstract

Due to library patrons' ever-changing information needs and the widespread adoption of information technology in higher education, academic libraries need to evolve by employing "hybrid librarians" on teams that provide instructional and information services in the departments they serve, while staffing and maintaining the physical library space as it also evolves. Evidence that these changes are occurring is reflected in recent job advertisements in the field of academic librarianship. The core elements of a hybrid service-staffing model are: collaboration of librarians and technologists serving on cross-functional technology teams that provide more integrated, personalized services at the point-of-need; an organizational culture that supports and reflects new ways of providing service; and a learning organization framework to address issues related to the training and development of hybrid librarians.

Introduction

Revolutionary change,[1] the challenges of new technologies,[2] a paradigm shift[3]—these are words used to bring one's attention to the need for adaptation and innovation by academic libraries. Disruptive technologies that have driven the transition from the automated to the electronic library "require new service models…that challenge established organizations and the interests and expertise of the individuals within them."[4] These changes are occurring in an environment of decreasing resources (human and financial)[5] and increasing demands of users.[6] According to James Neal, change is an organizational constant that encourages hybrid structures, programs and roles.[7] With information technology's immersion in higher education, we need to move from an instructional to a learning paradigm;[8] we need to rethink education.[9] Libraries are also facing value conflicts that may result in fragmentation of library cultures, according to Kaarst-Brown.[10] Two elements of a hybrid service model in the academic library are flexible organizational structures and staff possessing hybrid skills, facilitated by a shared culture.

The evolving digital library has "outpaced existing organizational models for library public services."[11] There is a need for a new organizational model, or cul-

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ture, that encourages flexibility and empowerment.[12] A model that is collegial in nature[13] and aligns structure with values, such as future-oriented, less hierarchical, facilitative, collaborative, and evaluative.[14] The center of this new model is the hybrid librarian. As the library profession needs to retain the "generic material of librarianship" as its knowledge base, while adding new areas of knowledge, so too does the librarian of the 21st century. Staff need to support users in the networked and print-based environment, and therefore need to develop, and continually update, their technology skills and competencies.[15]

Hybrid Librarians and Hybrid Libraries

To understand what a hybrid librarian is, one needs to be familiar with the concept of the hybrid library. Penny Garrod has written several articles about hybrid libraries in the U.K., specifically about the Electronic Library Program (eLib) projects. One definition of the hybrid library is: "an environment with physical and virtual services supporting professional activities of the users at their workplace from the discovery of information to the manipulation and analysis of the delivered resources."[16] From this definition, one can see that helping users to find information is only one part of the comprehensive library services that 21st-century librarians need to offer. Garrod also talks about the need for a balance between the old and the new, print and electronic, traditional and innovative.[17]

Peggy Seiden reported on an informal survey of the Oberlin Group in 1997, from which organizational change strategies were identified to "leverage existing staff resources in support of the digital library."[18] One of these strategies was to redesign library positions. For example, a reference librarian position at Earlham College morphed into an "information technology/reference instructional librarian" responsible for web pages and software support.[19] Numerous other studies have been undertaken to analyze job advertisements in the library field, such as a comparison of those advertised in *American Libraries* and *Library Journal* in 1983 and 2003,[20] a study[21] spanning 25 years of ads in *College & Research Libraries News* (1973–1998), and one that analyzed subject specialist positions from 1990 through 1998.[22]

Starr provided a sampling of new job titles in 2003: library educational technology coordinator, electronic resources librarian, and digital information services

librarian, and reported that other researchers observed an increasing number of digital positions and more diverse functional areas.[23] The study by Lynch and Robles Smith included a new category of librarian that combined multiple core tasks of academic librarianship. While acknowledging the possible impact of budget constraints, the authors believed that the emergence of this category may have reflected a shift from traditional to "more expansive and complex" jobs. Such positions required broad computer skills obtained through library education.[24] Gary White's study indicated that technological skills, such as those related to electronic resources and the Internet, were becoming more important, revealing the effect of the electronic information environment.[25]

