Virginia Commonwealth University Faculty Survey: Analytical Memo

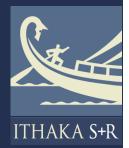


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Overview

The following report provides an analytical narrative of the results of the Ithaka S+R Local Faculty Survey, which was administered at VCU to 3,676 faculty members. The survey instrument covers many scholarly research and teaching-related topics, overlapping with the 2012 Ithaka S+R U.S. Faculty Survey, and in part overlapping with other previous iterations of the Ithaka S+R U.S. Faculty Survey. In addition to an analysis of the VCU findings, comparisons are also drawn against the 2012 U.S. Faculty Survey.¹ For context in interpreting the VCU findings, we present the aggregate nationallevel results by VCU's Carnegie Classification (Research Universities – very high research activity, or "RU/VH" referred to as "R1" in the report). The 2012 Faculty Survey was the fifth iteration of this survey that Ithaka S+R has run triennially since 2000. In 2012, Ithaka S+R sent email invitations to 160,008 randomly selected faculty members in the U.S., and received 5,261 completed responses, including 1,708 completed responses from faculty members across 96 of the 108 institutions classified as R1s under the Carnegie framework.

During spring 2014, all 3,676 VCU faculty members received an email invitation to participate in a survey about the impact of electronic technologies on their research and teaching. Three reminders were sent before the close of the survey. In total, 912 respondents clicked the survey link (about 25%), with 878 of those starting the survey (about 24%), and 628 of those completing the survey (about 17%).² In this analysis, we also report findings at the disciplinary level in addition to the aggregate for further context.³

¹ Ross Housewright, Roger C. Schonfeld, and Kate Wulfson, Ithaka S+R U.S. Faculty Survey 2012, (New York: Ithaka S+R, 2013), available at <u>http://www.sr.ithaka.org/research-publications/us-faculty-survey-2012</u>

 $^{^{2}}$ Margin of error is 3% for n = 628 at the 90% confidence level. This report does not include or report partially completed responses in any analyses. Due to the survey flow and skip patterns, not all VCU faculty member respondents received every question in the survey instrument.

³ A total of 277 health science/medical faculty members completed the survey, compared with 53 humanities faculty members, 43 fine arts faculty members, 70 science and mathematics respondents, and 79 social scientists. Please note the small sample sizes when interpreting disciplinary-level findings reporting in this document. Medical faculty members include respondents who indicated that they are responsible for patient care ("ves" to O39), and/or respondents who selfidentified as a "health scientist, clinical researcher, or health science researcher, and 34 additional respondents who did not select "yes" to either of those questions but whose primary departments include: Adult Health and Nursing Systems; Anesthesiology ; Family Medicine; Family and Community Health Nursing; Gerontology Program; Internal Medicine; Nurse Anesthesia; Periodontics; Pharmacology and Toxicology; Pharmacotherapy and Outcomes Sciences; Psychiatry; Radiation Oncology; Radiology; School of Medicine; and, Surgery. Social science includes the following departments: MSW; Healthcare Policy and Research; Management; African American Studies; Economics; Psychology; Marketing; Accounting; Finance, Insurance, and Real Estate; Supply Chain and Data Analytics; Information Systems; Sociology; Mass Communication; Political Science; Executive MBA; and, the Wilder School. Fine arts includes the following departments: Arts Education; Fashion; Music; Interior Design; Painting and Printmaking; Art History; Theatre; Photography; Sculpture; Communication Arts; Graphic Design; Cinema Department; Crafts; and, Dance Choreography. Humanities includes the following departments: English; History; Philosophy; and, School of World Studies. Science and mathematics includes the following departments (please note: this category excludes respondents who self-reported as health scientists or clinicians): Anatomy; Mechanical and Nuclear Engineering; Electrical and Computer Engineering; Center for Environmental Studies; Statistical Sciences; Clinical Lab Sciences; Computer Science; Physiology and Biophysics;

Key Insights

A key goal of the VCU Local Faculty Survey is to provide evidence-based strategic insights into the role of the VCU libraries during a period of immense and transformative growth. This analysis aims to identify aspects of VCU faculty members' evolving research practices and priorities to benchmark for critical trends shaping the engagement and content-provision roles of the libraries. The results from the survey revealed the following strategically relevant high-level findings:

