



Research Article

Research Support Priorities of and Relationships among Librarians and Research Administrators: A Content Analysis of the Professional Literature

Cara Bradley
Research & Scholarship Librarian
University of Regina
Regina, Saskatchewan, Canada
Email: cara.bradley@uregina.ca

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Abstract

Objective - This research studied the recent literature of two professions, library and information studies (LIS) and research administration (RA), to map the priorities and concerns of each with regard to research support. Specifically, the research sought to answer these research questions: (1) What are the similarities and differences emerging from the LIS and RA literatures on research support? (2) How do librarians and research administrators understand and engage with each other's activities through their professional literatures? (3) Do Whitchurch's (2008a, 2008b, 2015) concepts of bounded-cross-boundary-unbounded professionals and theory of the "third space" provide a useful framework for understanding research support?

Methods - The research method was a content analysis of journal articles on research-related topics published in select journals in the LIS ($n = 195$) and RA ($n = 95$) fields from 2012-2017. The titles and abstracts of articles to be included were reviewed to guide the creation of thematic coding categories. The coded articles were then analyzed to characterize and compare the topics and concerns addressed by the literature of each profession.

Results - Only two (2.2%) RA articles referred to librarians and libraries in their exploration of research support topics, while six (3.1%) LIS articles referred to the research office or research administrators in a meaningful way. Of these six, two focused on undergraduate research programs, two on research data management, and two on scholarly communications. Thematic coding revealed five broad topics that appeared repeatedly in both bodies of literature: research funding, research impact, research methodologies, research infrastructure, and use of research. However, within these broad categories, the focus varied widely between the professions. There were also several topics that received considerable attention in the literature of one field without a major presence in that of the other, including research collaboration in the RA literature, and institutional repositories, research data management, citation analysis or bibliometrics, scholarly communication, and open access in the LIS literature.

Conclusion - This content analysis of the LIS and RA literature provided insight into the priorities and concerns of each profession with respect to research support. It found that, even in instances where the professions engaged on the same broad topics, they largely focused on different aspects of issues. The literature of each profession demonstrated little awareness of the activities and concerns of the other. In Whitchurch's (2008a) taxonomy, librarians and research administrators are largely working as "bounded" professionals, with occasional forays into "cross-boundary" activities (p. 377). There is not yet evidence of "unbounded" professionalism or a move to a "third space" of research support activity involving these professions (Whitchurch, 2015, p. 85). Librarians and research administrators will benefit from a better understanding of the current research support landscape and new modes of working, like the third space, that could prove transformative.

Introduction

Support for teaching and research is the core mission of academic libraries worldwide, and services offered to further these activities should be based on sound evidence. A significant number of studies have been conducted on library support for faculty teaching and student learning, and hundreds (if not thousands) of research papers have been published about information literacy. As well, the importance of collaborating with others on campus (units, students, and faculty) in developing and delivering support for student learning has been well-documented (Sproles, Detmering, & Johnson, 2013).

There has been less evidence collected about how academic libraries can best support campus research. Major library organizations worldwide have authored reports—most notably the Research Libraries UK's *Re-skilling for Research*

and the Association of Research Libraries' *New Roles for New Times*—that suggested a range of research support services that libraries could be offering. These reports noted a need to increase research support capacity and services, as well as the benefits of increased collaboration. *New Roles for New Times* reported that "many large and complex initiatives require collaboration between the library and other campus units. For example, one interviewee noted that a 'library-centric approach to e-science is doomed to fail,' citing the need for the library, information technology, the university's office of research, and other campus units to define their respective roles and work together toward mutual goals" (Association of Research Libraries, 2013, p. 13).

The present study picked up on this call for collaboration with university research offices by exploring the priorities and concerns of the research administration (RA) literature and the

library and information studies (LIS) literature, and analyzing the relationship between the two. In the context of this study, research administration is used as a broad term to describe staff working in campus research offices who play a role in facilitating academic research. Specific position titles vary, but include research office directors, research funding officers, research facilitators, research contracts officers, research compliance officers, and research communication staff, among others. Their work involves “formulating, developing, supporting, monitoring, evaluating and promoting the research and research-degree activity of their universities” (Hockey & Allen-Collinson, 2009, p. 142), giving them a holistic view of system-wide campus research support needs.