Although by no means a representative sample, this author dissected eight recent position descriptions requiring diverse and highly technical skills. These positions are advertised as being integral to the teaching and learning mission of higher education. Titles of these positions are Information Literacy/Instructional Technology Librarian, Instructional Technology Librarian, Academic and Digital Applications Librarian, Instructional Design and Instructor Development Librarian, Technology Instruction Librarian, Web Manager and Instructional Design Librarian, Instructional Development Librarian, and Instructional Design Librarian.[26] Some common vocabulary highlights the type of work environment and personal qualities such librarians need to bring to these positions. The word "collaborative" was often used to describe programs and projects which the individual would need to work on, as well the individual's work style. As would be expected, teamwork and communication skills were also highlighted. Descriptors such as innovative, creative, and visionary also appeared in these ads. As far as technical competencies, knowledge and/or skill in the following technologies were required: course management systems, open source software, web design (including XML and JavaScript), multimedia applications, and digital libraries. Although one cannot observe a trend by analyzing such a small number of advertisements, this author has observed an increase in ads requiring, rather than preferring, technical skills, particularly those related to web development and design, which is also validated by Starr's study[27]. This aligns with the idea of the hybrid library, as users increasingly rely on collections and services accessed through the Web.

Garrod[28] highlighted the typical roles and responsibilities of those working in hybrid libraries. Such roles include learning facilitator, who trains and educates the user community, academic liaison, who focuses on building relationships with departmental faculty, and metadata specialist. Responsibilities include management of electronic information, including resource evaluation and provision of access through gateways and digital libraries, and team building, where resource-based learning teams are comprised of faculty, computing professionals, course designers, and web experts. Again, diversity of skills and technological proficiency are required to thrive in such a hybrid environment.

Team-based, Collaborative Environment

A new service model that this author proposes is team-based and collaborative. There are a number of reasons for libraries to transition into such a work environment, and the literature indicates that many academic libraries have already done so, or are in the process of doing so. These reasons are related not only to changes in technology and scarcity of resources, but the requirements of a new kind of library, in the context of the 21st-century university or college, which emphasizes knowledge building over transmission of knowledge, reflecting the information society or economy. As Gossen and Reynolds concluded in their cross-training study at SUNY-Albany, "In times of scarce resources and rapid technological change, it is doubly important that management provide opportunities for employees from different units of an organization to work together to develop common goals and to develop a sense of identification with the institution as a whole."[29] Hybrid or digital libraries require collaborative work arrangements, in order for such libraries to be successful in their provision of services.[30–31] Strategies to support a digital library, resulting from The Oberlin Group survey mentioned earlier, include extending relationships with campus computing and collaborating with faculty in information literacy initiatives.[32] In an interview of CIO's, Susan Perry of Mt. Holyoke had observed hybridization of different services into curriculum support to all users on the path to self-sufficiency and stated that no one expert could meet such user demands.[33] Martin[34] also discussed a "paradigm shift" in public services, wherein librarians need to develop systems expertise in order to develop "information gateways" for users, which necessitates collaborations with computing staff. In the context

of the university or college as a knowledge-building community, collaborations are key. These communities, of which the library is a central part, evolve through such collaborative activities as members "re-imagine … ways to co-construct knowledge."[35] Cook-Sather asserts that information technologists and librarians can contribute to such knowledge construction in the classroom, along with faculty and students, as well as outside of it.[36]

Collaborations among various constituencies can be facilitated through the formation of teams. It has been noted that the traditional hierarchy in academia is dysfunctional,[37] and that terminology such as "team environment" and "changing environment" entered the professional vocabulary of librarianship in the 1990s, reflecting a shift in the type of work environment librarians are recruited into.[38] As "New World" libraries change their organizational culture, they need to create structures that reinforce this change, and changing to a team-based environment, which "disturbs [the] established culture," is a good idea, according to David Lewis.[39] Emory University's library reorganization also centers on the development of a new work culture based on teams.[40] Hybrid libraries require units to act independently while being responsive to the needs of the organization,[41] thus, a balance between identification with the mission of the library/information center, or a common service identity, versus autonomy, needs to be reached. Seiden asserts that members of collaborative units must be valued for their different competencies and "cultural strengths" in order for collaboration to work, and that hopefully a shared culture will evolve.[42] In this way, the knowledge management team—technologists and librarians—would inhabit a consistent identity of technology-based, user-focused service to the user. In the next section, this shared culture is used strategically to further the mission of the library and its parent organization.