- » VCU faculty members are relatively more engaged with the libraries' instructional and research services than their peers at R1 institutions nationally
- » VCU faculty members seem eager for specialized research support services and technical infrastructures of the type that may be provided by the libraries, especially in support of data curation, publishing, and digital scholarly communications.
- » The libraries' role in support of undergraduate learning is well established and valued among faculty members at VCU
- » STEMH faculty members and their non-STEMH colleagues may differ fundamentally regarding their needs for a range of support services offered by the libraries, highlighting an opportunity for the libraries to take a more active role in discipline-specific customized outreach programs
- » The accessibility of content available in the libraries' collections or via ILL/document delivery services is potentially inadequate for certain VCU faculty members

Ithaka S+R believes these topics are among those that are valuable to track for change over time.

Chemical Engineering; Center for the Study of Biological Complexes; Human and Molecular Genetics; Biochemistry; Microbiology and Immunology; Biology; Medicinal Chemistry; Neurology; Social and Behavioral Health; Biomedical Engineering; Chemistry; Mathematical Sciences; Biostatistics; and, Physics.

The Role of the Libraries: Support Services

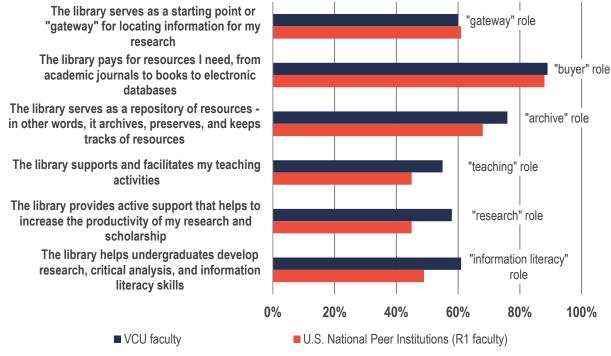
In general, VCU faculty members seem highly aware of the libraries' services, and this is consistent across what Ithaka S+R refers to as the "engagement metrics," which are comprised of three of the six roles of the libraries that Ithaka S+R has regularly incorporated in a question in its U.S. Faculty Survey. The libraries' engagement roles include actively supporting users' "research," "teaching," and "information literacy." These engagement metrics provide a benchmark of the shifting priorities of faculty members regarding their perceptions of the libraries' research and instructional functions.

As Table 1 shows, a majority of VCU faculty members (58%) place a high level of importance on the libraries' "research" role. In addition, a majority (59%) of VCU respondents recognize that they are very dependent on the libraries for conducting research. This is especially compelling considering that less than half of faculty members at R1 institutions nationally indicate that they value the libraries as a source of support for their research activities (45%) or acknowledged that they depend on the libraries for conducting research (48%). However, it is worth noting the disciplinary-level differences among VCU respondents, with a much greater share of fine arts faculty members (61%), humanists (63%), and social scientists (65%) reporting that they value the libraries' "research" role in providing "active support that helps to increase the productivity" of their research, compared with health science faculty members (55%), and science and mathematics respondents (43%). This suggests that there may be less awareness among VCU faculty members in STEMH fields about the research-related opportunities or services available to them through the libraries.

VCU faculty members' responses to questions from the "Research Dissemination" module provide additional context in interpreting their attitudes regarding the "research" support role of the libraries and the potential opportunities for the libraries to bolster engagement with faculty members through a variety of scholarly communications services. VCU faculty members are similar to their peers nationally in prioritizing other scholars in their own field or discipline as the key audiences for their scholarly work. However, it is worth noting that a much greater percentage of VCU faculty members (61%) see professionals practicing in their field outside of academia as a very important audience for their research compared with the share of R1 faculty members nationally (48%). This focus on niche discipline-specific communities drives VCU faculty members' criteria for selecting journals in which to submit their research for publication. As with the national findings, VCU respondents' three most important characteristics in selecting a journal are: wide circulation and reading among researchers in the same field; a high impact factor and excellent academic reputation; and an average of coverage closely aligned with one's immediate area of research. These factors are significantly more important than selectivity and Open Access.