Both librarians and research administrators regard themselves as integral to the research mission of the university, but there has been little documented dialogue between the two professions in the literature of either field. This study analyzed the recent literature of each profession to map the priorities and concerns of each with regard to research support. It also explored the extent to which these two professions are collaborating or at least referencing one another’s activities within their professional literatures. Ultimately, the goal is to provide a picture of the research support landscape and to suggest potential approaches to library support for academic research into the future.

Literature Review

Research Support Relationships among Librarians and Research Administration Professionals

Both librarians and research administrators have explored research support issues within their own professional bodies of literature, but the relationships between the two professions in supporting institutional research are only infrequently addressed. In their 2010 report,

Research Support Services in UK Universities, the UK Research Information Network (RIN) reported that in the four universities they surveyed, the library and the research office “provide services to researchers from very different perspectives” (p. 18), with the research office perceived as actively engaging with researchers early in the research process, in a way that librarians do not. One of the report’s recommendations is that “libraries should work together with Research Offices to review their provision of support for researchers” (RIN, 2010, p. 18). A year later, in a report commissioned by OCLC that incorporated the RIN data and other sources, MacColl and Jubb (2011) were blunt in their assessment of the situation, writing that “it is hard to avoid the conclusion that libraries in recent years have been struggling to make a positive impact on the scholarly work of researchers, but having relatively little effect” (p. 5). They went on to report that institutional repositories are a major example of a library-initiated research support service that has garnered little faculty interest and support. They pointed to the need for “mutual reinforcement” (p. 10) among research support services, especially the research office, as essential for sustaining and advancing the service.

Corrall’s study (2014) appeared three years after the OCLC report and found evidence that some libraries were heeding MacColl and Jubb’s (2011) suggestion. Corrall studied the websites and public documents of UK academic libraries to explore how they are organizing research support resources and services. One of the themes emerging from the study was that of “boundary-spanning activities” (p. 35), which involves stakeholders from across the institution (including the library and the research office) working on large research support projects or policy issues. Corrall reported that “operational convergence,” in which academic units collaborate to achieve larger goals, are “more prevalent than ever, with libraries extending and deepening their collaborations and partnerships beyond IT and educational development colleagues to other professional

services, such as research offices” (p. 37). Such collaboration, as evidenced by the literature, seems thus far to be centred around research data management activities (Antell, Foote, Turner, & Shults, 2014; Cox & Pinfield, 2013; O’Brien & Richardson, 2015; Verbaan & Cox, 2014).

Cox and Verbaan (2016) conducted the most targeted study to date on librarians and research administrator relationships in supporting university research. They interviewed librarians, IT staff, and research administrators to investigate how each group sees research and their role in supporting it. They found significant differences in how each profession viewed research, concluding that “in most respects what is apparent is the lack of common ground between professional services” in how they conceive of research and their role in it (p. 324). They noted that additional investigation is needed to determine how these professions conceptualize research and how this evolves over time. In the context of research data management (RDM), they encouraged further exploration of “how these differing perspectives shape collaborations between professional services” (p. 324). The present study undertook this challenge in the broader context of research support, as viewed through the literature of the two professions.

Whitchurch’s Theoretical Model

Whitchurch developed a theoretical model to explain professional roles in higher education that provides a useful framework for exploring librarians’ professional culture and the relationship between librarians and research administrators. She observed that higher education professionals are “not only interpreting their given roles more actively . . . but are also moving laterally across functional and organizational boundaries to create new professional spaces, knowledges and relationships” (Whitchurch, 2008b, p. 379). Through her interviews with higher education professionals, she developed a taxonomy to

describe variations in the approaches to the fixed structural conditions attached to a profession and the resulting degree of engagement across organizational boundaries. Whitchurch (2008a) described three categories:

- “Bounded professionals” are those firmly embedded “within the boundaries of a functional or organizational location that they had either constructed for themselves, or which had been imposed upon them” (p. 377). Bounded professionals work in prescribed roles, and are guided by set standards, rules, and structures.
- “Cross-boundary professionals,” as the name suggests, are open to working beyond the boundaries of their profession. Boundaries are still a “defining mechanism for them,” much as for bounded professionals, but they navigate the boundaries of more than one profession, “recogniz[ing], and actively us[ing] boundaries to build strategic advantage and institutional capacity” (p. 377). They use their knowledge of more than one bounded space (or profession) to “construct their identity, [are] likely to display negotiating and political skills, and also to interact with the external environment” (p. 377).
- “Unbounded professionals” are not constricted by boundaries and “have a more open-ended and exploratory approach to the broadly based projects with which they were involved” (p. 377).

Whitchurch (2008b) went on to theorize that “cross-boundary” and “unbounded” professionals create a “third space” that resides outside of existing boundaries (p. 386). The notion of third space has its origins in the work of post-colonial theorist Homi Bhabha (1994),

who used the term to describe the “boundary zone in which two cultures meet, hybrid identities take shape, and new discourses are created” (Verbaan & Cox, 2014, p. 212). Whitchurch (2015) picked up on this concept as “a way of problematising binary approaches to higher education communities, and a lens through which to view the roles, identities and working practices of staff in contemporary institutions” (p. 96).

In Whitchurch’s conception, the third space transcends employment category, discipline or field, and organizational structure, and is instead a multi-professional space for work that reaches beyond boundaries. Cross-boundary professionals dip in and out of the third space as needed to achieve goals, whereas unbounded professionals consistently work and thrive “beyond functional and disciplinary boundaries” in the third space (Whitchurch, 2015, p. 85). In higher education, the third space is often the arena where new strategies and directions are formed, and where projects that transcend the scope or capacity of a single unit are found.

Whitchurch’s taxonomy of bounded, cross-boundary, and unbounded professionals, and the third space has only rarely been applied to LIS professionals. Ferguson and Metz (2003) used the third space model to study the relationship between library and IT services. Verbaan and Cox (2014) applied the third space framework to RDM, positing that it could be viewed as “an unclaimed ‘Third Space’ . . . where staff from different professional cultures and departments meet,” and where “the actors in this RDM space would need to invent new hybrid identities, rather than be able to stay within relatively clear, familiar professional structures” (p. 218). The present research built on Verbaan and Cox’s application of Whitchurch’s theory to RDM, investigating the extent to which it can be applied to the study of the research support relationship of LIS and RA professionals, as evidenced through the professional literature of these fields.

Aims

This study analyzed the recent literature of two professions, LIS and RA, in order to better understand the priorities and concerns of each with regard to research support. It also explored the relationship between these two professional groups and considered the usefulness of Whitchurch’s theories of professional roles in higher education in understanding this relationship. The questions guiding the research were:

1. What are the similarities and differences emerging from the LIS and RA literatures on research support?
2. How do librarians and research administrators understand and engage with each other’s activities through their professional literatures?
3. Do Whitchurch’s concepts of bounded-cross-boundary-unbounded professionals and her theory of third space provide a useful framework for understanding these research support relationships?

Ultimately, this research aimed to suggest new ways for academic librarians to support campus research and to work with a key stakeholder, research administration.

Methods

This study was conducted using a content analysis of journal articles published in select journals in the LIS and RA fields. As there are only three main RA journals (*Journal of Research Administration*, *Research Management Review*, and *Journal of Research Practice*), they are all included in the study. The LIS journals included are the major journals publishing about academic librarianship in North America (*Journal of Academic Librarianship* and *College & Research Libraries*), and two Canadian journals that publish across library sectors, but include academic libraries (*Evidence Based Library and Information Practice* as well as *Partnership: The Canadian Journal of Library and Information*

Practice), in an attempt to increase Canadian content included in the analysis. Only articles addressing research support topics were included in the analysis (i.e., articles on topics such as undergraduate instructional techniques were excluded). The content analysis included articles published in the five years prior to this study (July 2012-June 2017); this limitation created a manageable project and, given the speed with which technology, research, and libraries have changed in recent years, generated the most relevant results. The final analysis included 195 articles from the LIS literature and 95 articles from the RA literature.