The "competing values framework" (CVF) can be used to examine organizational culture in the library. CVF is an empirically validated management tool, which allows an organization to understand its culture, which is crucial as libraries restructure and reorganize.[43] The definition of culture by Schein, as quoted by Kaarst-Brown et al., is very appropriate in this time of rapid change: "A pattern of basic assumptions—invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration—that has worked

well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems."[44] CVF provides a framework to analyze the values of a group, and to bring assumptions out into the open. According to CVF, an organization is composed of one or more of four different cultural types or orientations, based on six aspects of organizational culture: clan, hierarchy, adhocracy, and market. A clan-oriented workplace is family-oriented and thus provides mentoring and nurturing to staff in an environment of teamwork; adhocracy-oriented organizations are entrepreneurial and value risk-taking and innovation; market-oriented is defined by a results-orientation and values competition; and hierarchically-oriented organizations prefer structure and control, require efficiency and place an emphasis on stability. Different cultural types can co-exist in one organization; however, this can lead to fragmentation of library cultures. Kaarst-Brown et al. advocate for the library to transition to a clan and/or adhocracy-oriented workplace. A clan framework would allow for smaller teams formed around tasks, thereby uniting, rather than dividing, public and technical services, and adhocratic management empowers these teams to work in tandem—while some keep the core of the library running, others explore ways of integrating technology into existing services.[45] The issue of fragmentation raised here is well articulated by Kaarst-Brown et al.: "This raises the question of differentiation or fragmentation of library cultures and an increased need to manage potentially competing cultural value sets if libraries are to retain professionally diverse and skilled staff and still meet the needs of their constituents."[46] The service-staffing model this author is proposing is based on a clan-oriented work structure, centered around cross-functional technology teams, that fosters shared values and allows a shared culture to emerge, one that meets the needs of the digital library user of today and tomorrow.

Cross-functional Teams

Cross-functional teams, which provide outreach service to academic units or staff the main library/information center, are at the crux of this model. A cross-functional team is defined as a group of individuals from a variety of functions whose efforts are combined to achieve a common purpose; these teams may include professional and paraprofessional staff.[47] In Lynch and

Robles Smith's study of job advertisements, they noted a prevalence of combination jobs—jobs integrating a multitude of library tasks—and this observation was validated by other researchers who indicated that "job sharing" was increasing.[48] Although this may have been a precursor to the use of cross-functional teams in libraries, a search in the Library Literature database in the fall of 2004 showed a lack of studies on such a team approach, as only one article was published in a library administration journal—a review of books written in the corporate sector on cross-functional teams.[49] However, a few other articles were later discovered that included cross-functional teams as part of library change management, such as the Oberlin Group survey, which advocated that cross-functional teams be developed as part of organizational change.[50]

This author's review of several articles in the business management literature revealed certain elements that are required for a cross-functional team to be successful. The article by Glenn Parker summed up these essentials well. They include clear and problem-based team goals that are integrated with departmental goals, the importance of communication, a team's authority to make and implement decisions on its own, and a team leader who is knowledgeable, willing to change, and is skilled at facilitation and developing relationships. Parker also mentioned that the ideal number of team members is four to seven.[51] In a description of organizational systems design at the University of Arizona, Phipps compared the mission and goals of a cross-functional project or study team to those of a functional team. According to Phipps, a cross-functional team needed to have a clear mission including the team's purpose, problem or opportunity, outcomes, resources, and roles. In addition, these desired outcomes had to be data-driven, as successful team decisions were based on research and learning rather than "groupthink."[52]

