What's Working and What Isn't: An Exploratory Study of Current Reference Models in Large Academic Libraries

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abstract: This qualitative research study explored current reference models in academic libraries to determine what's working well and what isn't. Researchers conducted semi-structured interviews with 15 participants overseeing reference services at large, land-grant universities. The findings suggest that there is still perceived value in point-of-need, face-to-face research assistance provided by a librarian or professional staff member at a designated location, although most participating libraries are using a combination of approaches rather than relying solely on this traditional model. The data indicate that there is no one-size-fits-all solution; rather, solutions are context-dependent and develop through incremental changes, often in response to internal and / or external pressures.

Introduction

By the early 1900s, the reference desk had become a well-established feature in large American libraries and it has been the primary venue for providing information services to users for more than a century. However, in recent decades most academic libraries have reported a steady decrease in the number of questions asked at their reference desks. This decrease—coupled with changes in the nature of questions being asked—have led many academic librarians to question whether maintaining a traditional reference desk is still the most appropriate way to provide reference services. In recent years, a variety of new models for providing research assistance have emerged, including single-service or combined service desks, information desks staffed with non-professionals, peer mentoring services, virtual reference services, and online self-help resources such as FAQs, tutorials, and library guides. Academic libraries are certainly using a variety of approaches to assist users with locating and accessing

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Academic libraries are certainly using a variety of approaches to assist users with locating and accessing information; however, which approaches are generally perceived to be working well has not been well documented.

In this study, researchers conducted fifteen interviews with reference department heads from large, land-grant universities (FTE > 20,000 students) to discover what is working well and what is not when it comes to the current model(s) of reference assistance employed in these libraries and, consequently, what factors should be considered when making changes to reference services.

Literature Review

The efficacy of the reference desk has been the focus of debate since the 1980s. In 1984 William Miller wrote at length about his concerns with reference—including the best use of staff and the quality of the service—and he called for a review of reference desk services.[1] Two years later, Barbara Ford asserted, "academic librarians must ask whether their clientele really need a reference desk or whether other services would meet their needs in a more effective manner."[2] In response to such calls to re-assess the desk, several authors determined it unnecessary to have a physical desk dedicated to answering reference questions. This debate continued into the 1990s. Keith Ewing and Robert Hauptman called for the reference desk's elimination in 1995, while David Lewis responded that traditional reference was already dead by that point.[3] Despite these assertions, the desk survived, as evident over a decade later in further calls to remove the reference desk.[4] Even now, the reference desk remains alive in many libraries, and for those who oversee reference, the question remains, "How should we provide this service?"

There is a wealth of literature describing reference service models and reference staffing practices. A search of the literature for reference models returns an assortment of case studies which describe:

1. **a** study conducted at a particular academic library designed to inform possible changes in reference service, and/or
2. **the** development and implementation of a new service model at that library.

The transition from a traditional model (where face-to-face, walk-up assistance is provided by librarians at a reference desk) to another service model has been widely documented through such individual cases. These cases often report frustrations about the existing model, the transition to a new model, and (usually) what works well as a result of implementing the new model. It is important to note that there is a tendency in the literature to treat various models—traditional, peer-to-peer, tiered, on-call, referral, and others—as distinctive or exclusive, though these approaches are often used in tandem.

In 1990, Virginia Massey-Burzio described the elimination of the reference desk and transition to a tiered service model at the main library at Brandeis University. In this case,

an information desk staffed with graduate students provided quick information and directions, while longer, more complex questions were referred to a consultation service office staffed with librarians.[5] Christy Stevens astutely noted that the reference desk at Brandeis was not actually eliminated: "What they really did was to rename and re-staff it. In other words, a desk remained in a public services area where patrons would bring the same kinds of questions they had always brought to the reference desk."[6] Other libraries have implemented their own version of the "Brandeis model," but used different terms to describe it. For example, Susan Gardner referred to this model as *tiered*, while Michael LaMagna, Sarah Hartman-Caverly, and Lori Marchetti called the approach *triage*.[7] Other libraries, such as those at Dickinson College or Central Michigan University, have also shifted away from librarians staffing the reference desk and moved to an on-call model in which librarians are not present at the service point but are available specifically to respond to reference queries requiring their expertise.[8]

Since the 1990s, many academic libraries have consolidated their circulation and reference desks into a single service point, which changes both the service model and the staffing model. See, for example, case studies by Pat Flanagan and Lisa Horowitz; K. Megan Sheffield, Susan Silver, and Lily Todorinova; and Melia Erin Fritch, Laura Bonella, and Jason Coleman.[9] The consolidation of service desks also introduced a rich body of literature describing the use of student employees to field directional questions, address technology questions, and / or answer low-level reference questions, while referring questions they cannot answer to professional staff or librarians. For example, Sara Davidson and Susan Mikkelsen at the University of California, Merced, described the decision to forgo having a traditional reference desk in favor of hiring and training undergraduate students who provide basic reference at a library services desk and refer more complex questions to library staff.[10] Some libraries, capitalizing on the benefits of peer learning, have built dynamic peer reference models. Allison Faix et al. describe the employment of upper-level undergraduate students from various disciplines to provide full reference service with minimal supervision. They suggest that "undergraduate students are not only capable but perhaps optimal at providing high-quality reference service to their peers."[11] Similarly, Brett Bodemer advocates for the application of peer learning to library services: "Academic libraries would be remiss in not seeking to harness peer learning dynamics to enhance student learning and success. Two settings ripe for such positive intervention are reference and basic information literacy instruction."[12] The development of information commons or learning commons models facilitated the introduction of other reference models or staffing practices to academic libraries. For example, Shay Keating, Philip Kent, and Belinda McLennan described the implementation of a student rover program in their information commons; it is a peer mentoring program that puts student employees at the front line of a multi-tiered service model.[13]

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Alongside the introduction of a variety of onsite models for providing reference assistance to users, the early 2000s saw the advent of online chat reference, and numerous individual case studies of its efficacy can be found in the Library and Information Sci-

ences (LIS) literature.[14] In addition to the cases that were largely focused on each library's transition to a particular new model, some libraries conducted holistic self-studies of their current reference practices. For example, Marianne Stowell Bracke et al. described their use of a "structured problem-solving approach" and the resulting multiple benefits derived from their assessment.[15]

