



SURVEY RESULTS

EXECUTIVE SUMMARY

Introduction

Traditional measures to quantify scholarly outputs and impact based on “counts” (number of publications, number of citations, journal impact factor scores, etc.) are not sufficiently robust for new forms of digital scholarship processes, nor are they meaningful for specific audiences such as the general public. Those measures are now being supplemented with other metrics, for example usage or downloads on publisher, repository, or other journal platforms; the h-index; or non-citation metrics that represent social or academic engagement of scholarly processes by scholarly and non-scholarly audiences. The proliferation of these new metrics is mirrored by the emergence of new resources that provide tools for tracking and reporting scholarly outputs and impact. Understanding the full array of newer metrics and tools and how they play a role in assessment of scholarly output and impact will become increasingly important for research libraries as the metrics become more widely available and employed by funding agencies, publishers, academic departments, and institutions.

In light of the movement towards reporting scholarly outputs and impact to demonstrate tangible and meaningful outcomes, the purpose of this survey was to obtain a snapshot of current activities undertaken by ARL member libraries in the assessment of scholarly output and impact, provide examples for other research libraries to emulate, and identify trends that may represent promising indicators for transformative service models for ARL libraries. The survey was distributed to the 125 ARL member libraries in early January 2015. Seventy-nine libraries (63%) responded by the February 17, 2015 deadline.

Services

Seventy-six of the respondents (96%) reported that their library provides services that relate to scholarly output assessment, such as reports, resource guides, consultation, and education. Two respondents reported that they are considering developing services, and one responded that another unit in the institution provides these services.

Consultation or guidance on bibliometrics is the most common library service (70 respondents, or 92%), followed closely by consultation on article-level metrics, database usage for tracking of scholarly outputs (79% each), and author disambiguation (75%). The majority of respondents also provide or plan to provide publication/citation reports (54 respondents) and institutional repository reports for authors (61 respondents). Some libraries are offering graphs or charts for illustrative purposes (20 respondents).

Other examples of services were impressive. One library reported that, “Liaison librarians do occasional large-scale bibliometrics projects, tracking faculty publications for a center or department.” Another reported offering bibliometrics and best practices “based upon specific disciplines and fields.” Other services include consultation on faculty credentialing, assistance with scholarly network profiles and identities, tips to enhance collaboration among scholars, text analysis, and guidance on various products such as ORCID, Mendeley, Altmetric.com, Scopus, and Web of Science. Most of the libraries offer scholarly output assessment services to all library users. Twenty-two respondents (29%) limit services to specific user groups, typically affiliated faculty, students, researchers, and staff.

There appears to be no single universal service model for scholarly output assessment services. The majority of respondents reported that services are provided informally on an ad hoc basis rather than in a coordinated fashion within the organizational structure of the library. As one commented, "It is a 'toe in the water,' not a fully developed service." The service model for scholarly output assessment services appears to be in the initial phases of development and perhaps represents a promising indicator of an emergent model, "a rapidly growing area for libraries," as one respondent noted. Others commented that, "Assessment will be a priority as it develops in areas of our new organizational structure" and "We recognize the importance of services in this area." Some respondents also reported plans to "develop a more well-defined set of services in this area" and to hire new staff devoted to scholarly output assessment services.

Training

The majority of responding libraries (49 or 64%) currently provide training related to scholarly output assessment. Three reported that training is in development, and 18 others are considering it. Training includes classes, workshops, informal one-on-one training sessions, drop-in sessions, brown-bag sessions, special events, and "one-on-one conversations with faculty." Some training is offered on a regular basis; others are ad hoc as requested by users. Only seven respondents (9%) have no plans to offer this type of training. One respondent noted that "a more integrated approach is planned for development in FY16 planning cycle."

A wide variety of course titles was reported: Article Level Metrics; Building Your Academic Profile; Citation Analysis; Citation Management; Collaboration; Communicating Research; Digital Humanities; Data Management; Determining Your Scholarly Impact; Scholarly Impact: Traditional and Alternative Metrics; Basics of Citation Metrics; Impact Measurements; MyResearch graduate series; SCOPUS: A Tool for Authors; Enhancing the Visibility and Impact of Your Research; Who is Citing Your Work?; Journal Impact Factors and Citation Analysis; Measuring Your Scholarly Impact; Library Tools for

the Publication Cycle; to name a few. (See Q11 in the Survey Questions & Responses section for others.)

Content descriptions for training included "highlighting one or a mix of the following: overview of bibliometrics/altmetrics, h-index and Eigenfactor, Scopus and Web of Science comparison, Google Scholar, and InCites" and the "significance of h-index for scholarly output assessment." One description of a workshop included learning outcomes: "This hands-on and practical workshop will focus on the three areas of article, author, and journal assessments. Participants will become familiar with different multifaceted citation analysis using a variety of metrics and their implications."