Table 1

How important is it to you that your college or university library provides each of the functions below or serves in the capacity listed below?*



*Percent of respondents rating each item as "extremely important" (5-6 on a 6-point scale)

VCU faculty members appear interested in a range of publishing support services of the type that the libraries might be well positioned to provide, typically more so to a fair degree relative to the national results. The two most popular such services, with 39% indicating that they could be highly valuable, were support for the managing their public web presence and analytics support with respect to publishing. In addition, 38% of respondents indicated they would also value libraries' support in publishing freely available versions of their research outputs, which matches well with the much greater share of VCU faculty members (42%) who indicate that it is very important for their scholarship to be available via "a cross-institutional" discipline- or field-specific repository compared with faculty members at R1 institutions nationally (30%). A much greater share of VCU respondents (38%) also feel it is important for their work to be available via a repository provided by their institution when compared with faculty members at R1 institutions nationally (21%). A number of open-ended comments indicate a broader interest in scholarly communications services, with one respondent explicitly acknowledging: "I need help in how to publish my work."

Consequently, the VCU libraries may be well-situated to offer or host a number of specialized research support services, programs, centers, or technical infrastructures. Responses to questions in the "Data Preservation and Management" module further illustrate the potential for the libraries to expand its "research" role. Although a smaller share of VCU faculty members (71%) indicate that they "accumulate scientific,

qualitative, quantitative, or primary source research data" in the course of their research compared with 79% of faculty members at R1 universities nationally, VCU faculty members' accumulation of these types of data varies across disciplines. Eighty percent of health science faculty members, and 79% of social scientists, report that they accumulate these types of research data, compared with 55% of fine arts faculty members, 58% of humanists, and 67% of science and mathematics faculty members. Sixty-six percent of VCU faculty members indicate that they accumulate "digital collections of image or media research data" in the course of their research. At the disciplinary level, 86% of fine arts faculty members report that they accumulate image or media data, compared with 47% of social scientists, 59% of science and mathematics faculty members, 71% of health scientists, and 74% of humanists.⁴ A majority of VCU faculty members working with research data (56%) ranked freely available software as the most valuable support service for managing or preserving their research data.

Interestingly, a majority of VCU faculty members who responded to questions about image or media data indicate that they place much greater value in the libraries as a possible source of support for managing or preserving their data (55%), when compared with VCU faculty members who responded to questions about research data (42%). Differences at the disciplinary level help to explain why faculty members working with image or media data rate the libraries as an important source, or potentially important source, of support for data curation. A much greater percentage of humanists (68%), fine artists (67%), and social scientists (80%) would prefer the libraries take an active role in supporting the preservation and management of image or media data, when compared with science and mathematics (45%) and health science (48%) respondents.⁵ This difference is further illustrated by one respondent's comment in particular: "I would like to know more about what possibilities exist for the preservation of my oral history interviews and related files at VCU Libraries."

Overall, the findings related to the libraries' "research" support role provide compelling evidence indicating that VCU faculty members need help in making use of a variety of digital publication channels for their research. Faculty members' need for this type of support should only increase in tandem with the intensifying print to electronic transition of scholarly resources occurring more broadly.

In addition to the "research" role, the libraries also engage with faculty members in its "teaching" and "information literacy" roles. As with the "research" role, there are notable differences between VCU faculty members and R1 faculty members in their ratings of the

⁴ The data management and preservation module included branching based on skip logic so that respondents who indicated that they accumulated both research data and image/media data received only one set of follow-up questions – and respondents who indicated that they collected/used only one of those types of data received the corresponding set of follow-up questions. These questions are almost identical, but there are some slight differences. For example, one version of the question asks respondents about support regarding "research data" whereas the alternate version asks respondents about support regarding "image and media data."

⁵ Caution when interpreting this finding (low n for several of the disciplinary categories on this item)

libraries' two instructional roles. A much greater percentage of VCU respondents (55%) rated the libraries' "teaching" role as highly important compared to the share of faculty members at R1 institutions nationally (45%). In addition, a majority of VCU faculty members (61%) believe that the libraries plays a significant role in developing undergraduates' information literacy skills, whereas less than half of faculty members at R1 institutions nationally (49%) recognize the importance of the libraries' "information literacy" role. This highlights a key high level finding to emerge from this survey, which is that VCU faculty members are extremely appreciative of the role of the libraries in supporting undergraduate learning.