In addition to the individual cases referred to thus far, there have also been a number of comprehensive studies of reference service models and staffing practices across multiple libraries focused on current practices. The results of these studies can be somewhat contradictory, but over time trends are apparent. In the early 2000s, Rebecca Jackson surveyed heads of reference services at ARL member institutions.[16] Noting the declining number of reference transactions in the prior ten years, Jackson wanted to know if large academic libraries were actually changing their reference services. Jackson found that changes were being made—"though they are not as revolutionary nor as fundamental as many writers have called for."[17] She concluded that reference services were "reorganizing and restructuring," "staffed differently from the past," and many of the libraries responding to the survey had "moved to a tiered type of service."[18] In spring 2006, Marlys Brunsting conducted a survey of mid-sized university libraries located at institutions with enrollments between 3,000 and 9,999 students.[19] She was interested in models and services, level of activity, and how staffing decisions were made. Brunsting found that "while there are some libraries that have changed their basic reference model to a tiered model of multiple desk arrangement, most medium-sized academic libraries are still working under the traditional one desk-one librarian model."[20] Julie Banks and Carl Pracht also conducted a survey of mid-sized libraries located at universities—in this case of those having between 5,000 and 15,000 students—to determine whether changing circumstances had resulted in a "concomitant alteration in staffing patterns in the form of hiring and using more non-ALA accredited MLS personnel, including student assistants, at the reference desk."[21] They determined that it had become standard practice to staff the desk with nonprofessionals, concluding that this had become an "integral part of the reference desk staffing practices in a large number of academic libraries."[22] These more comprehensive studies of reference service models and staffing practices continued into the 2010s. Rather than conduct a survey, Gillian Gremmels gathered information from the LIS literature to understand current staffing trends in college and university libraries.[23] Gremmels sought to "describe and forecast several important staffing trends," one of which is that "front-line reference service is shifting to paraprofessionals and student workers."[24] Dennis Miles, having observed the decline in the number of reference questions at his library, surveyed libraries at institutions in the same Carnegie Classification as his own—schools with smaller and medium-sized master's degree programs—to find out (among other things) if other libraries were experiencing similar declines.[25] Miles concluded that "even with all the discussion in the literature about the problems with traditional reference services, and how this model of service should be done away with, most libraries continue with some variation of reference service in this way."[26] Craig Gibson and Meris Mandernach's research focused on describing an emerging suite of services in support of faculty and student research, but they also took note of the current state of reference services: "Many of the libraries are staffing the reference desk with paraprofessionals, graduate students, or undergraduates rather than librarians,"

noting also that "two of the libraries [in their study] have completely closed their main reference desk and consolidated service points with circulation and librarians are only called to the desk for referrals."[27] Jason Coleman, Melissa Mallon, and Leo Lo conducted a national survey of academic librarians to examine the relationships among several "well documented developments worthy of note" related to reference services in academic libraries, including "changes in the volume and nature of patrons' information needs, modifications to the array of channels through which reference services are offered, alterations in the staffing patterns for in-person and virtual services, and the adoption of innovative technologies to improve convenience and efficiency of virtual services."[28] Although many of the changes to reference services reported in the results are outside the scope of the present work, the authors did conclude that "academic libraries are continuing to change their staffing models for in-person reference service points. Within the past 2 years, significantly more academic libraries have reduced the allocation of MLS-holding librarians at in-person reference points than have increased this allocation. Over this same period, significantly more academic libraries have increased the allocation of student employees for in-person reference than have decreased this allocation."[29]

A 2019 study of reference service models and public service point configurations at academic libraries in the California State University system conducted by Stephanie Alexander and Diana Wakimoto found that the majority of libraries continued to employ a traditional model in which librarians staff a physical desk, while some were using a tiered or on-call model.[30] More recently, Hanwen Dong and Holly Mabry conducted a study to examine current reference staffing models in academic libraries of all sizes, looking specifically what types of reference services are offered, what each library uses as a service model, who (librarian, library support staff, students) provides the services, and the number of reference hours assigned to those who provide the services.[31] The authors concluded, "there is not one perfect model that fits every library's or university's needs," and "while library resources, services, and staffing needs have changed greatly over the last few decades, many of the same questions and debates . . . still remain."[32]

This review makes it clear that some academic librarians have long questioned whether maintaining a traditional reference desk is the most appropriate way to provide reference services. The present researchers—then at Auburn University and Texas A & M University—searched the literature for two particular types of works: case studies describing contemporary reference service models at individual institutions similar to their own, and comprehensive studies of reference service models of multiple libraries similar to their own. Although numerous thoughtful and engaging works were located, studies that closely matched the researchers' criteria based on their home institutions were not found. Thus, the following three research questions guided this study:

1. **What** reference models are currently employed in libraries at large, land-grant universities?
2. **What** are the commonalities among the models used at different libraries?
3. **What** motivations and pressures influence how libraries provide reference or research services?

Methods

The researchers employed a qualitative approach using semi-structured interview questions. The study proposal was submitted to the researchers' institutional review boards for approval, and the project was deemed not human subjects research. To be considered for the study, the participating universities were required to be land-grant institutions with enrollment of at least 20,000 students and not have an ALA-accredited LIS program (a potential source of labor not available to most libraries). Twenty-six universities fit those criteria after excluding the researchers' own institutions (see Appendix A). A search of library websites identified heads of reference or the person who appeared to oversee that service (as best as could be determined), and contact information for those individuals was captured. An invitation to participate was sent via email to each potential interviewee. Fifteen potential participants agreed to be interviewed; online meetings were scheduled, and each participant was sent a copy of the interview questions in advance. All interviews were conducted between July 2018 and April 2019.

Two pilot interviews were conducted with librarians at institutions that were not part of the study group to test the virtual meeting software, transcription service, interview questions, and process for asking questions. All three researchers participated in each interview for the study, with one researcher asking questions while the other two took notes. Each participant was asked the questions listed in Appendix B, which were also displayed on a PowerPoint slide on the screen. The interview questions provided a framework for the conversation, while allowing participants to share what information they considered important; the authors generally did not discuss aspects of reference services not introduced by the participants. After all interview questions were asked, both notetakers were given the opportunity to ask follow-up questions, seeking clarification or further details. The interviews ranged from 43 to 73 minutes, with an average of just under an hour. Interviews were conducted and recorded via videoconferencing software (Zoom) and transcribed using a commercial service that offered automated transcription (Trint). The transcripts were reviewed and cleaned up where needed to improve clarity.

The researchers developed a template for analysis to be used with each transcript. The template was used to identify reference models, staffing models, and the days and times when the various models were employed. A short description of each service was drafted as well as some specific information about each model: how is this model like the others? What is unique about this model? What's especially interesting about this approach? The researchers also noted any especially quotable text. Using this template provided the researchers with a relatively easy way to distinguish the interviews from one another in the early stages of analysis. At this point in the process, each transcript was independently reviewed by two researchers. Again, working in pairs, the researchers coded all of the responses to the interview questions, identifying models and approaches to both service and staffing. The participants talked at great length about how each library arrived at its current model, which provided the researchers with the opportunity to also assign codes to the reasons why each change—large and small—was made to their reference model in the preceding years. The researchers employed both descriptive coding, "a word or short phrase—most often a noun—the basic topic of a passage of qualitative data," and in vivo coding: using "a word or short phrase from

the actual language found in the qualitative data record." [33] By sorting and categorizing hundreds of codes, the researchers identified reference models, ongoing developments in the provision of reference service, overarching ideas that reflect how changes in service occur, and thoughts about how the study participants view their work.