A student research assistant was hired to create a project in NVivo 11 Pro containing PDF versions of all articles from the journal issues under consideration. The researcher reviewed the titles and abstracts of all the articles in the database and removed those from the LIS literature that clearly addressed topics other than research support. This preliminary review of the articles also guided the creation of initial coding categories, with the understanding that more categories would be added as needed when the articles were analyzed in more detail. The parent/child node feature of NVivo was used to capture hierarchical relationships (e.g., coding to child node “open access” was also captured and counted under parent node “scholarly communication”). The goal of the coding activity was to identify major topics addressed in each article, rather than every topic mentioned in passing. Thus, the bulk of the coding was performed on the abstracts, but every paper was skimmed in its entirety to ensure that other major topics were not missed. This approach was productive, as there were several instances where major topics emerged that were not highlighted in the abstract. It was also useful in instances where the abstract did not provide sufficient clarity to allow placement of a topic at the appropriate place in a hierarchical relationship, for example, whether a topic should be coded as “research grants” or the more specific subnode “requirements.”

The student and the researcher independently coded 10 articles and then compared results. There were three inconsistencies in this initial round of coding, all related to coding within hierarchical relationships, that is, when to prefer specific (child) rather than broad (parent) nodes. After discussion and an agreement to code to the most specific subnode possible, a further 10 articles were coded and consistency was reached. After this, the researcher and student assistant coded independently, but consulted frequently. Additional coding categories were added as needed during the coding process in the rare instances where topics emerged that had not been foreseen in the initial coding category construction. The need to add additional coding categories emerged for two reasons: (1) A topic emerged in the RA literature that the researcher had not anticipated because of a lack of familiarity with this body of literature (e.g., research clusters); (2) The need for subnodes was not clear from the initial screening of abstracts (e.g., data management plans, rather than just research data management).

The coded articles were then analyzed to ascertain and compare the topics and concerns addressed by the literature of each profession. They were also studied to determine whether research administrators are aware of library expertise and resources related to their concerns (and vice versa), as well as to suggest potential areas for further library activity to support the research enterprise.

This coding work was supplemented by word frequency searches, in which NVivo was used to search the PDFs of all included articles to calculate how often terms occurred within the articles of each profession, providing another basis for comparison. Word frequency searches did not provide the sophisticated analysis achieved by careful coding of the data, but they did offer another way of understanding similarities and differences in the attention each body of professional literature devotes to various research support topics.

Results

References to Each Profession in the Literature of the Other

One question of primary interest was the extent to which the RA literature refers to librarians and libraries in its exploration of research support topics. This question could not be satisfactorily addressed by word frequency searches due to the number of false positives and was instead addressed in the coding. Results revealed that only two of the 93 RA articles (2.2%) analyzed included libraries or librarians as a major topic. One article described a fee-based library editing service provided as part of an institution's writing support for faculty (Russell-Simmons et al., 2016). The reference was relatively brief, and was an outlier in that it highlighted a relatively unique service, as compared with services more commonly found in academic libraries (RDM, open access publishing, impact or metrics support, and others). The other article provided a broad overview of library resources and facilities as evidence of institutional commitment to and support of research (Masango, 2015). It was, however, consistent with the article by Russell-Simmons et al. in that it did not make any reference to research support services that dominated the LIS literature on the topic, instead focusing exclusively on physical library space and collections (both print and electronic).

Also of interest was the question of how often the library literature refers to the research office or research administrators as providers of services needed by researchers, or as potential partners for library research support service provision. Of the 195 LIS articles included in the study, six (3.1%) referred to the research office or research administrators in a meaningful way. Two of the six focused on undergraduate research programs, with one reporting on a survey of research coordinators and attempts to bridge the gap between research offices and libraries (Hensley, Shreeves, & Davis-Kahl, 2015), and the other describing a study of library

support for undergraduate research programs (Hensley, Shreeves, & Davis-Kahl, 2014). In the latter, some librarian survey respondents noted communication failures between the library and the research office: "one library cited lack of communication between the library and the undergraduate research office, one had attempted to convince the undergraduate research office of the value of library-specific support only to have failed in the endeavor" (Hensley et al., 2014, p. 431).

