

# Connections, Conversations, and Visibility

## *How the Work of Academic Reference and Liaison Librarians Is Evolving*

*The work of reference, subject, and liaison librarians is evolving, rapidly in some cases. This article provides an overview of the new roles that these librarians are involved in based on an extensive review of the literature in these areas over the last ten years. While some of these roles have been extensively covered in bibliographic essays of their own (data management, changes to information literacy instruction), this article attempts to provide a broader view of the situation, along with highlighting salient examples of the ways that librarians are trying to forge new and different connections with faculty and students, facilitate important conversations, and stay visible and relevant on their campuses.*

The mind of the reference librarian is alive with the manifold and marvelous combinations and connections reference work affords, pathways that serendipitously intersect.<sup>1</sup>

—Anthony Verdesca

**H**istorically, reference, liaison, and subject librarians performed the role of connecting people to the information they needed in a visible way, sitting behind a reference desk or, since the 1970s, in front of a classroom

full of students for information literacy instruction. Even the presence of print reference collections indicated the librarians who worked with those materials. As fewer reference librarians sit at public desks, as face-to-face instruction moves partially or entirely online, and as users simply click through a Google search to get to the information they need, how do academic reference librarians continue to be visible and connected to the students and faculty they are supposed to be helping? Some, like Tyckoson and Sousulski, argue that the goal of connecting people to the information they need hasn't changed, but that the methods employed have and will need to continue to change.<sup>2</sup>

This idea of the evolving role of the reference and liaison librarian is well rooted. More than seventeen years ago, Pinfield described how the work of subject librarians was changing and how it included all the traditional roles (collections, instruction, and reference work) along with new roles such as “more emphasis on liaison with users,” “advocacy of the collections,” the much more complicated “selection of e-resources,” “working with technical [IT] staff,” “organizing the information landscape,” and “working with teams,” among other things.<sup>3</sup> Twelve

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years later, Jaguszewski and Williams stated that “the liaison role in research libraries is rapidly evolving,” and they too called for liaisons to play two roles: advocate and consultant, “both with an emphasis on campus engagement.”<sup>4</sup> Wilson also pointed to the role of the subject liaison as a consultant: “Consultants make connections, network, enhance fundamental facets of the organization, listen and ask pertinent questions to help the organization thrive.”<sup>5</sup> This act of listening and asking questions is really the act of conversation, which is a goal common to many types of libraries and librarians, not just academic ones, but it is perhaps one too easily forgotten or lost in the drive to demonstrate our value with statistics. Lankes defined the mission of librarians as “improve[ing] society through facilitating knowledge creation in their communities.”<sup>6</sup> He argues that people learn through conversation and that librarians both participate in and facilitate those conversations. This seems especially resonant in a higher-education environment that is becoming at once more interdisciplinary and more competitive.

On the basis of an extensive literature review from the last ten years, this article examines the current state of reference and liaison librarianship, including the challenges it faces, and highlights interesting ways academic librarians are working to remain visible, connected to students and faculty, and help facilitate important conversations. While many of these topics could be bibliographic essays in and of themselves (data management or changes in information literacy instruction, for example), this article is an overview intended to provide threads for readers to pursue further on their own.

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## REFERENCE LIBRARIANS, SUBJECT LIBRARIANS, AND LIAISON LIBRARIANS

In the literature, authors refer to reference, subject, and liaison librarians. While each of these positions can have slightly different sets of responsibilities, particularly at larger institutions, they all traditionally have the goal of connecting the university community with the information it needs, whether that is in the form of selecting books or databases or helping students and faculty learn to use them. At many institutions, reference librarians have had different combinations of these duties: collection development, reference, and instruction. Throughout the article, the terms “reference librarian,” “subject librarian,” and “liaison librarian” will be used interchangeably. At times, depending on the depth of their involvement or the preference of the library for particular terminology, these librarians might be referred to as “embedded.”<sup>7</sup> While libraries are starting to change terminology, there is no consensus on what to call this evolving role, and the articles examined referred to them in all of those ways. Houston reports no agreement from a 2014 survey of RUSA members.<sup>8</sup> At many larger institutions, reference librarians tended to be more involved in instruction while subject or liaison librarians often were more involved

in collections. At many small to mid-size universities, the reference department has historically filled all these roles, which are thus synonymous for the purposes of this review.