Findings

The study findings are presented in two parts: (1) the models and approaches employed in the participating libraries and (2) three significant themes the researchers identified in the data. These themes include combining multiple services at a single desk; removing librarians from providing in-person, point-of-need research assistance; and relying more heavily on student workers.

The term r*eference model* is widely used in the literature of library and information science as well as informally among academic library colleagues to describe the various ways that reference services are provided. The researchers on this study have primarily used the term *model*; however, the term *approach* has occasionally been employed when it more accurately characterizes the way in which reference and/or research assistance is provided.

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Based on what the participants shared, seven approaches to reference were identified: traditional, single-service, peer-to-peer, tiered, on call, referral, and chat. These approaches were not mutually exclusive—most participants described the use of more than one approach. For example, one library had a single service desk that provided circulation and reference, while offering both on-call service and chat assistance. Participants referred to several other approaches, though not necessarily in these terms: collaborative reference (such as providing chat reference through a consortium), self-service reference (the use of tools like FAQs and LibGuides), embedded librarianship (librarians proactively integrating themselves into departments or schools), and outreach reference (physically providing reference service outside the building).

The focus of the Findings section is largely based on the participants' discussion of the approach(es) employed during regular weekday hours rather than in the evenings and/or on weekends. In nearly all cases described, the services or staffing levels on evenings and weekends were not the same as those offered during the day. For example, at one library walk-up, face-to-face service was provided at a separately staffed reference desk during the day, but reference questions were fielded by staff and students at the circulation desk in the evenings and on weekends.

In those cases in which librarians were responsible for fielding reference questions at a service desk, the designation of those librarians varied. For example, some libraries relied on generalists while others used subject librarians—and perhaps even functional specialists—to field questions.

Models and Approaches

Traditional Reference

Some libraries continued to use a traditional approach to providing reference service where face-to-face, walk-up assistance is provided by librarians at a reference desk. One such library maintained an approach in which a reference desk was staffed by one faculty librarian and one paraprofessional; this participant asserted, "We realize that we are one of the few institutions that are still following that model, but we've stuck with it and we intend to stick with it as long as we can." Another library had two service approaches operating during the day—the desk was staffed by a librarian or paraprofessional in the morning, while peer research consultants staffed the desk in the afternoons.

Combined or Single-Service Desk

Several participants in this study provided research assistance at a combined or single-service desk, usually a desk at which both circulation and reference services are offered; this model generally included a tiered, on-call, or referral approach as well. One participant reported, "We have, like so many libraries, consolidated all of the interactions that are desk-related to one service point." Another participant described their current implementation of a single service desk: "We have circulation and basic reference services . . . at the same large desk; . . . we try to keep those two responsibilities separate at the main desk." One library had a dedicated space (an "information station") at the service desk specifically for reference transactions. Similarly, another had a single service desk with four workstations, one of which (an "on-call station") was reserved for providing reference support from an on-call librarian. As shown by these examples, the services may be co-located, with participating staff retaining their traditional roles, while working from the same location. On the other hand, the services may be integrated, with all staff providing all services.

Peer-to-Peer Approach

Most participants indicated that their libraries employed student assistants to work at a service point where reference transactions occur. This location may be intended to provide reference service only, or it may be a single service desk providing multiple services, or it may be a desk employing a tiered approach. Like the single service desk approach, one could also argue that the use of student employees at the service desk is not a reference model, but rather a staffing model. Half of the participants who discussed using students at the desk employed a peer-to-peer approach for providing reference assistance. Three in particular described in detail the development of the peer-to-peer approach, in which students—usually undergraduates—are trained to help their fellow students look up items in the catalog, search databases, locate materials in the stacks, and refer to subject librarians or functional specialists

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when advanced assistance is required. Participants described how the peer-to-peer approach was central to their provision of reference service and had parallels to the service model used in many academic writing centers. Student assistants in these peer roles were variously described as library peer mentors, undergraduate teaching fellows, peer research consultants, peer-to-peer research consultants, research consultants, or student undergraduate peer research consultants.

One participant provided a description of their library's implementation of a studio model for students to get help from trained peer-to-peer research consultants:

> "**And** then last year we also opened up a new service which I think is relevant here because it's taking some of our research services to another point . . . . It's right around the corner from our main level where the information and circulation desk is . . . . It's . . . supposed to be flexible and open allowing students . . . to come in and sit for as little [or] as long as they want and get help with research and writing."

Another library developed a service location "with a studio model in mind," staffed by three types of student employees: peer-to-peer research consultants, writing tutors, and "tech tutors."

> "**We** put the three services together because they were here in the building. But we also thought that the students would use all three at the same time; so you come in and you had a problem with the writing assignment that you might need more materials, that the person—the writing tutor would refer you to the peer research consultants or to the tech tutor."

Tiered Service

Several participants described the use of a tiered service approach. All libraries employing this model combined the tiered service with another approach, most commonly a single service desk. In a tiered approach, the initial face-to-face request for reference assistance occurs at a service point staffed by trained student employees and/or paraprofessionals, rather than librarians. When the query cannot be answered by the first level of assistance, the user is immediately referred to someone with a higher level of expertise—a paraprofessional, a subject librarian, or a functional specialist. Unlike the on-call approach in which the person with the next level of expertise is available but not present at the service point, and unlike the referral approach in which the next level of expertise is available for an appointment or consultation at a future time, the person with the next level of expertise is both present and available specifically to serve in this capacity. All of the libraries employing a tiered approach used student employees as the first point of contact; three provided the service at a single service desk offering both circulation and reference services.

One participant provided a detailed explanation of how tiered service works at their library, where they operate a single service desk:

> "**Tier** 1 is our direct frontline, the people who will interface with you initially, especially in person...So they usually are our least well-trained, almost usually students, and we train them to answer known item look-up questions; we train them on our discovery

> tools so that they feel comfortable referring people and teaching them how to use that; but beyond that we don't really train them on disciplinary databases or . . . disciplinary-level information; we rely on [the student employees] to make referrals to our Tier 2. So our Tier 2 is me [a reference librarian] and my team. And so they're supposed to refer anything that they don't feel comfortable answering or that gets into certain categories that we want them to automatically refer to us; and then [we] can answer a big portion of that. Those things that we can't answer or [if we think] it would behoove this patron to meet . . . our subject librarians, we will try to make that connection for them—and our subject librarians we consider the Tier 3 experts in that field who will sit down and offer a long consultation in any format that the patron wants and give really expert help."