Two of the other LIS articles that highlighted the role of the research office or research administrator focus on RDM. Antell et al. (2014) surveyed ARL science librarians and found that some respondents reported working in institutions where RDM services were provided by the campus research office. Many respondents were uncertain about the role of various units on their campus in providing RDM support, leading Antell et al. (2014) to conclude that "efforts to increase communication among campus offices and library departments might well be beneficial in reducing librarians' uncertainty and, more important, in promoting more efficient coordination of data management initiatives" (p. 571). Verbaan and Cox (2014) theorize about the roles of various professions—librarians, research administration, and IT—in offering RDM services and suggest that RDM might emerge as a "new intra-professional space" (p. 211).

The remaining two LIS articles writing about the role of research offices or administrators focused on scholarly communications issues. Nariani's (2013) study of the role of academic librarians in promoting deposit in open access (OA) repositories noted in passing that "a more concerted effort amongst librarians and research officers is required to convey information on scholarly communication issues" (p. 81). In their survey of academic library support for scholarly publishing, Hansson and Johannesson (2013) reported that one of their librarian interviewees highlighted bibliometrics as a way for the library to connect with the research office:

Table 1
Terms Appearing in 100 Most Frequent Word Lists of Both LIS and RA Journal Articles

Term	Position in top 100 LIS terms	Number of occurrences in LIS journal articles ($n = 195$)	Position in top 100 RA terms	Number of occurrences in RA journal articles ($n = 95$)
Journal	3	6463	4	1605
Data	4	6112	24	848
Student	9	3609	13	1120
Publish	16	2925	18	981
Public	22	2486	37	728
Review	27	2120	19	973
Community	45	1503	5	1526
Policy	50	1454	71	516
Fund	64	1184	20	959
Impact	82	1019	49	612

“the research administrators were less knowledgeable about how to measure publication quality, so the issue was given to the library. . . . that is a bit how we got that relation to them [the research administrators], that we are helping them” (p. 237). Thus, scholarly communication, RDM, and undergraduate research programs were the few topics for which the LIS literature comments on the role of the research office or administrator in research support.

Common Topics

The most basic level of investigation in a content analysis study is word frequency. Searches were run to include stem words (e.g., “publish” included “publish,” “publisher,” “publishers,” and “publishing”). There were several terms that appeared with similar frequency in the literatures of the two disciplines (see Table 1).

These common keywords provided an initial snapshot of the frequency of topics occurring in the literature of the two professions, but lacked the nuance and depth achieved by careful reading and coding of the journal articles (see Table 2 for coding summary). The coding process revealed five broad topics that appeared

repeatedly in both bodies of literature and provided the opportunity to characterize and compare the references found within each field.

Research funding was a frequently occurring topic in both the LIS and RA literatures; there was however virtually no overlap in the emphasis of research funding articles between the two fields. The LIS literature was concerned almost exclusively with funding issues related to OA of both publications and research data, including funding agency requirements, article processing charges, and author funds. The few exceptions to this OA focus were two articles on the role of librarians in grant-funded research projects, and one about librarians offering research funding workshops for graduate students. The RA literature was, by contrast, much more diverse. OA funding issues were never mentioned in the RA journal articles; instead, topics of interest included collaborative grant writing with community partners (two articles); internal funding programs to build capacity for larger external applications (three articles); institutional readiness or support for grant applications (two articles); researcher readiness/support (two articles); and one article each on return on investment for grants, estimating chances of grant success, role of