Training is provided to faculty, students, researchers, and administrative staff. Some specific target audiences reported by respondents include media relations staff, graduate students, research coordinators, and early-stage faculty. Some training efforts are also tailored for specific areas of study such as science, health science, humanities, and education.

Software and Resources

Survey respondents recommend a variety of scholarly output assessment software and related resources (subscription and free) to library users. The most frequently recommended resources are bibliographic citation databases, such as Web of Science, Google Scholar, and Scopus, and resources that provide journal metrics, such as Journal Citation Reports. Some respondents reported recommending or using resources that capture non-citation data such as ImpactStory (36 respondents), Altmetric.com (30 respondents), and Plum Analytics (7 respondents plus another 22 that are considering it). A few respondents recommend visualization software, such as NodeXL, Tableau, Sci2, Gephi, and Wordle. Forty-six respondents (61%) reported that they do not do cost sharing for subscription resources. Twenty-nine (39%) reported sharing costs with campus administration units such as the Office of the Provost, Office of Research, or the Office of Institutional Analysis.

Staffing

The survey asked respondents to list job titles for librarians involved with scholarly output assessment

services. Sixty-two respondents listed 152 job titles. The majority of respondents indicated that scholarly output assessment services are performed by subject or liaison libraries. Seventy-two titles were for liaison, subject, or departmental librarians. One respondent commented that existing “liaison librarians provide many of these services to their constituents as part of their professional assignment.” Fifty-one titles were related to scholarly communications, repository, or digital scholarship/research. Other titles were administrative, generic, or related to data, collection, or learning (see Q17).

Sixteen respondents reported that they are hiring new staff specifically for scholarly output assessment services. One library reported, “We currently are accepting applications for a new position of Scholarly Assessment Librarian.” Another is “currently building an Office of Research to support the research activities of faculty and students. This will include increased attention on scholarly analytics and collaboration with other units on campus.” Twenty libraries reported that they are reallocating staff. One commented, “It is not so much the reallocation or addition of staff as the realignment of existing subject specialist roles to support bibliometric analysis and publication analytics.”

The survey also asked what skill sets staff need to provide scholarly output assessment services (see Q13). Many respondents reported that librarians needed to learn about new resources or methodologies but few mentioned formal training. Some skills noted were: data analysis and management; executing data visualization; understanding of different metrics such as the h-index, altmetrics, and the Eigenfactor, and their limits and potential applications; being aware of discipline specific scholarly output trends; and creating narratives based on analyses, to name a few. One respondent noted two specific skill sets: “having to spend time learning the new tools that are entering the market and staying vigilant on top of new trends.” Proficiency with the following resources was noted: Excel, Scopus, Web of Science, Google Analytics, Altmetric.com, ORCID, ImpactStory; Plum Analytics, InCites, Google Scholar, and social network analysis tools.

As to how library staff acquire skill sets, some respondents reported that library staff are “self-directed” and “self-taught,” and that “this is what liaison librarians do to support our learning, teaching, and research mission for the library and campus...nothing new.” Attending conferences (72 responses, or 96%) and webinars or continuing education classes (68, or 91%) were reported as common ways for staff to keep abreast of the latest trends related to scholarly output assessment services. Other ways include Twitter and other social media outlets, vendors, and involvement with different research communities on campus. Some libraries also reported providing internal seminars for librarians for training on scholarly output assessment services. (See Resources for Current Awareness in the Selected Resources section.)

Partnerships

Forty libraries (53%) have partnerships with other campus units for assessment activities and 20 others (27%) are in the process of planning partnerships. Only two respondents reported that they tried to initiate a partnership without success. Examples of partnerships with campus units include the Office of Institutional Analysis, Graduate School, Office of Research, Office of the Provost, and Office of Sponsored Research, among others. Partnership efforts include implementing ORCID at a campus-wide level, providing bibliometrics/research impact workshops, facilitating faculty profile systems such as VIVO, serving on tracking and evaluation teams for Clinical and Translational Science Award (CTSA) programs, reviewing scholarly output assessment software options, providing patent citation training sessions, implementation of Symplectic Elements and the connection to the institutional repository, and working on a bibliometric project to quantify monographic output of faculty, to name a few.

Several respondents reported that partnerships are important to the library and represent a growth area for library services: “It’s important to be able to show impact of our university’s research for a variety of reasons, and library staff are well placed to understand how best to do this.” Some respondents also noted issues with redundancy among campus units: “This

is complicated by the fact that other institutional support and assessment offices like Institutional Analysis and Sponsored Programs see this as their function and tend to act independently of the library.”