Another library using the tiered approach has multiple entrances with a welcome desk at each entrance. The staff and students at these desks give directions, answer known-item requests, and, when unable to assist the user, direct them to get assistance. At a separate location, peer consultants provide help with research, writing, and technology; librarians are stationed nearby to serve as backup. When a user requires additional assistance, subject librarians are available for consultation by appointment.

On-Call Service

To enable librarians to focus on work away from the reference desk, some libraries have chosen to use an on-call approach. Librarians who are on call can still be reached by the frontline staff when needed. One participant described this model at their library: "Librarians are assigned to shifts through the week . . . So out at our services desk if somebody comes up with a kind of higher-level reference question they will call the on-call librarian and they will go out to the desk and assist the patron." This approach ensures patrons have point-of-need access to librarians' expertise while giving subject librarians the opportunity to work on other assignments without the distraction of being in a public area. This approach differs from the referral approach (covered next) in that the user does not have to wait until another time to have their query addressed.

Referral Model

Many participants spoke of referrals when describing reference services at their libraries. Referring users to others who have more knowledge to answer a particular question is a common practice. However, some libraries have developed procedures to ensure that users' needs are met, formalizing the process. Referral—used secondarily with another approach—varied in implementation depending on the primary model.For example, one library with a single service desk approach employs paraprofessionals who work at the service desk and refer questions to subject specialists. This participant described what referrals look like in practice in their library:

Referring users to others who have more knowledge to answer a particular question is a common practice.

> "**It** just depends on the amount of experience that you have. We have some staff that may not have to refer . . . it could be based on the difficulty of the reference question or how deep the researcher needs to really go. So . . . we try to keep the reference interaction as short as possible. . . . Most of the students that come in do not want to hang out at the desk for twenty minutes getting an answer. They just want to know where is the information? Where can I go to get this? And so what we do is we show them the LibGuide. We point out a few initial things and then we point to the subject specialist. If you need more information. This is how you contact them."

Another participant at a library described a referral approach used in tandem with the tiered approach. In this case, the help desk provides "a kind of tier one reference research" in which the student employees "usually point out databases, how to do quick searches, and things like that." If the user's need is not met, then they are referred to the subject librarians.

At another library, referrals take place when a member of the desk staff shows the user how to book a one-on-one consultation with a librarian:

> "**Their** first-point referral would be this reference assistant who is on duty. The reference assistants are generally trained enough to be able to recognize pretty much immediately whether it has to be referred to a librarian or whether they would be able to answer it right there. . . . We use LibCal to book a consultation. So students [users] would be able to reserve something with us right then and there. They don't have to email the librarian to go back and forth; they should be able to get something on our calendar right then and there."

In this case, the frontline staff member can facilitate setting up the appointment, so the responsibility for follow-through is not entirely on the user, nor is the subject librarian or functional specialist required to initiate the appointment. A participant at another library, however, described how their students and staff at the help desk would provide a librarian's business card to the patron, who was then expected to follow up with an email to the librarian on their own.

Chat Reference

Although the study participants largely focused on describing face-to-face provision of reference services, all fifteen identified chat reference as part of their suite of services. Although originally developed in the 1990s with distance learners in mind, chat is now provided by most academic libraries and intended for all types of users. While most of the participants used the term chat, other terms were also used including digital reference, e-chat, IM, online reference, and virtual reference.

In all cases in this study except for one, chat service was provided in addition to another approach. In that one library, reference assistance was "provided via chat reference only;" the participant reported that there was no reference desk, nor face-to-face reference service. Although chat was the primary vehicle for responding to reference queries at this library, it became clear that they also employed referrals to ensure that users were connected with the most appropriate person to address the given query: "Our subject specialists all provide consultations by appointment or via email, so we refer a lot."

The responses of the other participants demonstrated the extent to which the provisions of chat services varied among the libraries. For example, the chat service may be staffed by librarians, paraprofessional staff, or student employees. At one library, subject librarians and functional specialists do not staff chat reference:

> "**That** was deliberately done in preparation to free up subject specialists and functional specialists to pivot to looking at the research services piece, and also to focus more on domain-specific and interdisciplinary work both in curriculum integration and also in workshop development and training opportunities that have librarians . . . doing this inside the library, but then also going out into the colleges and into the different units like offices and such."

Another library, however, has taken the opposite approach and has purposely chosen to have librarians and paraprofessionals staff the chat service:

> "**Chat** questions were getting increasingly complex. So for a while we did have student assistants staffing chat but it just became too complicated. The sorts of questions we were getting seemed to be the real in-depth research questions that we're not getting as much at the desk. So we took students off chat and put full-time people back on."

In some cases chat was handled at the service desk, while in others, chat was handled from the librarians' offices. In addition, the days and times when libraries offered the service varied, as did participation in chat service available via a consortium and the use of a virtual reference service such as Chatstaff or QuestionPoint.

Three Reference Themes

Decision-making in academic libraries is intrinsically linked to the library's own history and culture, campus needs and culture, and the vision of the current library and university administrations. To better understand how each library had arrived at their approach to reference service and staffing, the researchers asked participants about motivations behind the existing model or models, the extent to which external or internal pressures influenced their decisions, and what, if anything, was unique to the individual library or campus that may have shaped the service.

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The participants discussed a variety of approaches to providing research assistance and how those services are staffed. From participants' descriptions of the current approaches used, as well as their descriptions of the history and background of reference at each of their libraries, the researchers identified three interrelated themes that signal the general direction of reference services and staffing: there has been (and continues to be) a movement toward combining multiple public services at a single service desk in conjunction with an effort to remove librarians from face-to-face service and use more student employees at the desk.

The Shift to a Single Service Desk

Several of the libraries in this study provided circulation and reference assistance at a single service desk, and it was clear that the decision to move to a single-desk service model was largely motivated by a focus on what was best for the student user. One of our participants described the impact—prior to a consolidation of desks—that multiple service points had on users:

> "**What** we found was that nobody cared but us what those different points were named. So people would just go to whatever service point and ask for what they needed. And then we would try to meet that need. But that service point wouldn't be equipped to meet it, and it just sort of confused our patrons."

Ease of use was a motivating factor in the move to a single service desk: "People [became] a little frustrated, especially if they were running in between classes," or if a faculty member, for example, was "trying to figure out where to send all their students for a particular course reserve. And so, consolidating all of that into one place just made things easier for the patron."

Another participant, at a library that now has a centralized service point employing a tiered approach, also spoke of student confusion as a motivating factor:

> "**I** believe administration . . . wanted to simplify things for students. And they thought the best way to simplify things was to put everything together so rather than have to determine, 'all right, am I asking a reference question?' or 'am I asking a circulation question?' have everything in one location and remove any of the confusion that there was revolving around that."