Table 2
Coding Summary – Number of Articles Coded to Each Topic

Topic	Library journal articles (<i>n</i> = 195)	Research administration journal articles (<i>n</i> = 95)
Author identifiers	2	0
ORCID	2	0
Citation managers	4	0
Copyright	11	0
Data mining	8	0
Digital humanities	7	0
GIS-Geographic Information Systems	4	0
Growing research university	3	3
Research clusters	0	2
Information needs of researchers	78	6
Institutional research activity or profile	7	2
Institutional research strategy or culture	13	18
Librarian role in institutional research	97	0
Library collections	67	0
Digital collections	30	0
Mentoring	2	5
Peer review	8	0
Repositories	37	0
Institutional	27	0
Subject or discipline specific	8	0
Research administrator or office role in institutional research	3	14
Research collaboration	10	19
Interdisciplinary collaboration	3	6
International collaboration	0	2
Other collaboration	2	5
Private and public collaboration	0	4
Research costs	7	1
Indirect costs of research	6	1
Research data management	27	1
Data management plans	3	0
Research ethics	4	39
Conflict of interest	1	2
Plagiarism	1	2
Research ethics board	0	1

Research funding	18	12
Research grants	15	9
Application for	2	1
Evaluation of	0	0
Requirements	6	2
Research impact	46	12
Citation analysis or bibliometrics	33	3
Research metrics-other	9	4
Research infrastructure	45	16
Research methodologies	20	12
Researcher type	70	11
Faculty member	43	2
Graduate students	27	8
Other	2	2
Scholarly communication	138	2
Open access	56	0
Publication type	54	2
Journal articles	33	1
Other publication types	5	0
Patents	1	1
Theses and dissertations	14	1
Social media	7	0
Undergraduate research experience or program	3	2
Use of research	8	9
Knowledge management	5	0
Knowledge mobilization	2	5
Knowledge transfer	1	1
Translational research	0	4

innovation in grants, and international funding opportunities.

Research impact was another topic prevalent in both the RA and LIS journal articles included in this study, but again, the range of subjects covered under this umbrella category differed by profession. In LIS, the vast majority of articles in this category were citation analyses or bibliographic studies assessing the literature of specific disciplines, and often including collection development implications. Other

articles included citation analysis studies of the relationship between various library services (including interlibrary loan use, institutional repository use, and availability of OA publication funds) and research impact. Altmetrics (three articles), issues around journal impact factors (two articles), and faculty understanding of research metrics, academic library website content on research impact, and effectiveness of various search tools (one article each) rounded out the LIS literature on research impact. The RA literature included two articles

on bibliometrics/citation analysis, with one using these methods to assess level of international collaboration, and the other exploring their utility as predictors of future grant success. Other RA articles on research impact focused on social/community impact of research (six articles), the complexities of assessing impact (three articles), and return on investment on grant-funded projects (one article).

Both the LIS and RA journal articles also took *research methodologies* as their focus, but again their approaches were quite different. More than three-quarters of LIS research methodology articles were reviews of various research methodologies than can be employed by LIS researchers. This number was skewed by the “Research Methods” column that ran in one of the journals under study, *Evidence Based Library and Information Practice*, though similar articles did appear in other LIS journals in smaller numbers. Outliers included one article on web search strategies for systematic reviews, and one on librarian contributions to bibliometric research projects. The RA articles all explored various research methodologies but, in contrast to the LIS articles which were overviews without contextualization, did so through having researchers report on their use of specific methodologies and associated pitfalls.

Research infrastructure was another recurring broad topic in the literature of both fields. The LIS literature focused largely on what could be called “digital research infrastructure” (28 of 41 articles), of which 10 articles explored specific search tools (e.g., Google vs. PubMed, and others), 10 articles emphasized scholarly communications infrastructure (primarily OA and institutional repository systems), and seven articles focused on RDM infrastructure. A few articles also addressed space and other physical infrastructure, especially in terms of meeting graduate student needs. RDM infrastructure was the only real overlap between LIS and RA, as one RA article considered RDM-related infrastructure needs. Six RA articles focused on

research management and administration infrastructure (research office space, staffing, and others), but the rest of the RA articles started with a specific need (research funding or grants, ethical conduct of research, research communication) and then explored solutions for addressing this particular need.