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## THE REFERENCE DESK: LIBRARIANS VISIBLE TO THEIR COMMUNITIES

Research support was most often and most visibly provided at a physical desk, but many articles cite the declining statistics at reference desks;<sup>9</sup> others note that the quality of online reference-desk alternatives to which faculty and students can turn for quicker answers is as high or higher than physical reference desks.<sup>10</sup> Combine this phenomenon with the twin emphases in higher education of the need for more accountability on the part of stakeholders and continually more research funding—which is simultaneously more competitive to obtain—and the situation for reference and liaison librarians becomes both a threat and an opportunity.<sup>11</sup> The hopeful viewpoint is that the liaison model is poised to be the library’s bridge to these areas. As Kenney says in her report for Ithaka S&R, “Leveraging the liaison model will be critical to illustrating that the library is more than a purveyor of content and that its expertise is an essential component of the academic knowledge infrastructure on and off campus.”<sup>12</sup>

For liaisons who consider themselves first and foremost tied to the research and instructional support aspects of the job, the reference desk features prominently in the literature. Some libraries have removed librarians from a physical desk, are in the process of doing so, or recognize the need to do so. The University of Central Florida Libraries reports that they reduced the hours that subject and reference librarians sit at the desk and that they are contemplating letting it go all together.<sup>13</sup> A University of Connecticut librarian described dismantling their reference collection and going to a distributed model of reference,<sup>14</sup> while a medical library discontinued their on-call schedule and then reinstated a hybrid model when problems arose.<sup>15</sup> Despite this clear movement away from the visible symbol of the job, the desk still looms large in the psyche of reference librarians. There are recent case studies,<sup>16</sup> opinion articles,<sup>17</sup> transaction analyses,<sup>18</sup> and even an ode that continue to discuss its presence in libraries.<sup>19</sup> For many reference librarians, the desk remains a tangible symbol of their mission and work, despite statistics that no longer support this model and the resulting call in the literature that it is time to let it go.<sup>20</sup>

The quality of the answers provided at the desk has long been a point of contention,<sup>21</sup> and now that there are alternatives such as collaborative answering services like Yahoo! Answers that outperform comparable library services (chat and email reference) in many factors, the decline in statistics is likely to continue.<sup>22</sup> In a national survey librarians in libraries where MLS-holding professionals were removed from the reference desks perceived that service level had declined, however the authors note that the comments from the survey indicated librarians looked to services provided by other

libraries for comparison rather than their own user population expressing a need for an additional service. “This lack of identifying the need to solve problems or meet information needs suggests that many librarians’ judgements of quality may be comparative rather than based on objective measures of efficacy or impact.”<sup>23</sup> Another library that examined its own questions and answers received after librarians were removed from the desk found that the presence or absence of a desk made no real difference in the number of research questions received and that those questions still made their way to the librarians.<sup>24</sup> Other libraries that have studied the questions received at the desk report that only a small amount of “just-in-time” questions require a librarian.<sup>25</sup> In the end, each library has to consider the value of having librarians visible at a public desk in the context of its own services.<sup>26</sup>

The decline in reference desks staffed with librarians does not indicate the end of the reference librarian. Nolen notes that while many articles call for the end to a passive model of sitting and waiting for questions in a particular space (whether physical or virtual), few authors call for the complete end to librarians assisting people with their information needs.<sup>27</sup> Others note that helping people find and use the information they need, however that might happen,<sup>28</sup> and the need for humans to help students from diverse backgrounds will be still be important for a long time, especially in interpreting or finding hard-to-access information or simply understanding the increasingly complex information landscape.<sup>29</sup>

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## INVOLVEMENT IN COLLECTION DEVELOPMENT

The historical role that reference librarians have played in collection development is changing. With the advent of patron-driven acquisition as an addition to the long-standing and widespread use of approval plans, librarians’ involvement in title-by-title selection has dwindled. Reference librarians in particular are examining their print collections, and many are moving them or weeding them extensively, thus de-coupling reference librarians from the collections that shared their name.<sup>30</sup> In addition, as more libraries renovate to clear floors of books to make way for student study areas,<sup>31</sup> the visible link between librarians and specific collections of information is broken.