Two of the participants indicated that they currently have co-located services, one of whom indicated that their "co-located space may one day be a combined service point," and the other noted that they also intend to have their services "truly integrated" in the future. A third participant also indicated the desire to have a single service desk with co-located—and possibly combined—services that would include IT.

Removing Librarians from the Desk

Only a few of the libraries in the study group maintained a largely traditional approach to reference service, with librarians providing assistance at a dedicated desk. Several participants stated that their libraries had already removed librarians from the service desk, and others indicated they were considering doing so. One reported that they were considering removing subject librarians, who had already ceased fielding questions in person, from virtual reference as well.

Several participants stated that their libraries had already removed librarians from the service desk, and others indicated they were considering doing so.

For those who had taken librarians off the desk, several spoke of the need to enable librarians to focus on new or different priorities. Citing administrative pressures, one participant reported that "our dean started asking librarians to get out

and do a lot more collaboration with their departments and increase their instruction," and also pointed out that "they didn't want librarians just sitting at the desk waiting for students to walk in. . . . The idea is to get out there and not just do the teaching. . . . Try to do what they call the embedded librarianship—get more involved in the instruction side of it for the departments." Similarly, another also emphasized getting out of the building, acknowledging the presence of "internal pressure for librarians to have a more external focus . . . to get out more, to be more engaged with what's going on, to be outside of the building rather than inside of the building."

There was broad acknowledgment of changing priorities, librarians were expected to assume new responsibilities and support new services: "We're really trying to move to more of an outreach and engagement model for liaisons and get liaisons to think much more proactively about instruction and consultation and then supporting scholarly communications and things like that." This participant, having identified several motivations behind the creation of a peer reference approach, described the growing demands on the subject liaisons as part of the rationale for taking them off the desk:

> "**We** keep asking our liaisons to do more. . . . We're trying to, for example, start out more with data management here. We don't have enough librarians to hire a dedicated data management person. Or we want our liaisons to do more to support digital projects or digital humanities projects. We have nobody who we can hire—we don't have a position for that. So, it means our liaisons have to learn these extra skills to do that. We want to put our attention—our priorities—on other things, and we have to just be real about, well, we can't just keep adding things—got to take some things away."

In this case, the library transitioned to an approach in which a paraprofessional staffed the desk in the mornings and peer research consultants staffed the desk afternoons and evenings, releasing librarians from providing face-to-face reference. Finally, one participant identified a philosophical motivation for transitioning librarians off the desk: "Well I'd say the primary motivation was the perception that or the reality that we were really shifting from a collections-centric service model to something that was much more engagement focused," and that they

> "**really** wanted to try to free up the time of our subject specialists and as we were kind of developing and embracing this liaison model really to make sure that we were giving those experts the time to focus on deep, deep engagement, to be outside of the library more, to be out engaging the faculty and students on campus. So that really I think is what started this whole transition."

Noting that "there were a lot of different places in the research workflow where we needed to be able to plug our experts into the research process," this same participant concluded that, "the only way to really do that and to be able to expand services in these different areas, was to be able to free them up from kind of the core information services."

Two participants reported that their institutions had been reclassified as "Doctoral/Very High Research Activity" or R1 institutions by the Carnegie Classification of Institutions of Higher Education. This shift resulted in increased research and/or service expectations for librarians and was having an impact on their approach to providing reference services. One participant explained that their librarians also had to adjust to the university's new Carnegie status:

> "**We** now have much higher research and service expectations. This is new for us. We have typically looked at ourselves as a service library. We provide service, we support research. We don't do research ourselves. This is a huge adjustment for the faculty librarians. We're being told now we have to do committees on a national scale. We didn't have that requirement before. We're told we need to be publishing. We haven't had that requirement before, so you know we're feeling more pressure for us as librarians—that we need that time. So instead of spending four to six hours a week on a service desk checking out markers, we need to be in our offices where we can work on grants and professional service, and the other things that we need to be doing—the higher-level activities."

Similarly, the other participant who was at an R1 institution observed that the liaison librarians—especially the tenure-track liaisons—were rethinking their priorities: "'Well maybe I don't need to spend time on the desk.'" Institutional efforts to achieve R1 status had meant "more scrutiny for librarians" regarding research and publication. This participant believed that it is the research requirement "that usually causes people the most agony," and suggested that "a lot of new people come in feeling like, 'I need—I have to carve out time for this' has . . . made them more inclined to . . . give up that feeling of having to be on the desk." They went on to speak at length of the need for new librarians to focus on the work necessary to achieve tenure:

> "**Over** the last couple of years we've also hired a whole lot of new liaisons. . .. Our librarians are tenured or tenure track here. And the truth is . . . that [being on the desk] doesn't count for much in terms of trying to build up their dossiers for what's going to help them to get tenure. And I think—especially with the new people—I think they're kind of realizing that if I'm spending my afternoon on the desk, that means I can't spend it doing outreach in my departments or preparing for a class or something that might have more impact and also help me more in my own application."

One participant at a library with a tiered, single service approach called attention to cost as a reason for no longer staffing the service desk with librarians: "We don't want our really highly paid people answering, 'Where is the restroom?' 'How do I print?'" In addition, another participant pointed to a common criticism of face-to-face reference service: having librarians staff the desk because someone *may* ask a question that requires a response from a professional is a poor use of both library funds and the librarians' time.

> "**I** hate to use the word efficiency when you're talking about people, but . . . it's never been an efficient model, but at least we used to have questions—and then I think in particular the weekday evenings, it's getting slow enough that we really probably should just have a student assistant out there because there are hours where we don't get a single question."

The decline in reference statistics was one of the most common rationalizations for changes in reference staffing. For example, one participant reported that "we have a declining reference need. Our numbers just go down and down every year." Another described the situation at their library:

> "**Well,** the biggest motivation is frankly people aren't using it [the service offered at the traditional desk]. I mean our numbers kept going down. And we've tried different things.

The decline in reference statistics was one of the most common rationalizations for changes in reference staffing.

> . . . We tried moving the desk a couple of times to different locations. . . . We've put up table tents around the library making sure that people know they can just come down to the reference desk and get some help. We advertise it heavily in classes. And we're just kind of conflicted about whether or not, people—like we know that our users want that just-in-time help. But do they always want it face to face? We—we're just not—the numbers just don't support it. So that's the main motivation really is thinking, 'Well, okay. We just have to be real.'"

A third participant said that "there was some impression that there wasn't much traffic at the desk. We were literally smack in the middle of the lobby. It's hard to miss us. And so every time the library dean came in or out she was paying attention to traffic levels and that sort of thing. But it's true. Traffic was down. I can't deny that." This perception was not merely anecdotal; one participant reported a "40 percent decrease in the number of people who were actually coming to the desk asking for help" over a five-year period.