The final major area of overlap was the broad topic of the *use of academic research*, but again the focus differed significantly. Four LIS articles described knowledge mobilization issues and practices within academic libraries themselves, and the remaining four addressed the role of OA in increasing use of academic research. The RA literature focused on knowledge transfer (one article), translational research (two articles), and community engagement (two articles). Each RA article emphasized the importance of spreading academic research beyond a traditional academic environment—to industry, to policy makers, and to the public.

Topics Unique to Each Body of Literature

Despite the overlap in references to these topics, there were also several subjects that received considerable attention in the literature of one field without a major presence in that of the other. Some terms that were important in the RA literature did not occur within the most 100 frequently occurring terms in the LIS journals (see Table 3). Again, though, it was the analysis and coding of the articles that produced the richest results. The appearance of institutional research culture or strategy as well as research ethics in the RA literature but not the LIS articles, was unsurprising, given that responsibility for these issues usually resides firmly within the institutional research office. More curious (and perhaps indicating missed opportunity) was the absence of content on research collaboration, culture, and international topics in the LIS articles.

Conversely, several of the most frequently appearing terms in the LIS literature did not appear within the 100 most frequent terms in the

Table 3
Terms Appearing in RA Top 100 but Not Appearing in LIS Top 100

Term	Position in top 100 RA terms	Number of occurrences in RA journal articles (<i>n</i> = 95)
Grant	29	810
Collaborator	31	792
Team	61	575
International	84	480
Culture	100	425

Table 4
Terms Appearing in LIS Top 100 but Not Appearing in RA Top 100

Term	Position in top 100 LIS terms	Number of occurrences in LIS journal articles (<i>n</i> = 195)
Access	7	4213
Open	19	2688
Citation	24	2398
Digitize	41	1581
Repository	44	1531
Search	53	1425
Copyright	63	1197
Technology	81	1021

RA articles (see Table 4). With the possible exception of technology, this was not surprising, as most of these are issues of more concern to librarians than others. The content analysis and coding similarly identified foci that were unsurprisingly unique to the LIS articles, including information needs of researchers, librarian role in institutional research, library collections, and digital collections. Again, though, there were omissions from the RA literature that are perhaps indicative of opportunities for librarian advocacy or collaboration, including institutional repositories, RDM, citation analysis or bibliometrics, scholarly communication, and OA.

Discussion

Differences in the topics and approaches of the LIS and RA literatures with respect to research support were expected and healthy. However,

considering that the professions are working toward similar goals of supporting institutional research, it was surprising that the literatures diverged to the extent that they did. At the very least, they suggested new or different avenues and approaches that each profession might want to consider in supporting campus research, as well as potential connection points. For example, the complete lack of references to institutional repositories and OA in the RA literature, despite a concern with research impact and use of research, suggests that research administrators might be receptive to, and could possibly become allies in, advocacy efforts in these areas. It also suggests that librarians may need to rethink their messaging on these topics, as current approaches have clearly not engaged research administrators.

The coding analysis found five topics that the literatures had in common: research funding, research impact, research methodologies,

research infrastructure, and use of research. There were, however, significant differences in the aspects of the topics that generated interest, and these differences are instructive for librarians to consider. *Research funding* was a common broad topic, but while the LIS literature focused heavily on OA and scholarly publishing as a funding issues, this aspect of research funding was not present in the RA literature. This presents an opportunity for librarians to educate and collaborate with research administrators, who often administer research support funds intended to cover indirect costs of research and may also be aware of other potential funding sources. The LIS literature on *research impact* relied heavily on citation analysis, often in the context of the literature of specific disciplines. Expanding citation analysis to broader institutional uses might provide useful information for research administrators. The RA literature also provided examples of research impact methodologies beyond citation analysis that could provide new tools for librarians to consider employing in their studies of research impact. A related common topic was *use of research*. The RA literature focused heavily on encouraging the use of research outside of academia (by the public, policy makers, and others) but never mentioned OA, which has wide dissemination of information as its goal. This suggests that there may be an untapped appetite among research administrators for OA, and an advocacy and education role for librarians. There are undoubtedly other contributions that librarians could make to efforts to expand the use of research beyond traditional academic boundaries as well.