Certainly the reference librarians’ role as connector to a printed collection of materials is in the past as they unbind themselves from their eponymous collections,<sup>32</sup> and the luxury of a subject bibliographer with time to do title-by-title selection is quickly disappearing despite new evidence from one institution that firm orders circulate more than approval plan orders.<sup>33</sup> A 2012 survey of Australian librarians indicated that collection development would be less important in the future.<sup>34</sup> Others have predicted the future of collection development will look very different from its past,<sup>35</sup> and librarians will need to think creatively and add

options such as print-on-demand to their collections toolbox. Faculty will continue to need access to research materials, and increasingly these materials are taking different forms such as data sets and streaming media; consequently, subject and liaison librarians must retain a role in and connection to the collection.<sup>36</sup> However the role of librarians in collections evolves, their knowledge of and advocacy for the collection will likely remain important for the foreseeable future. Performing higher-level statistical collection analysis may remain important, but librarians will be moving away from the granular, title-by-title involvement to a more data driven, birds-eye view. Examples of this type of collection analysis in the literature include the utilizing usage statistics to gauge the strength of the collection,<sup>37</sup> to provide comparison data with other libraries,<sup>38</sup> and to provide data for discussions with faculty about the types of assignments used in and thus resources needed for their courses.<sup>39</sup> Additional examples include database overlap comparisons,<sup>40</sup> analyzing reference chat transcripts to improve management of electronic resources,<sup>41</sup> and combining usage statistics with citation studies to evaluate a large journal package.<sup>42</sup> While these are just a smattering of examples, they represent attempts to match collections to curriculum and faculty research needs, and to provide librarians a more systematic way of crafting the best collection for the library’s constituents. Nevertheless, because of the new ways users often seamlessly connect to the library resources through the internet, the librarians’ behind-the-scenes analyses could easily remain invisible.

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## INFORMATION LITERACY INSTRUCTION

As the librarians’ role on the reference desk has declined, the role of instructional support or information literacy instruction has greatly increased. The literature on the reference and liaison librarians’ responsibility in information literacy and research instruction is voluminous.<sup>43</sup> Instructional support to both faculty and students has been the focus of much of reference librarianship since the 1970s.<sup>44</sup> Teaching in a variety of capacities—whether for-credit information literacy classes, one-shots, or online—has become a regular and often required duty of reference librarians.<sup>45</sup> There is a wealth of literature about instructional support; each year hundreds of articles discuss it,<sup>46</sup> and it has been viewed as a means to connect librarians to student learning outcomes.<sup>47</sup> Connecting reference and subject librarians to students’ academic success has been valuable for the profession’s visibility, and it clearly continues to be a promising avenue for the future.

Along with many articles about improvements to or assessment of the one-shot model of instruction, recent articles have started to emphasize the role of the reference or liaison librarian in research assignment design,<sup>48</sup> helping to design the entire course if the librarian is part of an instructional team,<sup>49</sup> or ways in which they support students that faculty may not be privy to, such as helping students focus their topics.<sup>50</sup> Others are working to increase the visibility

of subject and reference librarians through instruction in general,<sup>51</sup> through genuine partnerships on instructional sessions as opposed to simply providing a “service,”<sup>52</sup> or demonstrating that the library’s instructional role can impact retention and graduation rates.<sup>53</sup> Another approach that can positively affect the integration of information literacy instruction is placing instruction librarians on campuswide committees tasked with creating interventions to increase student success.<sup>54</sup> These instructional roles continue to be promising for campus visibility as librarians connect themselves to institutional efforts to focus on student learning outcomes and students’ postgraduation success. The results of the most recent Ithaka survey show that faculty saw this role for librarians expanding.<sup>55</sup> While instruction continues to hold promise for reference and subject librarians, face-to-face instruction cannot be infinitely expanded. Online instruction will likely continue to grow, but librarians will have to be cognizant of the dangers of invisibility here, too.

If the historical role of reference desk staffing is disappearing and changes in collection development and instruction also have the potential to decrease reference and subject librarians’ obvious and visible connections to their users, how do these librarians maintain their visibility and continue to demonstrate their value? To answer this question, the rest of this article examines the literature on reference librarians and the roles they are taking on to stay connected to their institutions’ teaching and research missions.