VCU faculty members' responses to questions from the "Student Research Skills" module provide further evidence supporting this insight. Particularly notable is the finding that a much greater share of VCU faculty members (52%) believes that librarian interactions help significantly with student success, compared with 33% of faculty members nationally at R1 institutions (Table 2). In addition, VCU faculty members' who strongly believe that librarian-student interaction contributes to students' academic success are significantly more likely to strongly believe that librarians contribute to student learning by helping them make use of secondary and primary sources in their coursework.⁶ VCU faculty members who believe that librarians contribute significantly to student learning by helping them develop their research skills are also significantly more likely to strongly believe that librarian-student interaction is critical for students' academic success.⁷

Despite these strong correlations, VCU faculty members' ratings of their students' research skills do not align with faculty members' high expectations. More than half (53%) of respondents strongly believe that their undergraduate students have "poor" research and information literacy skills, which is substantially higher than the share of faculty members nationally at R1 colleges and universities (40%). In addition, a majority

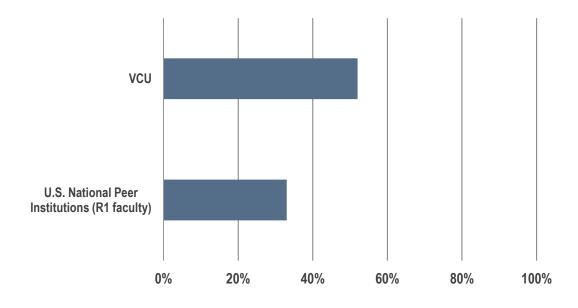
⁶ Spearman rank-order correlation is used to determine the relationship between two variables for data that are not normally distributed or that have not been obtained via random sampling and selection protocols (as a non-parametric alternative of the Pearson correlation). However, the Spearman rhos for all correlations included in this section of the report are functionally equivalent to the Pearson coefficients. Spearman rank correlation coefficient (rho) is .64 (p = 0.000, n = 315) for Q23 4 (Question prompt: "Please use the 10 to 1 scales below to indicate how well each statement below describes your point of view - a 10 equals "Extremely well" and a 1 equals "Not at all well." You may pick any number on the scale. The higher the number, the better you think the statement describes your point of view. The lower the number, the less you think the statement describes your point of view." Response option: "Librarians at my college or university libraries contribute significantly to my students' learning by helping them to find, access, and make use of a range of secondary and primary sources in their coursework") with Q27 (Please use the 10 to 1 scales below to indicate the extent to which undergraduate students' interaction with librarians at your college or university libraries helps them to succeed in your courses, where a 10 equals "Helps significantly" and a 1 equals "Does not help at all".). 7 Spearman rank correlation coefficient is .63 (p = 0.000, n = 317) for Q23_5 (Question prompt: "Please use the 10 to 1 scales below to indicate how well each statement below describes your point of view - a 10 equals "Extremely well" and a 1 equals "Not at all well." You may pick any number on the scale. The higher the number, the better you think the statement describes your point of view. The lower the number, the less you think the statement describes your point of view." Response option: "Librarians at my college or university libraries contribute significantly to my students' learning by helping them to develop their research skills") and Q27 (Please use the 10 to 1 scales below to indicate the extent to which undergraduate students' interaction with librarians at your college or university libraries helps them to succeed in your courses, where a 10 equals "Helps significantly" and a 1 equals "Does not help at all".).

of VCU faculty members expect both upper division students (72%) and lower division (53%) students to use secondary scholarly sources, and a majority of respondents also expect both upper division (67%) and lower division (51%) students to use primary source materials, beyond directly assigned readings. These shares are higher than the national results for R1 colleges and universities in all cases, suggesting that VCU must be prepared to support a higher density of such needs related to teaching and learning compared to R1 colleges and universities more broadly.

However, respondents who received the "Health Sciences" module have a much different view of these topics in the context of clinical or health sciences courses formats as opposed to courses in general. A small minority of health science respondents (27%) think that their students have "poor skills related to locating and evaluating evidence-based scholarly" materials. This matches well with the 76% of health science respondents who expect their students to "locate and use evidence based scholarly materials in their coursework and research projects beyond" what they directly assign.⁸

Table 2

Indicate the extent to which undergraduate students' interaction with librarians at your college or university library helps them to succeed in your courses



*Percent of respondents indicating the interaction "Helps significantly" (8-10 on a 10-point scale)

The open-ended comments further reveal faculty members' positive attitudes regarding the instructional services provided by VCU librarians in promoting the academic success