Instructive articles on *research methodologies* also appeared in the literature of both professions, but the approach to exploring these methodologies differed. While the RA literature provided examples of use and commentaries by researchers with experience employing specific methodologies, the LIS literature tended to provide overviews of methodologies, divorced from specific examples of application. The RA

approach may suggest an additional way to increase librarians' comfort levels with research methodologies that are new to them. *Research infrastructure*, another topic common to both literatures, was also addressed quite differently. The RA literature tended to start with a specific need, while the LIS literature was very focused on tools, and therefore often read like a literature of solutions in search of problems. This is another example where librarians could potentially learn from the RA approach, and might also suggest ways for librarians to reframe discussions with research administrators.

The infrequency with which the literature of each profession referred to the research support work of the other is also telling. The picture that emerged was very much one of librarians and research administrators working as what Whitchurch (2008a) calls "bounded" professionals, "within the boundaries of a functional or organizational location that they had either constructed for themselves, or which had been imposed upon them" (p. 377). No RA articles suggested working with or partnering with librarians in a meaningful way, and the LIS literature only infrequently raised the possibility. In the small pool of six articles that did mention working together (at least to some small extent), three arenas of activity emerged: undergraduate research programs, RDM, and scholarly communications. This finding, along with other articles on RDM identified in the literature review of this paper, suggest that these might be areas where there is some movement into "cross-boundary" work, with librarians "recogniz[ing], and actively us[ing] boundaries to build strategic advantage and institutional capacity" (Whitchurch, 2008a, p. 377).

This study of the literature found little evidence of a third space yet emerging in research support work involving librarians and research administrators. There has been some trepidation expressed about third space, where "[s]tatus is uncertain, career paths are complex, and relationships may be challenging" (Verbaan &

Cox, 2014, p. 212), but it is generally regarded as key to moving ahead with large projects and making progress on issues that extend beyond the capacity and bounds of a single profession. As McAlpine and Hopwood (2009) observed, “these new constellations of people, and the common motive they share, offer degrees of freedom to explore new possibilities outside the constraints of established modes of working which shape interactions in the various contexts from which people come” (p. 159). Librarians and research administrators may want to consider the potential of the “unbounding” of professional roles and the potential offered by a third space for research support.

The limited number of research administration journals currently published resulted in fewer RA articles being included in the analysis ($n = 95$) than LIS articles ($n = 195$) and readers should keep this in mind when comparing occurrences of themes and keyword counts. This research was limited to a select range of journals and a specific timeframe, and other choices in these regards may have led to different results or conclusions. North American journals were chosen for the analysis both to create a data set that could be managed with the resources available and because this is the environment the author most needs to understand for her own practice. Similar research conducted in other settings (Asia, South America, etc.) in the future could yield valuable comparative data and provide insight into differences in research support environments in other parts of the world. It would be particularly interesting to re-run this study in five years’ time to see what changes have taken shape in the research support landscape. It is also possible that discussions and collaborations between librarians and research administrators are documented in other venues (e.g., blogs), or are taking place but not yet being documented. This limitation could be overcome by broadening the range of included sources beyond journal articles, or by interviewing librarians and research administrators to obtain information

about research support work and collaborations not documented in the professional literature.

Conclusion

This content analysis of the LIS and RA literatures provided insight into the priorities and concerns of each profession with respect to research support. It found that, even in instances where the professions engaged on the same broad topics, they largely focused on different aspects of issues. The literature of each profession demonstrated little awareness of the activities and concerns of the other. In Whitchurch’s (2008a) taxonomy, librarians and research administrators are largely working as bounded professionals, with occasional forays into cross-boundary activities. There is not yet evidence of unbounded professionalism or a move to a third space of research support activity involving these professions (Whitchurch, 2015). Librarians and research administrators will benefit from a better understanding of the current research support landscape and new modes of working, like the third space, that could prove transformative.

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