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## ENGAGED LIAISONS AND EVOLVING WORK

In 2001, Frank called for a more “dynamic, communicative, and customized approach” to the traditional liaison role that he referred to as *information consulting*.<sup>56</sup> More recently, Case wrote that it is imperative that libraries become involved in the faculty research process, noting that “if we remain distant providers of electronic resources and the occasional instructor in the classroom, we run the risk of losing faculty support in tight budget times. . . . We must be visible; we must be at the table—both for the sake of the long-term survival of digital scholarship and of ourselves.”<sup>57</sup> Auckland articulates this same sentiment as she describes her report for the Research Libraries of the United Kingdom (RLUK): “Research libraries and their Subject Librarians face the challenge of ensuring that they remain relevant and visible in this environment of diverse support and service provision.”<sup>58</sup>

Some reference librarians are taking on this challenge. For example, George Washington University’s health science reference librarians reported on their new roles in curriculum development, publishing support, technology support, admissions and compliance, and consulting in African countries.<sup>59</sup> Auckland’s report sees potential roles for involvement in systematic reviews, knowledge of datasets, metadata creation, virtual networking advisory, data mining, involvement in measuring effect and quality of research, and data preservation.<sup>60</sup>

Providing new and innovative support for faculty and student research still involves the concept of connection, the traditional role of reference librarians. Reference librarians as connectors was a theme in several articles. Sullo and Gomes point to this in their experience as health science reference librarians.<sup>61</sup> Whatley notes, “Building relationships is becoming the essence of what it is to be a liaison librarian—one that connects users with their information needs, whatever the format and whatever the technology.”<sup>62</sup> In the words of LaRue, “The profession is all about connection. . . . Visible librarians link a bustling central hub to the community. They are readily available . . . and highly expert.”<sup>63</sup>

These are different ways of talking about the same work and skillsets. Building relationships, listening to people’s information needs, and making the connection to an information source are all skills that reference and liaison librarians have. But how will reference librarians manifest these skills in this new information landscape? What does this work look like? Although Jaguszewski and Williams aspirational “engaged” liaison is one who “seeks to enhance scholar productivity, to empower learners, and to participate in the entire lifecycle of the research, teaching, and learning process,” the current reality is that while the profession might be moving in that direction, most institutions are not quite there.<sup>64</sup>

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## REWRITING THE JOB DESCRIPTION OF THE REFERENCE AND LIAISON LIBRARIAN

Many library administrators have been contemplating the work of their liaisons in light of obvious need to provide research support in a different way. Goetsch proposes four new roles for what she terms “renaissance librarians”: consulting, information lifecycle management, networked and unique collection building, and information mediation and interpretation.<sup>65</sup> In the RLUK report from 2012, Auckland says “a shift can be seen which takes Subject Librarians into a world beyond information discovery and management, collection development and information literacy training to one in which they play a much greater part in the research process and in particular in the management, curation and preservation of research data, and in scholarly communication and the effective dissemination of research outputs.”<sup>66</sup> University of Minnesota was one of the first to realign their liaisons’ work to incorporate scholarly communication, a strategic focus for the library.<sup>67</sup> The Duke University Library includes engagement, teaching and learning, research services, collection development, digital tools, scholarly communication, and possibly other areas depending on the position.<sup>68</sup> Several other libraries have recently rewritten liaison librarian position descriptions to include these types of activities. Examples include Ohio State, Grand Valley State, and the University of Washington.<sup>69</sup> MIT Libraries recently published an article describing a “paradigm shift” in their liaison program while the University of

Texas describes two iterations of liaison reorganization in the past two years.<sup>70</sup>

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## SUBJECT LIBRARIANS VERSUS FUNCTIONAL EXPERTS

Additionally, libraries are reconsidering the structure of liaison programs including the roles of both functional and subject expertise. Functional experts include librarians with a high level of proficiency in areas such as online learning, technology, programming, scholarly communications, assessment, etc. Although a few libraries are moving away from a model of subject expertise, most seem to be retaining this model.<sup>71</sup> The question then becomes twofold: (1) Do functional experts work within the same department, often a reference or instruction-type department, alongside subject experts or does this expertise exist elsewhere in the library? (2) If the latter, how is communication structured between these groups to support smooth and consistent customer service? One recommended approach is “teaming,” where groups of librarians come together over particular projects as opposed to being assigned to ongoing, fixed groups.<sup>72</sup> Hansson and Johannesson discuss the competencies of liaisons versus functional specialists in their examination of the actual daily work of Swedish librarians in supporting faculty research and publication.<sup>73</sup> Macaluso and Petruzzelli consider it best if functional expertise is in the reference department, but if it can't be, everyone has to be on the same page about the type and level of service provided in that functional area to make appropriate referrals.<sup>74</sup>