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⁸ Thirty-five percent of VCU respondents identified themselves as a "health scientist, clinical researcher, or a health science researcher." In addition, about 20% of respondents reported that patient care is among their responsibilities.

of students. For example, one respondent reported: "I bring my upper-level classes to the libraries for a class session on how to use the main database in my field to find academic sources... and I see the pay-off in the quality of the students' sources for their term papers." Another respondent remarked: "Librarians at VCU are an essential resource for students in my classes. They do a great job!" Another respondent commented: "I want to take a second to praise the UC librarians and the instructional days they've done with my classes; every one of them has been fantastic and my students have seemed to get a lot out of them—even the students who were resistant learned against their wills through osmosis, I think. Thanks to that program, which is great and useful and about which I can't say enough good things! I'm planning to include more than just one library instruction day/semester next year, and I kind of can't wait!"

However, sub-group analyses again demonstrate the importance of disciplines in shaping or contributing to VCU faculty members' engagement with the libraries in support of instruction. A greater share of fine arts faculty members (69%), humanists (58%), and social scientists (58%), value the libraries' "teaching" role, compared with health science faculty (46%) and science and mathematics faculty (43%). Interestingly, responses to questions in the "Health Sciences" module indicate that health science faculty members do actually have a more positive understanding of the role of the libraries in supporting their instructional needs specific to health science and clinical course formats. A large majority (70%) report that the VCU libraries' services for instructional support are extremely important to their clinical or health science courses, although a slightly greater share (71%) report a heavy reliance on freely available instructional materials.

In addition, VCU faculty members' ratings of the libraries' "information literacy" role varies by discipline, with a much greater percentage of social science (69%) fine arts (86%) humanities (72%) respondents than science (52%) health science (49%) respondents indicating the importance of the libraries as a source of support for improving undergraduates' skills in using and evaluating information. The persistence of this disciplinary-level pattern across all three user engagement metrics suggests STEMH faculty members' relatively lower ratings of the importance of the libraries as a support provider may not be limited to the domain of research. This may point to a fundamental divide between VCU STEMH faculty members and their non-STEMH colleagues in terms of their needs regarding support services offered by the libraries, or it may underscore an opportunity for the libraries to take a more active liaison role through strategically targeted outreach.

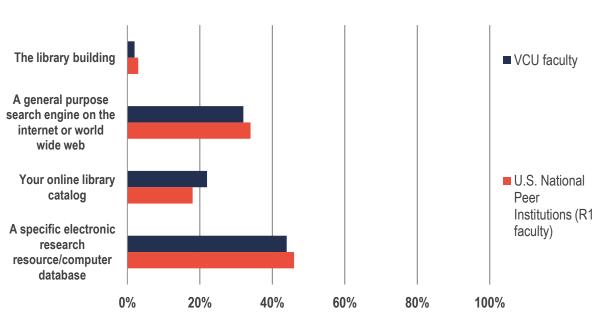
The Role of the Libraries: Content Provision

In addition to user engagement, the survey included three items that Ithaka S+R categorizes as "collections-driven metrics," covering the libraries' "buyer," "archive," and "gateway" roles. As with faculty members nationally, VCU respondents rate the "buyer" role as the overall most important role of the libraries. Illustratively, less than half (36%) of respondents believe that they would often like to use journal articles not in the libraries' collections, which is roughly equivalent to the share of faculty members at R1 institutions nationally (35%), and more than half (52%) of VCU respondents working with image or media data report that they access these data via the "libraries' subscription to an online repository." Interestingly, a much higher share of VCU faculty members value the libraries' "archive" role in serving as a repository of resources (76%), compared with the share of R1 faculty members nationally (68%), and this divergence does not seem to be driven by any particular discipline-level characteristic.

Regarding the libraries' "gateway" role, the share of VCU faculty members (60%) who rate the libraries as an important starting point for exploring the scholarly literature is essentially consistent with the share of faculty members at R1 institutions nationally (61%). This maps well onto VCU faculty members' self-reported discovery practices, which are also highly consistent, in the aggregate, with the national results. As Table 3 shows, a slightly greater share of respondents at VCU start at the libraries' online catalog (22%) compared with the share of faculty members nationally at R1 institutions (18%). VCU faculty members are also similar to their peers nationally in their use of the other two possible online starting points regarding the discovery of scholarly content. Fortyfour percent of VCU respondents report starting their search for academic literature at a specific electronic research resource or computer database, when compared with 46% of faculty members at R1 institutions nationally. Additionally, 32% of VCU faculty members report starting at a general purpose search engine, compared with 34% of their peers nationally.