Marketing and Publicity

Seventy-three respondents indicated one or more methods the library uses to promote scholarly output assessment services. Of these, 54 respondents (74%) use word of mouth to promote their resources and services. The majority of respondents also use LibGuides and library websites (66% and 60% respectively), while flyers and brochures are the least used methods of promotion (21% and 16% respectively). Other methods specifically identified by respondents include emails to faculty, library-held wine and cheese events, brown bag lunches at departments, communications on electronic display boards, announcements from university public affairs, and presentations at faculty departmental meetings.

Advice

Forty-three respondents provided advice to their peers about scholarly output assessment services. The importance of faculty and administration partners to success was a common theme. As one respondent noted, providing the services themselves can help “build faculty-library liaison relationships.” The need to understand and respond to different departmental needs and disciplinary differences was another recognized theme for building successful partnerships. The number of tools and continued “flux” of scholarly output assessment services was highlighted as a challenge for librarians. Hiring or encouraging librarians to develop expertise in this area to serve as technical leads or coordinators for efforts was recommended by several respondents. One recommendation was to “have a dedicated position who keeps abreast of emerging products and resources and then provides staff development for other faculty and staff.” Another recommendation was to build programs around actual researcher scenarios such as “funding applications, dossiers for renewal and tenure, annual reports, and promotion.”

Understanding and communicating the strengths and weaknesses of available tools and measures was

also recognized as an important component of scholarly output assessment services provided by librarians. One library commented that tools for scholarly output assessment services have limitations and to “be mindful and explicit about this as you introduce, discuss, and utilize them.” Another respondent advised honesty about the limitations of bibliographic tools and “to always make caveats explicit.”

Trends

Fifty-nine respondents identified future trends that have implications for scholarly output assessment services in libraries. Several respondents identified alternative metrics, author identifier profile systems, and the assessment of scholarly output beyond traditional publications, including data, as trends. The proper and evolving use of appropriate metrics across disciplines was also reported as an important trend, as was recognition of scholarly output in other formats such as data, digital humanities, or other digital objects. Concerns include the accuracy of data sources, data standardization, data aggregation, data interoperability, and author name ambiguity. Respondents identified adoption of unique author identifier profile systems, such as ORCID, as being a promising development. Other challenges noted by respondents include proliferation and cost of resources, political and discipline-specific issues related to promotion and tenure, staff development needs, and keeping abreast of trends including federal research requirements.

Conclusions

Based on the survey responses, the majority of the responding ARL member libraries engage in a variety of activities related to scholarly output assessment. These activities reflect the diversity of ways that scholars are creating and disseminating scholarly outputs to communicate scholarship, as well as the methods and tools for measuring scholarly impact. The activities range from formal programs with staff dedicated to scholarly output assessment services to providing just-in-time information on resources, tools, or metrics.

Many libraries reported partnerships with various campus units outside of the library. These partnerships demonstrate alliances with the campus community to leverage opportunities for expertise and

resource sharing to benefit all parties involved in the scholarly communication process.

Research libraries offer substantial expertise in navigating the ever-expanding array of tools that exist to illustrate a narrative based on scholarly productivity and impact. They help authors manage their scholarly identities, provide options for creating and disseminating scholarly outputs, offer strategies to enhance discoverability of scholarly outputs, help authors efficiently track scholarly outputs and impact, provide resources and tools to help authors assess

their scholarly impact, create publication reports and social network maps for reporting purposes, and offer guidance and training on new trends and tools for reporting of impact.

The authors hope that the survey inspires ARL libraries to consider ways they can incorporate scholarly output assessment services into their service models. As one respondent noted, “This survey has prompted several conversations and ideas for further development in this area.”

SURVEY QUESTIONS AND RESPONSES

The SPEC Survey on Scholarly Output Assessment Activities was designed by **Ruth Lewis**, Scholarly Communications Coordinator & Science Librarian at Washington University Libraries in St. Louis, and **Cathy C. Sarli**, Senior Librarian for Evaluation and Assessment Services, and **Amy M. Suiter**, Scholarly Publishing Librarian, Washington University School of Medicine in St. Louis, Becker Medical Library. These results are based on data submitted by 79 of the 125 ARL member libraries (63%) by the deadline of February 17, 2015. The survey's introductory text and questions are reproduced below, followed by the response data and selected comments from the respondents.