Restructuring and considering new models are foundational work for liaison programs, but what is the work that these “engaged liaisons” are doing? The literature contains many examples. Gibson and Mandernach surveyed ten library websites and followed up with phone calls. They found most of the libraries had removed librarians from their reference desks and were being proactive about offering a broader suite of research services, including “grant support, user experience, better instructional support, basic data management services, copyright consultations, focus on scholarly communications, digitization projects, digital centers that assist with data software, embedding information literacy into the curriculum, and digital scholarship.”<sup>75</sup> Other articles gave more specific examples of new(er) work for subject and liaison librarians. Colding and Venecek, for example discuss the Subject Liaison Initiative, which was part of a multiyear plan across the University of Central Florida Libraries to “increase the libraries’ impact on student engagement, learning, retention and graduation . . . and faculty teaching research, publications, and grant success.”<sup>76</sup> Their plan included more visibility for librarians by highlighting them on digital signage, a new website, and newsletters. The librarians themselves created in-depth profiles of faculty and departments, met one-on-one with faculty when possible, and mapped the curriculum to find places where research instruction might be needed.

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## BEGINNING A CONVERSATION: LISTENING TO FACULTY NEEDS

Another means of discovering new roles is to begin conversations with the faculty. Brewerton, in summarizing the 2012 RLUK report, noted that many libraries are not starting with the needs of the researcher in mind but rather simply extending the traditional work of subject librarians.<sup>77</sup> Efforts are beginning to be made to correct this problem. At the University of Kansas, librarians conducted a survey of faculty which they followed up with focus groups and individual interviews. Their findings showed that faculty lacked time to explore what the library could do for them and that they struggled with data management and saw the library as a connector to other important resources that could assist their research.<sup>78</sup> Other researchers advocate getting outside the library and/or talking directly with faculty. Falciani-White interviewed nine faculty members about their research, while the University of Nottingham has a team of librarians whose job is simply engagement and relationship management with faculty and other campus entities.<sup>79</sup> Falciani-White suggests “Ask specifically how faculty organize their research and what they wish could be improved. Find out ways in which partnering with the library would improve faculty productivity and ultimately better meet the needs of their students.”<sup>80</sup> Kenney notes that the literature on the liaison model is starting to call for a shift “away from the work of librarians to that of scholars” and letting that guide the liaison work.<sup>81</sup>

So, what do scholars need? Results from a survey of faculty at HBCUs show that faculty say they need “library staff with technical and scholarly expertise and reference or research librarian[s]”<sup>82</sup> Faculty reported needing a statistician, expertise in software use, computer programming, and database administration, web development. Change is slow to come however. Phoenix and Henderson’s survey of HBCUs indicated that library liaisons most often were engaged with faculty regarding collections but that they also performed instruction to support research, organized library services for and/or with an academic department, and provided literature review assistance. Further down the list with 30 percent or fewer respondents reporting this type of assistance were: how to get research published, how to write research reports, how to plan research, and how to organize research documentation.<sup>83</sup>

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## NEW WORK: FACULTY RESEARCH AND STUDENT SUCCESS

Despite an uneven start, it is evident libraries are becoming more heavily involved in the faculty research process and with teaching as well as student success. The following sections are not intended to be a comprehensive literature review but rather to provide salient examples from the literature of reference and liaison librarianship as to what the

future might hold for reference librarians freed from a desk but who want to retain their visible position to be of the most assistance to the students and faculty they serve. The sections start with articles grouped around faculty-focused services and then move into efforts geared more toward supporting universities student success initiatives, although the two are at times intertwined.

### Copyright/Open Access/Scholarly Communication/Publishing

Malenfant describes a sea change at the University of Minnesota where supporting aspects of scholarly communications including education and promotion was made a part of every liaison librarian's job duties. Malenfant says that this involved the librarians "adopting a new skill set—advocacy and persuasion—and developing a new knowledge base around the system of scholarly communication" noting that "these are two very substantial endeavors."<sup>84</sup> Eddy and Solomon describe how they helped migrate a journal to open access platform; made very in-depth recommendations; and performed co-citation and co-word analysis. This is one of the better (if not slightly daunting) examples of new and innovative work by librarians supporting faculty in their research.<sup>85</sup> Librarians at Cornell used the Web of Science database to see if authors from their institution were complying with copyright when Elsevier launched a takedown campaign after having found its articles freely available.<sup>86</sup> The Cornell librarians saw this as opportunity to educate faculty on author publication agreements, open access journals, and copyright.