Another participant reported that they had responded to the decline in the number of reference transactions by staffing the desk with paraprofessionals: "And again—like everybody else—our usage stats were changing and a lot of the questions that were actually coming in . . . were things that we knew our well-trained and well-supported full-time paraprofessional staff were more than capable of addressing."

One participant from a library that had implemented a tiered service desk covered by students and staff, but not librarians, suggested three reasons why reference statistics had declined at their library. First, they said that student employees may not be keeping good statistics: "We have a hard time getting our students to comply with our desire to have them record every transaction that they do." Second, the implementation of a discovery tool may be aiding users in meeting their own information needs. And third, they reported that there has been a decline in university enrollment. They concluded, "There's a lot of coinciding factors; . . . it's hard to tease out what's causing what exactly, but [there is] definitely not an increase in use." Finally, another participant, also at a library that had shifted to a tiered approach, noted a "steep decline in reference questions at the desk," and attributed it to a renovation and to "moving some things around." Finally, another participant indicated that they were considering a change to their approach based on the decline in the number of face-to-face reference transactions: "We've been kind of waiting for the in-person questions to hit a certain low point where it's not worth it to have full-time people out there anymore."

Although the focus here has been on decline in reference statistics as the motivation for changes to reference staffing or the approach used, several participants called attention to the quality or depth of the questions being asked as an important factor in determining the appropriate approach. One participant described the use of the Reference Effort Assessment Data (READ) scale at their library to assess the nature of reference transactions:

> "**We** looked at the statistics at our services desk, and what we consider real, in-depth research reference questions were very few and far between. So, we use the READ scale. . . . We looked at the questions on the READ scale, and we looked at the year prior when we had a combined services desk. Eighty-nine percent of the questions were ones and twos on the READ scale, which are man-off-the-street—you know—do you have a

book? . . . Help me with the copier. That sort of very, very base-level question. Eighty-nine percent. Okay? Ten percent were considered threes, which are, you know, a little bit higher level, kind of middle ground, maybe help somebody find some articles about a topic. It's a little bit more in-depth, but again not somebody starting or working on a dissertation-level question. The other one percent were those fours, fives, and sixes, and the way that we did our services desk was that everybody should be able to answer ones, twos, and threes. The librarian answers the fours, fives, and six[es], because those are your more in-depth reference questions that require more time, more expertise. And when we looked at that and we said only one percent of our questions in the past year required a reference librarian, what are we doing out here? You know. It was a hard, very hard thing to take. I think we were all a little sad about that."

On the other hand, a different participant observed that some research questions have been getting more complex:

"**There** are whole categories of questions . . . we used to get a lot of, you know, that we don't anymore because they Google, you know, like I remember getting lots of questions about mythological figures, and what does this person represent . . . No one asked me that in twenty years because [of] Google. . . . And so I think some of the research conferences we're getting are much more complex and the level of the research questions we're getting are really impressive and difficult (laughing)—interesting and difficult. . . . We're a little bit at the sticking point that the [number of] questions have gone down but then every once in a while, they're very difficult."

Two of the participants working at libraries that have maintained a largely traditional reference approach shared their rationales for doing so. One explained that their approach to reference reflected their librarians' attitudes and identity:

"**We** feel like this is part of who we are as librarians. We sit at that desk, and . . . we provide this service, and we're there when they need us, and they need us on a Sunday; and what if somebody comes in with a tough question? Or even—you know—I heard when we were talking about Sundays last year, 'What if that community member comes in with a tough question? They don't want to talk to a student. They want to talk to a librarian.'"

Another participant suggested that inertia plays a role in maintaining the traditional approach:

"**The** most immediate motivation is "because we've always done it this way." And it's really hard to break out of that inertia. Just be like "let's do something different." And we don't know what that different is. . . . I inherited this model. . . . And it's always been, "It's good for the librarians." That's always been how this has been sort of couched."

This same participant spoke of the librarians' enthusiasm for working at the reference desk: "I mean that's part of it—it's like, 'WE LOVE IT.' You know, if you ask anybody in reference, we love having a chance to meet [with students]; for some it's the only time they see undergraduates." This participant also shared that

"**I** think I would be . . . sad if they pulled the faculty librarians off the desk because . . . it does make them happy to be on the desk; they love it; I love watching them do what they do best, which is interacting with the patrons. But I also—in the back of my mind I can see it coming—I mean there you are. There are fewer and fewer institutions that are having faculty librarians sit at [the] desk."

Two participants discussed why it was important to them that librarians staff the desk. One suggested that undergraduate users in particular "need somebody to explicate the process for them. So their professors have sent them in to do the thing—write the paper, find the answer. And the professor knows that there is not one paper or one answer. But this . . . novice student doesn't. So we are there to help that student navigate what it means to be a North American academic." Another noted that "every once in a while . . . the student just walks up with this kind of mind-bendingly difficult question."

Another participant, however, questioned having students at the desk because when "a faculty [member] stops by with a hard question, I'm glad that it was a librarian there to answer their question." Yet they readily acknowledged, "again it's a matter of time spent, not that it's not useful to have us out there."

Student Employees on the Desk

As noted earlier, ten of the participants indicated that their libraries employed students to work at a service point where reference transactions occur. Five of the ten participants who discussed using students to staff the desk employed some version of a peer-to-peer approach for providing reference assistance. Only one library in the study group had peer-to-peer service as their primary approach. However, several others employed this approach as well, even though they may not have called it peer-to-peer service. As noted when discussing the traditional approach, one library had a staff member who worked at the desk in the mornings but the library shifted to a peer-to-peer approach in the afternoon. One library primarily used a tiered approach, but peer-to-peer reference was the first tier. Another maintained a traditional desk but also employed a peer-to-peer approach. In fact, most libraries in the study group had students working at public services desks and fielding questions for some of the library's operating hours—even though those libraries primarily used another approach. Though the participants may not have called their approach peer-to-peer, it included the same type of interactions: student users were getting assistance from student employees. Without regard to the existence of a peer-to-peer program (or whether the students were employed as peer mentors), the study participants talked at length about the pros and cons of having student employees working at a desk where they field reference questions.

Two of the participants were clearly optimistic about the peer-to-peer approach; one stated, "I'm really behind the students being front and center," and another declared themselves "a big proponent." Two participants described their motivation for advocating for and implementing the peer-to-peer approach. One reported "I think there's been greater recognition among our staff that students like to get help from their peers and that they're often more comfortable doing that than they are with us." They went on to describe an earlier research project they completed in which they tried to determine where the students were getting assistance: "we found . . . that . . . they are getting help, but they're not really getting help from us. They tend to go to mom or Aunt May or their roommate or people they are a lot more comfortable with. And it's frustrating for us, but it's also the reality." Another, speaking about their libraries suite of peer-to-peer services, suggested "I think . . . that the model that we have in place will really . . . promote—and hopefully we can look at expanding—the amount of services that

students can offer students. I do think that that's going to be our way to . . . get students to approach the desk more easily."