Research libraries offer substantial expertise in navigating the ever-expanding array of resources that exist to illustrate a narrative based on scholarly productivity and impact. They help authors manage their profiles on author-based platforms; provide strategies to enhance discoverability of scholarly works; offer multiple avenues of dissemination for scholarly works; help authors efficiently track research outputs and activities; provide publication reports and social network maps; provide resources and tools to help authors assess their scholarly output and impact; and offer training on new trends and ways of reporting of scholarly efforts.

Learning about assessment of scholarly output at research libraries is increasingly critical in light of the changing landscape towards reporting of scholarly productivity and impact to demonstrate tangible and meaningful outcomes. Traditional measures to quantify scholarly productivity based on "counts" (number of publications, number of citations, journal impact factor scores, etc.) are insufficiently robust to meet the increasing demands of accountability and return on investment. Those measures are now being supplemented with other metrics such as usage or downloads on publisher, repository or other journal platforms; the h-index; or article-level metrics that represent social or academic engagement. Understanding the full array of newer metrics and how they play a role in assessment of scholarly output and impact will become increasingly important for research libraries as the metrics become more widely available and employed by funding agencies, publishers, and academic institutions.

Scholarly output is defined for survey purposes as articles, abstracts, patents, and books or book chapters. Digital technologies have enabled research outputs and processes that stretch far beyond these print forms. Within the ARL community, the SHared Access Research Ecosystem (SHARE) is developing a working definition of research processes and outcomes that includes the following scholarly outputs: publications, conference materials, intellectual properties, digitally-enabled forms including datasets, software, databases, and hybrid and emerging forms such as web-based narration, interactive sites or scripted events, websites, heterogeneous digital objects, and a range of media beyond print and static images. Respondents should feel free to consider these examples of scholarly outputs while answering the survey questions.

The purpose of the survey is to identify current research library practices, activities, or programs related to assisting scholars or researchers (individual and/or groups) with scholarly output assessment. The survey covers services and resources, training, staffing models, partnerships with the parent institution, marketing and publicity, and future trends.

SCHOLARLY OUTPUT ASSESSMENT SERVICES

Please note that this survey does **not** pertain to the assessment of library programs or any other type of assessment intended to measure the value of libraries and/or personnel.

1. Does your library or any unit of your library provide services to researchers that relate to scholarly output assessment, such as reports, resource guides, consultation, education, etc.? N=79

Yes	76	96%
Not yet, but we are considering developing services	2	3%
No, but another unit in the institution does	1	1%
Not yet, but such services are in development	0	—
No, and the library has no plans to provide such services	0	—

2. Please indicate which services your library currently provides or is developing and which are provided by another unit in your institution. Check all that apply. N=78

Services	Library currently provides	Library is developing	Another unit provides	N
Consultation or guidance on bibliometric measures such as the h-index, journal impact factor scores, etc.	70	3	2	73
Consultation or guidance on article-level metrics other than traditional citations	60	7	2	67
Consultation or guidance on author name issues	57	11	2	66
Consultation or guidance on databases to use for capturing or tracking scholarly outputs	60	3	3	63
Reports based on usage of scholarly works in an institutional repository	46	15	1	61
Publication reports (e.g., publication/citation reports, h-index reports, etc.)	48	6	6	56
Graphs, charts, infographics, or social network maps	20	6	7	31
Blogs maintained by the library	22	1	6	28
Other service	11	4	3	15
Total Respondents	76	33	19	78

If you selected "Other service/Library currently provides" above, please briefly describe the service. N=15

Altmetrics reporting service

Apart from our institutional repository statistical reports, available to anyone with an item in our repository, we can work with faculty to provide services on request.

Bibliometrics and Best Practices based upon specific disciplines and fields: a) Journal-based fields, b) Fields that are driven by manuscripts, c) Performance-based fields, and d) Grey Literature/Clinical Fields; LibGuides

Digital Scholarship hosting with usage reports, digital exhibit collaborative creation and hosting with usage reports, data set hosting in the institutional repository, collaborative events with attendance statistics and other reporting, consultative services through the liaison librarians for scholarly output and impact assessment and validation. Liaison librarians do occasional large-scale bibliometrics projects, tracking faculty publications for a center or department. Then under whether we limit services to a specific user groups I would say yes with the following description: Although almost all services are available to all users, in the case of large-scale bibliometrics projects, they are often limited to those with the capacity to pay for extended librarian time working on the project.

Health Sciences Library created LibGuide for SciVal.

Most of the services checked above are not part of a formal program. They are not marketed as services but may be available upon request depending on individual librarians' level of expertise.

Our graphs and charts are from a locally created repository download statistics service.