### Data Management/Data Curation

Consulting with faculty on data management, curation, and preservation is widely discussed in the LIS literature. In their faculty focus groups and interviews, librarians at the University of Kansas found that "five of the top 10 challenges participants discussed revolved around data." They noted that "Data issues described by participants varied widely, consistent with a broad range of discipline-specific needs and corresponding definitions of 'data.'"<sup>87</sup> The most cogent argument for why reference librarians could and should be involved in data management or preservation was made by Carlson in the article "Demystifying the data interview: Developing a foundation for reference librarians to talk with researchers about their data." He argues that because of their reference interviewing skills, reference librarians are well positioned to take up data management interviewing and consulting. He says "reference librarians in particular are well-suited to raise awareness and identify researcher needs; skills that are essential given the diversity and variability of these needs." The skills include "negotiation skills, coordination of practice across an institution, advocacy, promotion, marketing, raising awareness, and complaints and expectation management. Carlson notes

that there are not yet any disciplinary data standards and hardly any patterns can be discerned in how researchers in different disciplines deal with data."<sup>88</sup> So much work remains in this area as Cox explains, and Awre explores data management as a "wicked problem"<sup>89</sup> but the University of California, Berkeley describes a training program they instituted to provide their liaisons with skills in data management from a subject perspective as one means of tackling the data issue.<sup>90</sup> Given that data is not a passing fad, reference and liaison librarians need to consider the role they want to play in this area if they are to be visible and connected.

The need to move into this area is clear. As Gabridge states, "It is important to realize that services like this are a major component of libraries' future. Ensuring that the complex output of the research enterprise is collected and is reusable by others is central to the ongoing mission of research libraries."<sup>91</sup>

### Other Involvement in Faculty Research

As early as 2005, Goetsch notes that MIT and Purdue libraries were including "research partner" as part of the roles in their job advertisements,<sup>92</sup> but no literature was found that discussed how to track or monitor faculty research and teaching even though many authors noted this as part of liaison librarians' work. While Case mentions creation of metadata and advising on preservation of research outputs being requested by faculty,<sup>93</sup> and Aukland names these as areas where research or subject librarians could assist faculty,<sup>94</sup> there were no case studies in the literature specific to reference or liaison librarian involvement. It is possible there are examples in the archival literature but that was beyond the reach of this review. Health science librarians have long been involved in systematic reviews and are now involved in scoping reviews.<sup>95</sup> Social sciences librarians have supported these kinds of reviews too.<sup>96</sup>

Some libraries have a service to provide customized searches and delivering of the results in citation managers such as EndNote. One example is the University of La Trobe (Australia) conducted a pilot of the service to all faculty and documented the number of searches and amount of hours spent, which averaged a little more than 8 hours per search. In addition, this same university initiated a Research Impact Service which initially involved creating several LibGuides directing faculty and graduate students to the various tools they could use to demonstrate their research impact and many workshops to highlight the LibGuides. These efforts led to the creation of the Research Impact Service wherein librarians complete a report for a faculty member.<sup>97</sup>

### Learning Commons

Surprisingly, while the literature on learning commons is extensive, articles on the role of reference or subject librarians in the learning commons were harder to find. Older

articles discussed the user preference for meeting with a librarian at a desk in the commons,<sup>98</sup> but ten years later that is no longer a popular option and doesn't reflect the current trend of moving librarians off the desk.<sup>99</sup> One article noted the collaboration skills of reference librarians being essential in the functioning of a productive learning commons,<sup>100</sup> but a more recent article was less hopeful, arguing that geographical proximity of learning commons partners is not nearly as effective as organizational proximity where all partners are under the same organizational structure. With organizational proximity, the entities involved can “transmit knowledge, learn from each other, develop a shared understanding for innovation, and collaboratively develop deeper integration for holistic learning.”<sup>101</sup> This is essentially the facilitating conversation aspect of liaison and reference librarians' evolving roles.