Several participants working at libraries where students were on the front line discussed the hiring and training of peer consultants. One participant described the thinking behind their hiring process:

> "**We're** looking for customer service skills. We're looking for any experience with tutoring, if they've done any tutoring, or anything like that. We ask them to submit a research paper and we ask them to submit their grades and . . . what they made in a core writing class—the required class on campus that teaches the research paper. So, we are looking for those things, and then we have extensive all-day training—well it's not quite all day, like five or six hours—at the beginning of fall, and again in the spring semester."

Some associated the quality of their student workers with the quality of training they received. For instance, describing their peer mentors and undergraduate teaching fellows, one participant reported, "We have really strong students . . . who are very well trained. They work in the classroom and they work at the desk, so they answer a lot of questions. I think they're really very well-trained." Another participant went further, stating "our student workers are good. They're pretty high-quality student workers. And I attribute that largely to my team's dedication to high quality service and their expertise and their recognition that training is a number one top priority for them." Another—when asked what was working well—also connected the quality of the work of the peer consultants with their training:

> "**So** the peer research consultants. They like the work. They do it well. Our training has been going fairly well . . . we still have to confront ongoing training, and giving them ongoing feedback because . . . every week there's something new about the website or a database or something like that. And sometimes it's a little challenging to get the students to see, "Okay, you need to pay attention to this. This is a big deal." And making sure that they know it. But the idea of having the students . . . that we can train them, that they can do this work, that's gone really well."

A different participant described their work with the director of the writing center: "We co-train all of the students, especially the research consultants, which are my students that work at the Infodesk. So we're doing all that training together; we put them through studio pedagogy class, a research in the writing center class, so they're getting lots of training." This same participant later commented, "I'm just shocked and amazed at how great some of our students are."

One participant reported a shift in their training of peer research consultants; they are moving "away from teaching about the resources, and we're spending more time talking about the interview itself," and further they noted that,

> "**We're** spending a lot more time with getting the students to be inquisitive, to think through what is the purpose for the person asking this question? Why are they needing this type of information? Getting a better understanding of . . . what is the class assignment? All the things that are basically . . . when we go back to what is a good reference interview. It's going back to that model."

While most of the participants in this study made use of student workers at their desks, one participant identified a potential concern. This librarian lamented, "Our stats are way down . . . I would say borderline alarmingly down. I think . . . students and staff are not coming to the desk with reference questions anymore. I think there are a couple of reasons for this. I think one of them is that first, they don't know that reference help is there and available anymore." This librarian also believed that,

> "a lot of patrons go to the desk and they see students as the front line and their initial thought is, "well a student isn't going to be able to help me with this research question, so I'm just not going to ask it." So—this is completely conjecture; you know I don't have data to back this up—but I do believe, and occasionally we'll get underhanded comments saying, you know, 'Oh, can I talk to a staff member?' Or 'Can I talk to a librarian?' . . . I think people approaching the desk see students as the front line and they become hesitant, thinking that, you know, that 'the student's not going to be able to help me with my research need. I need something more advanced than that.'"

Another participant outlined their assumptions about who used their reference services and identified a concern about having student employees working at the desk:

> "I guess we're also assuming that the average person walking up to our desk is a freshman or sophomore or junior—and not a graduate student or a faculty member . . . A faculty member might see a student sitting at the desk and just walk right on by. And mostly statistics over the years have shown that most of the people coming to our desk are undergrads and. . . . just a small percentage of faculty and graduate students. So, I guess we've kind of for—for whatever reason—just made the choice to respond to that major user group, but—yeah. I have to admit if I were a faculty member and just saw a 20-year-old sitting there I might not be—I might not stop and ask."

This same librarian spoke of the challenges they encountered with staffing the service desk with students. They noted problems with referrals; peer consultants "just weren't referring enough, and sometimes there's the element of overconfidence. Maybe not always recognizing when they . . . had a really tough question." Likewise, another noted that a lot could be improved: "Looking at chat transcripts, it's clear that it's really difficult to train our students to the level where they can . . . recognize when something is beyond [them] or maybe a little bit more involved, . . . trying to get them to make a referral is really challenging. It's really challenging."

This participant also spoke of the difficulty of getting a question to the person with the right level of expertise to field a question: "Negotiating that is really, really tricky, and I'd rather have a highly paid person answer a trivial question, than worry about a really, hard question being handled by a student who's brand new who doesn't recognize that it's a really hard question and gives a superficial or wrong answer to it."

The same participant also made mention of the long-standing problem of hiring student assistants for roles that require extensive training when their tenure with the library is brief:

> "**The** trick is—as you all know when you're working with students--you know it's not their highest priority, and . . . by the time you have them well-trained, they do a good job, and then they graduate. And it's very depressing. And so . . . how much staff time does it take to train them up? And I almost think it takes so much staff time to train them up, . . . Why don't we just hire more staff? . . . It would make more sense to just have the staff do the service."

They also noted the relationship between the decline in the use of face-to-face reference and issues of quality:

> "**So** I think a big part of our reason for our lower stats is that as we turn more and more over to our students, the quality of service is just not as consistent and we have people who we are I'm pretty sure are thinking I'm never gonna ask them a question again because the answer I got was terrible. And then they probably tell their friends. And that's the suspicion. I don't really have any hard and fast evidence on that, but that's my biggest, my biggest concern is sort of the fact that we're not trying to actually provide really high quality assistance, point of need, all the hours, and that we're relying on referrals, and it's really hard to get those to happen well."

Finally, another participant recognized the experience and professionalism that librarians bring to the reference transaction that students do not:

> "**I** work with really great people so I see the ways in which they draw out the questions; I see the way in which they really tap the depth of the resources that we have; the ways that they treat reference interviews like instructional moments—versus trying to give an answer. . .. Students turn over more; they don't have years and years of experience. I'm trying not to in any way deplete how useful and valuable I think students are—and their expertise—but also how that is different from what I see from librarians."

Discussion and Conclusion

Three research questions guided this study:

1. **What** reference models are currently employed in libraries at large, land-grant universities?
2. **What** are the commonalities among the models used at different libraries?
3. **What** motivations and pressures influence how libraries provide reference or research services?

Based on the analysis of the findings, the researchers recognized several overarching takeaways when considering the best model for reference service:

- **there** is no magic bullet,
- **multiple** models are in use simultaneously,
- **there** is a considerable difference between theory and application,
- **solutions** are local,
- **change** is incremental, and
- **continuous** improvement is the norm.