As would be expected, there are several challenges to implementing a cross-functional team. Parker states that the diversity inherent in cross-functional collaboration makes such teams susceptible to poor interpersonal relationships, conflict, and lack of trust and honesty, although he asserts that training, such as in conflict resolution, can help to overcome such obstacles.[53] However, the library literature on IT-librarian collaboration indicates that a "culture clash" between the two professional groups is a primary impediment

to achieving the team's mission. The library and computing center each has its own unique culture, which includes different gender ratios, professional values, and personality types, as well as different academic status. There has traditionally been a mutual lack of respect between the two groups, and stereotypes about "the other" are pervasive, such as librarians not being risk takers but collaborators, and technologists being innovators who work independently.[54] Librarians, it can also be said, are more immersed in the culture of the academy. Cain reported on a program at Rutgers that examined the values and cultures of library and IT; during this program, participants observed that professional socialization is lacking in the disparate computer profession, so these professionals, lacking a shared philosophy and values, inhabit a culture of individualism rather than collectivism.[55] Although cultural assessment, such as in the context of the competing values framework, can help an organization "align diverse intra-organizational cultures while facilitating change and organizational transformations,"[56] clearly this is a challenge. However, cross-functional teams can provide an "arena for interpersonal and cross-cultural learning;" as a result, employees can become comfortable in working with a diverse group of colleagues, as validated by a recent study in the public administration sector[57]. This diversity can lead to a new culture that exemplifies the familiar adage: "the whole is greater than the sum of its parts."[58]

In addition to these cultural benefits, there are other benefits of utilizing cross-functional teams. One can take the hybrid librarian concept and apply it to these (hybrid) teams, by recognizing that such a structure can foster new opportunities to collaborate, contribute one's own expertise, and discover "affinities" among functions not present in the traditional, functional organizational.[59] Cross-functional integration and employee participation can lead to a more flexible, agile organization.[60] Parker focused on the benefits related to problem solving, creativity, customer focus, and organizational learning,[61] as did Osif and Harwood in their review of this management technique through the writings of several authors in non-library management.[62] Parker asserts, for example, that the use of cross-functional teams improves an organization's ability to solve complex problems, as these problems transcend traditional functions.[63]

Hybrid Services

Drawing on Donald Beagle's application of an IT management theory called strategic alignment to his conceptual model of an "information commons," there is support for a "continuum of service" in the digital or hybrid library. Strategic alignment is the alignment of organizational elements, such as personnel, operations and its unique range of services, with its institutional environment, and, as the information environment is increasingly digital, includes integration with technology, including staff competencies in using IT tools to provide customer service. Thus, the library is able to realign itself with the "rapidly evolving digital environment." The continuum of service that Beagle envisions as the key feature of information commons includes not only the identification and retrieval of information (reference) but the manipulation and repackaging of that information into a final, presentable product.[64] This continuum correlates to the hybrid library model. Manipulation and repackaging of information, which falls under the purview of media services, could occur not only in the information commons but through a form of technological outreach to faculty offices and student spaces in academic departments. Thus, this model incorporates technology teams that reach out to their patrons as well as an information center that provides computer labs and maintains the vital "library as place," as care must be taken not to alienate those patrons who seek a traditional library experience, according to Martin Halbert.[65]

Field librarianship is a relatively new service model, where individual librarians are deployed "in the field"— in the colleges or departments where the students and faculty are located. Virginia Tech instituted an innovative College Librarian Program in 1994 and, as such, seems to be the pioneer in field librarianship. Although a centralized library has certain administrative benefits, a significant drawback of centralization is "a physical and psychological remoteness of the library from the daily life of most faculty and serious students."[66] Thus, the new program was born. This program is considered more user-centered than the typical liaison program. As Susan Ariew of Virginia Tech stated: "…many of these activities went beyond 'outreach' and into real collaborative efforts" due to daily interaction and work with faculty.[67] Collection efforts are focused on electronic resources, fostering a virtual branch library system. This program also combines high-tech with high-touch, as

college librarians offer technical as well as traditional reference assistance. In fact, librarians play multiple roles in this type of environment.[68] Other universities have adopted similar field librarian programs, such as the University of Southern California and University of Michigan. Of particular note is the University of Michigan's program, which merges subject knowledge, technology and library expertise in the form of librarians who are deployed in specific schools.[69] Disadvantages of these programs include conflicting loyalties and identities,[70] which can be addressed by cultural assessment and CVF, and excessive time commitments required by librarians.[71]