### Textbook Cost Reduction Efforts/ Open Educational Resources (OER)

Goodsett offers a case study of a subject librarian working with a faculty member at Cleveland State University to create an OER. The library had hosted a workshop on open textbooks that had sparked the faculty member's interest.<sup>102</sup> North Carolina State University's science research librarians worked with a faculty member to create a textbook that covered the emerging interdisciplinary field of biotextiles for which no textbook existed.<sup>103</sup> This was a part of NC State's Alt-Textbook project.<sup>104</sup> Libraries can also be leaders in a larger OER movement. Examples include the University at Buffalo and Buffalo State University Libraries who both have webpages educating faculty about the OER movement as a part of a larger New York State educational initiative.<sup>105</sup>

### Makerspaces

Reference librarians' role in makerspaces seem to be minimal at this point, although in at least one case, the makerspace is housed in a reference department. Indiana University, as a part of their Reference Services and Scholars' Commons area has a librarian with a “maker cart” who conducts programming for students and faculty on the possibilities of new and emerging technologies.<sup>106</sup> At the opposite end of the spectrum, Appalachian State University's Belk Library contains a makerspace that includes both old and new technologies including a sewing machine as well as a 3D printer. The space is staffed by IT staff and while it is located inside the library, it does not have close ties to the reference/research librarians.<sup>107</sup> Meanwhile, both of North Carolina State University's libraries have makerspaces with extensive arrays of equipment with multiple exhibit areas to display students' work resulting from the use of the libraries' makerspaces. The space is staffed with personnel from a makerspace unit and from the Learning Spaces and Services unit and are separate from the work of the reference and liaison librarians.<sup>108</sup>

### Learning Analytics

Learning analytics involves tracking student learning data and analyzing it with the goal of improving student achievement and retention. While libraries are already doing this on a limited basis, at least one article was found where learning analytics and library services, including specifically library workshops, were integrated into the university's larger data warehouse providing weekly updates that could be used to steer students toward use of the library when it would be beneficial to them.<sup>109</sup> Oakleaf notes an increasing trend in higher education to use learning analytics. One of her articles on this topic provides guidance on questions to ask and ways to prepare librarians to be a part of these campus-wide discussions and ultimately this work, while the other establishes a more detailed and concrete model of what this integration could look like.<sup>110</sup>

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## NEW CHALLENGES

The aforementioned areas represent a variety of new work that reference and liaison librarians can possibly undertake and in many cases already are undertaking. It is important, however, to examine the additional challenges of assessment, workload, and skill acquisition that are present in this transition.

### Assessment

Although many articles touch on the idea of assessing liaison and research services and clearly many are thinking about the importance of the impact of this work,<sup>111</sup> no one model has emerged for doing so. Broughton at Ohio University worked with colleagues to develop a matrix to measure librarian engagement on campus. Librarians rated their departmental relationships after one year as to whether they were emergent, generative, or productive as defined by the matrix.<sup>112</sup> She noted that the value was in the conversation that the librarians had to create the matrix. Kenney provided an example assessment for determining “Base Level, Good, and Better” in aligning liaison activities with library goals.<sup>113</sup> Probably the most comprehensive resource at this point is the 2014 book from ACRL *Assessing Liaison Librarians: Documenting Impact for Positive Change*. Examples from The Ohio State Libraries highlight programmatic evaluation which attempts to measure effectiveness by looking at “How many undergraduate students consult a librarian for help to write a paper or report greater than 5 pages” or “are faculty working with liaison libraries to plan and deliver information literacy instruction.” These evaluation questions make it evident that they are thinking in terms of information literacy and more traditional research consultations.<sup>114</sup> Later in the text White provides more of a focus on other aspects of the “research suite of services” by including rubrics for the different areas of liaison work including expectations, organizational and individual activities. An example of an expectation would be

“keep abreast of emerging and waning research and teaching interests and develop appropriate strategies” while the individual activities would include “Monitor and read professional literature of the disciplines. Participate in departmental activities. Meet with faculty and students individually to understand research needs.”<sup>115</sup> Perhaps more manageable for most libraries, Mack offers good advice “start small and start immediately.”<sup>116</sup> As a starting point, Cornell modified their Reference and Instruction tracking system (called Count-It) to track interactions with faculty.<sup>117</sup>

### Increasing Workload and Additional Skill Sets

While the possibilities for working more closely with faculty and students are exciting, the problem continues to be how do librarians manage these increased workloads? Church-Duran raises this point when she notes the need for strategic direction.<sup>118</sup> So, on the one hand librarians need to move quickly and be experimental but not take on too much at once. Still, something will likely have to give. Time associated with a service desk, is a likely candidate, followed by individual title selection in collection development and these trends are already evident and documented earlier in this essay. Will that be enough though?