Our Health Sciences Library (which supports our College of Medicine and Medical Center) offers a systematic review service. The library hosts workshops to gain familiarity with the process of doing a systematic review since often times people don't really want to do such an extensive research project. If they would like to pursue it further, a librarian can be included in the research process of performing a systematic review. This level of involvement is on a cost recovery basis for librarian time and typically requires an active grant to pay for this charge as well as gaining access to relevant information for the systematic review in databases that the library does not subscribe to.

Pilot to evaluate the effect of a program on enhancing collaboration across institutions. Also looking for other ways to evaluate collaboration.

Provide guidance on strategies to enhance dissemination of research outputs and activities.

Research support services, such as use of Mendeley and scholarly networking consultations.

Subject guide on faculty credentialing

The library provides LibGuides and other online information resources to help educate scholars and researchers about their scholarly identity and output assessment. It has also offered a number of relevant workshops on these topics.

University Library provides digital humanities consultation and implementation (multi-model narrative, text analysis, tools and platforms, digital collections).

Workshops, presentations, consultations

If you selected "Other service/Library is developing" above, please briefly describe the service. N=14

Additional ORCID-related support is in development.

Central IT provides a blogging service.

Currently developing expanding to tracking supplementary materials and implementing altmetrics.

Developing and enhancing reporting in institutional repository.

Developing web resources around assessment and bibliometrics, article-level metrics, and other alt-metrics.

Institutional repository

The Libraries is proposing that the university subscribe to ORCID to help researchers with identity management.

The library is currently collaborating with the Office of the Vice Chancellor for Research to implement the PURE Researcher Information System for faculty and researchers on our campus. This will include additional network maps and an expert "fingerprint" about scholar's output.

The library is exploring various possibilities and is in the process of hiring an Assessment Librarian to work with library departments to develop these resources.

These are under development and in goals for the year.

We are currently building an IR that will provide usage reports for deposits.

We are evaluating software such as Altmetrics and determining how it might be used on our campus. We have librarians who can respond to specific requests in this area.

We are in the process of re-allocating resources.

We aspire to provide better analytics for the materials in our scholarly repository; we also hope to include other statistics, including downloads from SSRN. Also in the planning process is a workshop on maintaining a scholarly presence online.

If you selected "Other service/Another unit provides" above, please identify the unit and briefly describe the service. N=13

Academic departments usually provide publication reports and any associated graphs/charts.

Academic Social Media

E-Scholarship

Faculty of Medicine, Office of Institutional Research, is one example of where else this service is provided in the university, for the purposes of marketing, funding applications, performance indicators, etc.

I believe that the tenure review committees at our university develop reports about the impact of faculty publications during the tenure review process. The associate provost for research also maintains some metrics in these areas.

Office of Institutional Research (for tenure review). Not sure if service is provided directly to faculty.

The Faculty of Health Sciences is subscribing to SciVal to assess its faculty's scholarly output.

The Office of Institutional Research and Academic Planning provides access for deans to Academic Analytics.

The Office of the Provost sponsors and the Office of Information Technology supports Symplectic Elements, which includes reports of citation counts, author h-index, and alt metrics for faculty publications.

University's Office of Research funds and manages Elsevier's SciVal Expert subscription.

Various campus groups provide additional resources and services related to scholarly output assessment, notably VIVO and Campus IT for blog services.

Visualizations in our VIVO system (run by the provost's office) and Elements system (run by the library).

VP Research

3. Does your library limit any of the above services to specific user groups (e.g., affiliated scholars or researchers, specific departments, virtual or interdisciplinary research groups, administrative staff, support staff, or student categories)? N=76

Yes, available services are limited to specific users	22	29%
No, all available services are offered to all users	54	71%

4. If services are limited to specific users, please briefly describe which users may use which services. N=22

Affiliated scholars or researchers or their administrative/support staff

Current campus affiliates only

Department & school-level metrics typically requested by administrators and access limited to requestor and/or their department or school.

Faculty, researchers, administrators, postdoc scholars, and graduate students

Full time professors, graduate students, high administration employees (VPs and vice-VP's)

In the Medical Library, services are limited to authorized library users.

Library-provided resources have no limits, but Academic Analytics, provided by institutional research, is limited to deans.

Most services are available for all users but some services only available to faculty—particularly report generation for individuals.

Publication reports generated for departments are often limited to faculty authors.

Repository usage data (article download information) is only available to authors whose work appears in one repository collection, the collection housing articles under the Faculty Open Access Policy.

Research impact reports currently are only prepared to support grant applications.

Researchers whose primary affiliation is with the university.

Services are provided on an on-demand basis—there is no systematic program.