However, at the sub-group level, scholarly discovery practices at VCU reveal the same pattern apparent with the libraries engagement metrics, with much smaller percentages of health science (16%) and science and mathematics (6%) respondents indicating that they start at the libraries' website compared to the substantially larger share of fine arts (28%), humanities (34%), and social science (27%) faculty members who report starting their research at the libraries' online catalog. This is notable given the VCU libraries' recent efforts focused on improving infrastructures related to discovery capabilities, but interpreting these results requires further context and investigation. For example, faculty members' research habits may be shifting in ways that are not readily captured in a cross-sectional study, suggesting longitudinal or other supplementary sources of data may be required in order to establish discovery-related trends among VCU faculty members in general, and STEMH faculty members in particular.

Table 3



Which of these four starting points do you use to begin locating information for your research?

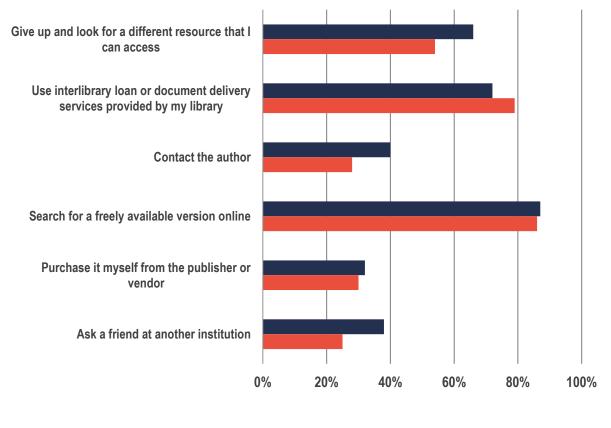
Closely related to discovery practices and the three collections-driven metrics are VCU faculty members' responses to questions included in the "Access" module. About 86% percent of VCU faculty members depend on the libraries for access to journal articles and scholarly monographs and about 70% report that freely available materials online are also important. These shares are fairly consistent with R1 faculty members nationally. Many open-ended comments also emphasize faculty members' views regarding the value of access to libraries collections and needed research materials, with one respondent referring to "resources available through online databases, ILIAD, and the expertise" of subject librarians as "priceless."

However, the key finding related to access is that VCU's faculty members are much more likely than R1 faculty members nationally to give up and look for a different resource, and are less likely than R1 faculty members nationally to use ILL or document delivery services, when materials are not immediately accessible or available via the libraries. As Table 4 shows, a concerning 66% of VCU faculty members report that they "often" or "occasionally" give up and look for a different resource compared with 54% of R1 faculty members, and a smaller percentage of VCU faculty members (72%) use the libraries' ILL service compared with the percentage of R1 faculty members nationally (79%). In the open-ended comments, respondents report disparate experiences related to access, providing insufficient clarity for interpreting faculty members' ratings of the quantitative survey questions related to access. One respondent claimed: "twice I have filled out a request for an article and never heard back." However, another respondent reported: "I have always had great response to ILL at VCU and have no trouble getting access to articles I need."

In addition, only 40% of VCU respondents believe that they can almost always get satisfactory access to journal articles not in the libraries' collections elsewhere, which is a much lower share compared with the share of faculty members at peer institutions nationally (57%). A much greater share of VCU faculty members (32%) report that they are very frustrated that they have to use "a variety of different tools and databases to find access" to scholarly resources compared to faculty members at R1 institutions nationally (23%). Many of the open-ended comments further illuminate considerable demand for expanded collections such as online journal and database subscriptions. However, a number of respondents also reported that they have encountered issues with accessing the libraries' resources at off-campus locations, suggesting the possibility that some VCU faculty members may be conflating issues related to access with their perceptions regarding the scope of the libraries' collections, or vice versa.

Table 4

When you want a scholarly monograph or journal article that you do not have immediate access to through your college or university library's physical or digital collections, how often do you use each of the following methods to seek access to that?