Additionally, what new skills does this work encompass? Tyckoson says that for reference librarians “the ability to work with the user to figure out what information they really need—the reference interview—and the ability to search the Web and other sources to find material to meet that need” should be the focus of their training.<sup>119</sup> Houston highlights the skills that, while not new, are becoming increasingly important: consulting, teaching, interpreting, advocating, programming, user experience, and design thinking.<sup>120</sup> How does one liaison librarian have all the skills needed, especially since Aukland notes that so few training and professional development opportunities exist?<sup>121</sup> Jaguszewski and Williams argue that the “base level of knowledge that a liaison must possess is much broader than familiarity with a reference collection or facility with online searching; instead they must constantly keep up with evolving pedagogies and research methods, rapidly developing tools, technologies, and ever-changing policies that facilitate and inform teaching learning and research in their assigned disciplines.” They note that while librarians won’t have to be “experts in these areas,” they will need to have a “fundamental understanding” in order connect patrons to the best experts possible such as experts in copyright, data, and software.<sup>122</sup> This shift to new work “represents a significant rewrite of the basic skills and services typically associated with liaison librarianship.”<sup>123</sup> Efforts such as ACRL’s data workshops may provide a way forward, but likely more will need to be done in this regard.<sup>124</sup>

### Connecting the Need with the Service

The literature demonstrates that while many are calling for change, that change is slow to occur. Hollister and

Schroeder, for example, conducted an exploratory survey of sixty education faculty, the majority of whom believed librarians could be helpful in the following areas: information access and retrieval; grant-related activity, management of literature, selection of traditional or alternative publication venues, management of intellectual property, copyright, publications, postprints; storage, management or analysis of research data; increased professional visibility; promotion and tenure support. With the exception of information access and retrieval though, a much small number of faculty reported actually receiving help from librarians in those areas.<sup>125</sup> So, while there appears to be a need expressed by faculty for assistance in this areas, it is unclear if librarians do not feel they have the training to meet these needs, if they are unaware of them, or if they simply are not able for organizational reasons to respond.

Cox and Verbaan shed light on why this might be from their survey of librarians, information technology staff, and research administrators at one university in the United Kingdom. They found that librarians and information technology staff thought about research support predominantly in terms of infrastructure and that many other differences between the conceptions of research support existed. They argue that “all these differences reflect fundamental gaps between librarians’ conceptions of research and that of researchers themselves.”<sup>126</sup> They point out that this gap exists in part because libraries and IT view faculty researchers as just one set of clientele. Libraries also serve faculty who are teaching, students, and the community for example. It would seem though that faculty researchers who are central to the goals of a research university are clientele who should be a priority for librarians at those institutions.

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### CONCLUSION

It is clear from this review that reference and liaison librarianship is in flux and faces threats in the forms of invisibility and disconnection. For liaison librarians trying to establish more productive partnerships with faculty, the reality is that most librarians are in the position of Olivares when she describes herself as “sufficiently embedded” meaning she does instruction, creates guides, has good relationships with several of her departments.<sup>127</sup> It seems imperative if reference and liaison librarians are to remain vital to their academic mission, that they find a way to look beyond “sufficiently embedded” to explore what it might look like if they were to inextricably link themselves to the research and teaching enterprise in a systematic way. For many liaison programs though, there are significant challenges. Cornell librarians concluded after an environmental scan, “most liaison programs in polled institutions are informal, fluid, with no dedicated funding, no formal training, no assessment tools, and no measures of performance.”<sup>128</sup> Although measuring the power of relationship building may remain elusive, certainly many of these aspects can be addressed by reference



and subject librarians as they move toward this work and these new roles.

The skills of listening, conversing, and making creative connections along with consulting, negotiating and managing expectations are all vital to reference and liaison librarians remaining a visible and thriving part of the academic community. The ways they are doing this have been highlighted in this review. Globally, they include becoming more closely and intimately involved in faculty research and teaching and being involved at the university level in efforts toward student retention and engagement. In these capacities, librarians can continue to make themselves visible to their community even if they are no longer at a public desk. Being visible to the community of faculty, staff, and students they serve is critical. “The visible librarian has a prominent seat at the community decision-making table, actively clarifies choices, provides reputable and relevant information, and through every action trumpets the unique contribution of the professional.”<sup>129</sup>

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