Students, faculty, and staff

Subject librarians have reported that they've worked with faculty. It may be that the service is available to all users, but we haven't marketed it in a concerted way.

There are services provided by the Biomedical Library that are restricted to faculty and researchers in the Medical Center clusters; similarly the Law Library provides services for Law faculty, not available to all university faculty.

They are limited at the moment but being developed for all. There may be discipline specific services that we aren't taking into account here.

To clarify, services are limited to specific users in the sense that they are offered only by a small set of subject librarians to faculty in departments whom they serve. Specific subject librarians know about and offer some of the information listed above, while other subject librarians are not as well acquainted with some of the topics listed. Those librarians who are familiar with these topics can assist their constituencies with them, while those subject librarians who are less familiar with those topics cannot. There is no campus-wide suite of services designed for all faculty at this time.

Training efforts are currently targeting faculty. Consultation/guidance is provided to faculty/graduate students upon request. Liaison librarians have developed one or two LibGuides, addressing scholarly outputs from specific disciplinary perspectives.

Undergraduate students and some university staff have limited access to the institutional repository, so most would not receive usage statistics.

University-affiliated faculty, staff, and students

We focus on providing services to our primary user population, which includes faculty, students, campus researchers, etc.

Additional Comments N=3

Note that services are not limited to specific users, but different groups have expressed different levels of interest.

This survey includes answers from the Legal Research Center (law) and University Library. Law provides service on request by faculty and promotion committee for internal purposes only, and thus their answer to the question above is "yes." At University Library (UL) digital humanities are available to faculty and graduate students. Other services not limited.

Though not limited, requests only come from faculty scholars.

5. Please enter any additional comments you have on scholarly output assessment services. N=20

All of the services listed above are provided by the University Libraries, but on an ad hoc basis (and mostly by subject librarians) rather than in a programmatic way. In regards to the service marked as "Library is developing," measuring and increasing research impact is a key focus area of the developing Research Commons. Resources related to scholarly output assessment are being gathered and eventually will be made available to researchers at the university through the Research Commons website and blog.

Aside from institutional repository (bepress) readership reports, these services are delivered by subject (reference) librarians.

At this time, aside from usage reports from our repository, the above-listed services are provided on a very ad hoc basis. No library-wide programmatic approach is currently in development, however it is something that will likely be coordinated by the Research Commons in the future.

Blogs are not scholarly output focused.

Generating reports for groups may be provided as a fee-based service depending on number of authors tracked.

It is a rapidly growing area for libraries and it is beneficial for scholars as well.

My answer makes it seem as though the library is providing services at a far greater level than we are. We now have three librarians who have some training in the research impact area and a subject guide that describes our services. It is a "toe in the water," not a fully developed services.

No formal advertising of these services; assistance is available on request.

No formal program, done on ad hoc basis by librarians. Repository-related pieces are integrated into repository services.

None of these services are widely marketed but are offered on an as-requested basis.

Our librarians in the health and natural sciences offer scholarly output assessment services while our librarians in the social sciences and humanities do not. We see a higher demand for scholarly output assessment services among our health and natural sciences researchers.

Our services are informal and as needed.

Scholarly output assessment will be a priority as it develops in areas of our new organizational structure.

Services are given by patron request mostly.

Services are not currently coordinated across the library system but are handled by the individual liaison and/or department, depending on the researchers served.

Services are provided informally, usually through direct request to subject specialists, or at a service point. No distinction made among groups of users except as noted directly above (also see comment above, re Law).

The above answers generally refer to the fact that we respond to questions about these topics. We don't currently provide a "service" related to bibliometrics, reports, etc.

We are interested in developing additional services (like those listed above) to be determined in consultation with faculty about their interests and needs.

We have had collaborations or requests from many different types of groups: editors of undergraduate student journals published through our institutional repository; Communication/Public Affairs; Institutional Planning Office; Research Office; various individual faculty members; departments; faculties; and research groups. We've also collaborated with graduate students in statistics and actuarial sciences for their expertise in conducting performance measurement work.

While we can and do offer assessment, there is no systematic provision or large scales requests for such information.