VCU faculty

U.S. National Peer Institutions (R1 faculty)

*Percent of respondents indicating "often" or "occasionally" for each item

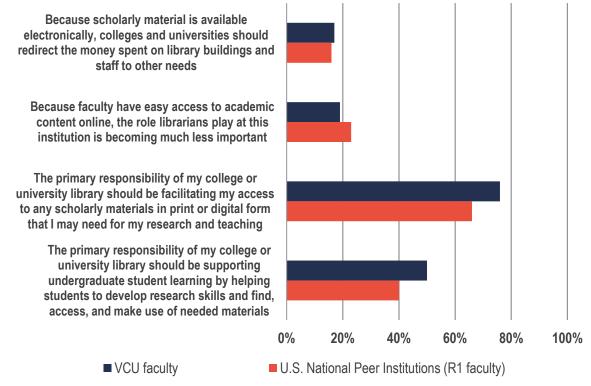
However, as demonstrated by responses to the "Health Sciences" module, VCU medical and clinical faculty members' needs are particularly well served by the libraries' "buyer" and "archive" roles. In support of patient care, VCU health science respondents utilize a variety of clinical decision support tools, with evidence-based scholarly materials or databases as the most important resource and full-text versions of scholarly journals and journal articles ranking a close second in importance. This matches well with the 76% of health science respondents who indicate that they can "almost always get satisfactory access" to the research support tools and resources they need when they are interacting with patients. In addition, 84% percent of health science respondents report that they are almost always able to access academic resources or tools that they require for their research, and 80% of health science faculty members indicate that when they are conducting research, they "can almost always get satisfactory access to the latest available evidence."

Overall, VCU faculty members recognize the value of the libraries and its staff, with 19% of faculty reporting that they believe the role librarians play at VCU is becoming much less important, compared with 23% of faculty members at R1 institutions nationally. Faculty members who value librarian-provided research support are less likely to believe that having online access to scholarly content undermines the role of VCU librarians.⁹ As Table 5 shows, a very small percentage of faculty members (17%) believe that "colleges and universities should redirect the money spent on libraries buildings and staff to other needs," which is consistent with faculty members at R1 institutions nationally (16%).

⁹ Spearman rank correlation coefficient is -0.31 (p = 0.000, n = 618) for Q6.4 (Question: "How important is it to you that your college or university libraries provides each of the functions below or serves in the capacity listed below?" Response option: "The libraries supports and facilitates my teaching activities") and Q8.2 (Question prompt: "Please use the 10 to 1 scales below to indicate how well each statement below describes your point of view – a 10 equals "Extremely well" and a 1 equals "Not at all well." You may pick any number on the scale. The higher the number, the better you think the statement describes your point of view. The lower the number, the less you think the statement describes your point of view. "Response option: "Because faculty have easy access to academic content online, the role librarians play at this institution is becoming much less important"). Please note the strength of this result is considered weak, but the finding is above the threshold for reporting as a statistically significant correlation.

 Table 5

 Faculty members' views regarding the role of the library and library staff*



*Percent of respondents rating each item as representing their viewpoint "extremely well" (8-10 on a 10-point scale)

The open-ended comments provide similar insights, with one respondent noting: "The library has always been extremely helpful in my research and teaching. I have used many of your services and never been disappointed." Another respondent commented: "I want there to be no mistake whatsoever: librarians are as vital to a university's intellectual richness as faculty. We need librarians, not just databases."

Concluding Remarks

The VCU libraries' implementation of the Ithaka S+R Faculty Survey suggests several key opportunities for strategic innovation.

- » A notable pattern to emerge from the findings is the importance of disciplines in shaping many aspects of faculty members' research habits and needs. Although the libraries seem to have a well established engagement-centered model, STEMH faculty members may be underutilizing the libraries' research and instructional support services, suggesting a greater demand for expanded liaison services in these fields. Non-STEMH faculty members may be especially in need of new services in support of their digital research and data curation activities, which has implications for specialized staff support and expertise in addition to organizational and infrastructure services.
- » In general, faculty members' mixed perceptions of the accessibility of needed research materials provide a benchmark warranting further investigation.
- » Finally, although not covered in the questionnaire, several open-ended responses suggested that increased engagement with adjuncts in particular could be valuable.

Overall, it is clear that the libraries' engagement and content-provision roles are both essential for VCU faculty members' in terms of their research and instructional needs.