Martin Halbert addressed a question put forth by Donald Beagle, and, although it relates to the information commons, his answer can be applied to the kind of technology teams that this author envisions. Halbert asserted that in regards to the need for hybrid versus specialized staff, traditional reference staff, who will need to develop a broader skill base in technology to be effective in their new roles, will be paired with specialists who possess technical and subject expertise in designated areas.[72] Other articles in the library literature support this vision of a cross-functional team. David Lewis has indicated that the new learning environments in higher education will rely on "instructional teams" comprised of faculty, librarians and technologists, as well as pedagogy experts. This environment requires faculty to "share" their courses as they learn new skills—both technological and pedagogical—and redesign the curriculum.[73–75] Walton and Edwards explain that the hybrid library represents discovery learning—it is a teaching and learning tool requiring skills that are closer to library science than traditional faculty instruction; therefore, a liaison role between academic and library staff is not only appropriate, but warranted, as teaching staff also need to develop information technology skills.[76] As a result, the librarian's new hybrid identity can be that of a "techno-constructivist" or as being a member of a "techno-pedagogic team." Although the term "techno-constructivist" has been used in the K–12 education literature, its definition as a teacher who integrates technology into the curriculum not only to complement instruction but to redefine it can inspire those of us in higher education: "The true techno-constructivists have … realized the full potential of technology to help [students] build on their own experiences, construct their own meanings,

create products, and solve problems successfully."[77] In addition, the librarian's role can be expanded to integrate information literacy instruction into the curriculum, in such a way as bibliographic instruction has failed in the past;[78] librarians can therefore develop more subject expertise and focus on discipline-based research.[79] Thus, all team members are integral to the teaching and learning process, an idea also supported by Oppenheim and Smithson[80] and Bell and Shank's Blended Librarian concept.[81]

From Personal Contact to Personalization

An important benefit of implementing outreach technology teams is not only the development of collegial, collaborative relationships,[82] as "direct, personal contact remains critically important,"[83] but in the ability to personalize services offered to faculty and students in academic departments. Several articles in the library literature have discussed the value of personalization, such as the MyLibrary portal concept,[84] personal research librarians, personal electronic libraries, and customized portals,[85] and the need for librarian collaboration with IT and instructional designers (an idea also supported by the Blended Librarian model[86]) to provide value-added customized and personalized services.[87] In a recent conference called "Beyond the Library: Taking the Library to Our Users," Hiller and Aamot made a presentation on personalized library services in "non-library spaces," providing the results of a survey of ARL libraries, providing further support for the importance of personalization.[88]

Although electronic resources and digital librarianship have allowed us to work directly with our user communities, the importance of "library as place" must still be kept in mind. Donald Beagle and other authors have discussed the information commons at length. A rationale for the creation of information commons can be gleaned from the article by McKinstry and McCracken of the University of Washington.[89] They discuss how computing is as much an integral part of contemporary library service as are traditional services such as reference and access to research materials; this idea corresponds to the concept of the hybrid library. They believe that undergraduate libraries in particular are in the best position to take the lead as pioneers of change on campus. They discuss the need for "co-location" of reference and computing, due to the increase in digital information resources. This

"co-location" attracts more students and allows for a one-stop shopping kind of experience, which is very convenient for the user. McKinstry and McCracken sum it up well:

> This attempt to bring ourselves to the students is an important step toward ensuring our continued importance and viability. Placing the reference collection in the middle of a computing lab physically underscores the respective benefits of books and electronic resources.[90]

L. Dempsey, who was quoted by Oppenheim and Smithson, reiterates the role of the library as a gathering place in *Towards the Digital Library*. He stated that the library "must become a service [organized] around physical places and digital information spaces."[91] Oppenheim and Smithson also asserted the idea that there is a strong link between learning resources and information resources, requiring the integration of information and work spaces, which gives further support to the information commons.[92]