SCHOLARLY OUTPUT ASSESSMENT SOFTWARE/RESOURCES

6. Please indicate which of the following scholarly output assessment software/resources are used by library staff and/or are recommended to library user groups. Also indicate if your library is considering acquiring or using any of these tools that aren't currently available. Please make one selection per row. N=75

Software/Resources	Library recommends to users	For library staff internal use only	Library is considering acquiring or using	N
Web of Science	71	1	1	73
Google Scholar	70	0	0	70
Journal Citation Reports	68	2	0	70
Scopus	45	0	4	49
Altmetric.com	29	1	18	48
ImpactStory	34	2	8	44
SCImago	31	0	2	33
Book Citation Index	25	0	6	31
Plum Analytics	7	0	22	29

Software/Resources	Library recommends to users	For library staff internal use only	Library is considering acquiring or using	N
F1000	27	0	2	29
InCites	18	2	6	26
Publish or Perish	25	1	0	26
Symplectic	6	2	16	24
VIVO	6	3	13	22
Essential Science Indicators	18	2	2	22
SciVal	11	0	8	19
Wordle	12	5	1	18
Academic Analytics	2	8	4	14
Digital Measures	4	4	2	10
PURE	4	0	4	8
Harvard Profiles	2	0	3	5
NodeXL	4	0	0	4
Sci2	1	0	3	4
Other software	18	3	4	19
Total Respondents	75	23	50	75

If you selected “Other software/Library recommends to users” above, please identify the software.
N=18

ArXiv (for physics articles)

bepress Digital Commons, which provides download/usage reports.

Google analytics is used by some University Library staff. Law checked “other software/for library use only” but did not provide an example; instead answered “libanalytics” in the “Other software/library recommends to users” box.

Hein Online’s ScholarCheck. Note; several libraries cannot recommend Essential Science Indicators because they don’t have access; it is medical campus only.

MyData (powered by Digital Measures: <http://www.digitalmeasures.com/>). Korean Citation Index (KCI) (<http://www.kci.go.kr/kciportal/main.kci>). Gephi (<http://gephi.github.io/>) to visualize social networking from data. ReaderMeter, ScienceCard, PLoS Impact Explorer, PaperCritic, Crowdometer. Note: Campus uses Academic Analytics for administrative scholarly output assessment purposes. We are also considering its use in the Libraries.

NINES.org, 18thConnect.org, and others within the Advanced Research Consortium (ARC)

ORCID, Tableau

ORCID, ResearchGate, ResearcherID, Mendeley

Our institutional repository software (bepress) provides reports and visualizations.

Our institutional repository. Also, discipline-based repositories (e.g., ArXiv, PubMed, SSRN, etc.)

PLoS, Medical Center Faculty Bibliography

Research Gate

Research Gate, HeinOnline author profiles, SSRN author profiles, MathSciNet

Research in View (training and support provided by the university's Office of Distance Education and eLearning.

Scholarometer

SciFinder

The university faculty survey, ORCID, Mendeley, Figshare (data)

We recommend the use of ORCID, Figshare, Research Gate, Academia.edu, Microsoft academic search profiles (particularly for visualizations).

If you selected "Other software/For library staff internal use only" above, please identify the software. N=3

Google Scholar, VIVO, and Web of Science are for library staff internal use at Law. University Library has access to Libanalytics, uses it for internal purposes unrelated to this survey's questions.

Tableau (Form wouldn't allow me to select Other for recommends and internal use but that's what I needed to do.)

We also have library staff only software created in-house by our system called California Digital Library Weighted Value.

Wordle use is widespread in the library, although I don't believe the library specifically offers it to users.

If you selected "Other software/Library is considering acquiring or using" above, please identify the software. N=4

Biomed Central

Converis, Research Gate, Data 180, Elsevier

Dataverse which provides view/download counts for data publications.

We are interested in VIVO as a tool for exploring faculty patterns of collaboration around campus and across universities. We are hoping to integrate some form of altmetrics into our institutional repository, hence our interest in Altmetric.com.

Additional Comments N=4

Eigenfactor.org

I have answered all questions as if the question reads "are used by *university* staff" as many of these services are used by colleges and academic units, not the library. Additional notes: the provost's office uses Academic Analytics for program review. A few colleges on campus utilize Digital Measures Activity Insights for activity reporting. Library staff is not involved with these projects, and assessment is generally considered an academic issue on the campus, the purview of departments, colleges, and the Office of the Provost. However, the library is taking a leading role, with financial support from the Office of the Vice Chancellor for Research, for the implementation of the Elsevier Pure Researcher

Profile system for campus in 2015. The library has LibGuides and web pages that recommend the use of resources such as ImpactStory, Scopus, and Web of Science.

Office of Research Services and Support paid for a one-time report from SciVal in 2014.

Some of these are in use by other units (like institutional research or the provost office) so are not recommended by the library per-se, but are available at the institution more generally.

7. Does your library share the cost of any of these software/resources with another unit in your institution? N=75

Yes	29	39%
No	46	61%

If yes, please specify the unit(s) that shares the cost with your library. N=29

Academic Analytics N=11

1–2 library staff can access but 100% of cost paid for by our Office of Institutional Analysis.