When the researchers started this project, it was hoped that "the solution"—the single best approach for providing reference service—would be identified. Based on what the participants shared, the researchers concluded that there is no magic bullet. There does not appear to be one ideal model or approach that would be suitable for all of the libraries in the study. There have been—and continue to be—a wide range of possibilities for the delivery of reference services in academic libraries.

There does not appear to be one ideal model or approach that would be suitable for all of the libraries in the study.

There are, even within a single library, multiple models in use. Obviously, the model available during the day is not the same as the assistance available (or not available) in the evening or on the weekends. It was clear in the analysis that the libraries studied were using a combination of approaches for handling queries from users at the same time. For example, even those libraries maintaining a traditional model also used referrals; although the desk may have been staffed with professionals, often subject librarians, these workers were still making referrals to other librarians, including functional specialists for questions related to topics such as copyright, data, and open access publishing.

There is also a considerable difference between espoused theory of the provision of reference services and actual practice. That is, there are conceptual models: unique approaches used to provide reference service (traditional, tiered, referral, and so on), and there is also what is done in practice, which is much more complex and messy. For example, one library used system-wide chat as its primary model of reference service; however, onsite employees did in fact provide some level of face-to-face service (though answering user questions face-to-face was apparently discouraged). The use of student employees is another good example of espoused theory versus actual practice. The types of reference questions student employees are supposed to handle when staffing the service desk and what they do in practice are worlds apart.

The researchers also found that solutions are local. During the analysis, it became clear that the current approach employed at each library was locally determined. In other words, none of the participants described a scenario in which the implementation of their present model was, for example, copied directly from another library or adopted from a model described in the LIS literature. Changes were largely grounded in the existing model rather than replacing the existing model with something entirely new.

Changes to the reference model are incremental. The background provided by the participants described a series of changes made over time that were evolutionary rather than revolutionary. For example, at some point it had been decided at many libraries that professionals would no longer staff the desk on Saturdays and/or Sundays; sometime later they may have reduced professional coverage on weekday evenings; and still later, in some cases, librarians were no longer scheduled to work at the service desk at all. One participant acknowledged, "I'm sure there were lots of little decisions that we made along the way that kind of led us to this point." Another stated, "You know we're doing tweaks here and there." Many (but not all) of the libraries appeared to be in a state of perpetual beta.

Most of the participants were largely open to making changes to their current service. When asked if a change to their current model was under consideration, nine of the participants indicated that a change was currently under consideration, while six indicated that change was not currently being discussed. However, five of those six—even though they had initially communicated that no change was under consideration—went on to describe possible changes to their service approach. This suggests that librarians, or at least the ones in this study, are continually looking for ways to improve reference services. Even when contemplating improvements, several participants praised their existing models. One stated, "I actually feel like the model [a single service point with the use of referrals] that we have is a good one. I like this model," while a second said that "I think . . . the way that we have it running right now [with students providing tier 1 assistance and making referrals to librarians] is probably the most ideal." The participant who described the implementation of a studio model where students could get help from trained peer-to-peer research consultants was especially enthusiastic about their new service: "I love this model . . . I think it's just a great collaboration, a great model for students."

In addition to learning about participants' libraries, the researchers also drew three further conclusions about the study participants themselves—their motivations, their attitude toward their work, and their desire to learn about what was working in other libraries.

First, regarding motivation, the researchers found that the participants were intentional about the changes they had made (or chosen not to make); that said, the researchers concluded that in some cases users had not necessarily been the driving force behind those decisions. In some cases, librarian preferences strongly shaped the model. For instance, sometimes librarians were resistant to change and reluctant to give up a traditional approach to reference; they were invested in maintaining their presence and identity. Other factors that drove change included cost effectiveness and efficiency. For example, as librarians had been asked to take on other responsibilities, their time spent waiting for questions at a public desk became less of a priority. External or internal pressures, as well as aspects unique to the individual library or campus, also shaped the services offered. The researchers also recognized that changes in a model were likely to include a change in staffing; conversely, a change in staffing may necessitate a change in the approach or model employed in reference services.

External or internal pressures, as well as aspects unique to the individual library or campus, also shaped the services offered.

Second, regarding attitude, the researchers found that all participants interviewed appear to have made the library's reference service model work for them. Though some were quite happy with their model, it was apparent that others felt like they were coming from behind or somehow were not employing the right model. It was clear to the researchers that everyone is trying to do the best they can with what they have. For example, at libraries where an effort had been made to remove librarians from regular face-to-face service, those librarians now have more time to work closely with disciplin-

ary faculty or to conduct research and participate in professional service at a level that will merit tenure and promotion.

Third, there was considerable curiosity about the service and staffing models of other libraries. Six of the participants communicated particular interest in this project, and several expressed enthusiasm about the opportunity to participate: "I love reference service and I was so excited when I saw you guys doing this study. I was like, yes, let's do this. This is fun." The same participant asked, "What are the trends? What trends are you seeing? I would love to hear what those are, and I would love to know what other institutions did you get a hold of?" Another participant wanted to know if we were planning to write a paper or do a presentation and asked how the results of the project would be shared. Another said, "I can't wait to hear more about what you discover. It's fascinating, so please do share . . . . I'd really love to learn what you learn."

While this project may not have solved the persistent problem of how best to provide reference services, it has shed light on the different approaches some libraries have taken. In the words of one of the study participants, "You know at the end of the day it doesn't matter what your model is. If somebody walks in and needs help, we gotta find a way to help them. And . . . I mean it's not their fault that we have models that don't necessarily fit their need."

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Appendix A

Land-Grant Universities with Enrollments of 20,000+ and No Library School

Auburn University (excluded because it was one researcher's institution)
Clemson University
Colorado State University
Cornell University
Iowa State University
Kansas State University
Michigan State University
Mississippi State University
North Carolina State University
Ohio State University
Oklahoma State University
Oregon State University
Pennsylvania State University
Purdue University
Texas A&M University (excluded because it was two researchers' institution)
University of Arkansas
University of Connecticut
University of Delaware
University of Florida
University of Georgia
University of Massachusetts Amherst
University of Minnesota
University of Nebraska-Lincoln
University of Nevada, Reno
Utah State University
Virginia Tech
Washington State University
West Virginia University

Appendix B

Interview Questions

Please tell us how reference or research services are provided at your library.

How long has this model been in use?

Is a change under consideration? If so, what model is being considered?

What were the motivations behind the current model?

What external or internal pressures have shaped these services?

Is there anything unique about the culture of your library or campus that has shaped the services?

What is working especially well with this model?

What (if anything) isn't working as well? Or, what could be improved?

What would an ideal model of reference or research services look like?

Is there anything we haven't covered?

Notes

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