Implications for Training and Staff Development

In order to prepare librarians for their new roles in a hybrid service environment, academic organizations need to invest in staff training and build new skills into their recruiting policy.[93] In addition to the obvious need for more advanced technical skills, team members need broad skills that go beyond technology—problem solving, decision-making and interpersonal skills.[94] Although some of the training burden can fall on library and information science programs, which should teach computer skills, "knowledge of technological design and application," and information resources in a variety of formats, libraries also need to provide continuing education opportunities and budget for them.[95] It has been noted that one contributor to team failure is lack of appropriate support and training. Although this author does not have the management background to delve into the specifics of resource allocation and financial models, Phipps described Hoshin planning as one strategic planning tool which incorporates Total Quality Management and that can be useful in implementing a team-based organization. The focus of such planning is to deploy "human and financial resources strategically" to accomplish the most important goals of the organization, similar to the concept of strategic alignment. "Narrow-

ing the focus of the plan to the critical few in order to maximize the allocation of resources is uncomfortable for an organization that has tried to do everything and serve everybody." Nonetheless, library managers may need to reprioritize their service agenda by implementing an aggressive outreach program, or focusing on an information commons, or by implementing a variation of either, or both, models, and can then "budget to plan" in accordance with their library's focus.[96]

A Learning Organization

As mentioned previously, a library with a clan-orientation is most appropriate for creating a team-based environment. A stronger clan culture is also correlated to the goals of a learning organization, according to a study of CVF in a university setting.[97] Joan Giesecke and Beth McNeil's article on "Transitioning to the Learning Organization" provides a template for libraries that wish to become flexible organizations able to survive the changes in the information environment.[98] They define a learning organization as "an organization skilled at creating, acquiring, and transferring knowledge and at modifying its behavior to reflect new knowledge and insights."[99] In this type of organization, staff learn new skills to enhance services and reach new levels of expertise; "anticipatory learning"—acquisition and incorporation of new knowledge into the workplace—is encouraged and necessary to reach the organization's vision. If libraries transition into a learning organization, not only can they adapt to the changing environment, but they can achieve their vision of "library of the future." Giesecke and McNeil described Peter Senge's components of the learning organization, from his seminal work, *The Fifth Discipline*. These are personal mastery—focusing on results while attending to the current reality and learning new skills; mental models—examining assumptions and engaging in creative problem solving; shared vision—working together to create a vision, which is incorporated into each work unit; group learning—using teams as the fundamental learning unit; and systems thinking—using a holistic approach to examine and improve the organization by recognizing interrelationships and opportunities to solve problems and implement change. In order for the organization to model a commitment to learning for all staff, better staff development programs and support for classes is crucial. Also important is the sharing of knowledge and new learning among staff. Giesecke and

McNeil described the implementation of the learning organization model at the University of Nebraska-Lincoln Libraries. They created a list of core competencies for staff, as a tool for hiring and staff development and provided programs to teach those competencies, which included communication skills, creativity, flexibility/adaptability, differences in the workplace, and conflict resolution. Training opportunities were offered in skill-building workshops, but were also customized to a unit's training needs related to skills such as project management and collaboration.[100] As a result, learning becomes part of the library culture, which is more effective than focusing on a specific checklist of skills that employees need to acquire.

Leaders of the hybrid library need not only embrace and model the ideas of the learning organization, but should help to realize a shared culture for the organization as a whole. According to Bennis, as quoted by Phipps: "Success will go to the leader who exults in cultural differences and knows that diversity is the best hope for long-term survival and success."[101] Team leaders need interpersonal and facilitation skills to realize this new library, and as such, are a crucial element of its success.[102] Although leadership is shared in a team-based organization, effective leadership that is facilitative and visionary can help to achieve the much-needed balance between a common identity recognized by the library user and the autonomy of individualized, user-focused services.

Conclusion

This model, although lacking an empirical study as to its effectiveness, is grounded in the literature and, as applied to the university library, serves the dual purpose of meeting the needs of the library staff member—in terms of professional development and skill acquisition—as well as the user, in terms of point-of-need, flexible, personalized services. As academic libraries and jobs are redesigned and reconfigured, cultural assessment in the form of the competing values framework can help library leaders merge diverse groups and multi-skilled individuals into a shared culture of user-focused service provision. Although challenges are inherent in bringing together a diverse staff, the rewards of improved customer service and fuller integration into the teaching-learning process outweigh these benefits, if implemented within the framework of a learning organization. The learning organization can serve as

a supporting mechanism for continued development of shared values and hybrid job skills. However, since no one can do it all, this author recommends that cross-functional teams be employed to facilitate closer relationships and cross-training among staff, as well as more collegial, collaborative relationships with the broader user community, and to realize the mission of the hybrid library.

Notes

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