Campus Office of Institutional Research pays for this.

Full cost covered by another campus unit. Library does not control access, fund, or recommend this service.

Institutional Research

Office of Provost has AA subscription. Library has no access to this tool.

Our institutional research office pays for Academic Analytics.

Provost (2 responses)

The Office of Institutional Research and Academic Planning supports 100%.

This service is purchased exclusively by campus administration and only available for their use.

University licensed the software at the top level of the university.

Altmetric.com N=1

Provost Office

Essential Science Indicators N=1

Paid for by library.

Harvard Profiles N=1

School of Medicine subscribes; Library does not yet have access.

ImpactStory N=1

Authors cover costs for their own profiles.

InCites N=4

Faculty of Medicine, Office of Institutional Research

If selected, library will look to share costs with academic departments.

Library used to pay portion when we used to subscribe; was cost shared with provost.

VP Research

Journal Citation Reports N=6

Health Sciences Library

Health Sciences Library cost shares.

Library pays.

Paid for by library.

We share cost UC-wide through California Digital Library.

With other UC's and CDL

Plum Analytics N=2

Office of Research Services; Office of Planning and Institutional Research

Paid for by library.

PURE N=3

Medical School

Office of the Vice Chancellor for Research

University System

SciVal N=10

Faculty & Staff Information System (FASIS) Division of Office of Human Resources

Faculty of Health Sciences (paying the subscription, giving Health/Natural Science librarians access to the tool)

Health Sciences Library

If selected, library will look to share costs with academic departments.

Medical School

Office of Knowledge Enterprise Development

Office of Research Services

Provost Office

University System

VP Research

Scopus N=7

Arizona Board of Regents

Health Sciences Library

Library pays, used for multiple purposes

OhioLink (consortial purchase)

Paid for by library.

We share cost UC-wide through California Digital Library.

With other UC's and CDL

Symplectic N=8

Central IT: Office of Research

Library considers implementation jointly with central university computing. Central IT will bear the cost of sub.

Provost and HSL

Provost Office

University Data Warehouse and Business Intelligence

University Information Technology

University office of Faculty Affairs pays for this.

University subscribes to one module for harvesting OA articles.

VIVO N=6

Central IT: Office of Research

Division of IT, Office of the Vice President for Research, Office of Academic Planning & Assessment

Provost and HSL

Provost Office, Office of Information Technology

University CTSI supports this

University office of Faculty Affairs supports this.

Web of Science N=8

HSL

Health Sciences Library cost shares.

Library pays

OhioLink (consortial purchase)

Paid for by library.

Provost's office

We share cost UC-wide through California Digital Library.

With other UC's and CDL

Other software N=7

ARC's groups are community supported

Digital Measures: campus site license in procurement, but not yet implemented.

Digital Measures: funded by Provost's Office

Digital Measures: individual colleges

Math SciNet is paid for by our system-wide library consortium.

NOTE: Law does not share costs.

University Data Warehouse and Business Intelligence

8. Are scholarly output assessment software/resources integrated in your institutional repository?
N=77

Yes	39	51%
No	33	43%
Not applicable, we don't have an institutional repository	5	6%

If yes, please briefly describe the integration of the software/resources in the repository. N=35

A connector between Symplectic Elements and our institutional repository is the primary way faculty deposit into our IR.

Altmetric.com is integrated with the institutional repository, which is built on the Digital Commons platform from bepress. The platform itself tracks download counts and reports it on the repository homepage.

Altmetric

Altmetric scores are integrated at the item level, if the item has the proper DOI and the metadata fields are integrated. Our internal IT unit worked to develop that.

APIs to Web of Science

Authors and series administrators are provided use data on a monthly basis. Downloads are visualized on a global readership map.

Basic level: we use reporting features of the hosting software, bepress.

Bepress provides automatic usage reports directly to authors. We have the Altmetrics.com widget enabled in our DR for journal articles though what it covers is limited to articles with DOIs and with publisher contracts with Altmetrics.com.

Bepress provides Google Analytics and readership counts.

DSpace provides statistics, including the number and locations page view and file downloads.

DSpace's statistics

Google Analytics

Google Scholar

Internal statistics from DSpace

Minimal. We can get download reports. We are working on increasing capacity.

Our IR captures the number of page views and downloads for deposited files—both for individual files that one has deposited and for the total of files one has deposited.

Our IR platform, Digital Commons, provides usage and download statistics at the object, community, and repository level.

Our library uses the bepress IR platform, which has built-in download reports that are sent to authors. The Altmetrics API is also integrated into our IR system.

Plum Analytics

Plum Analytics is integrated in our institutional repository. The view/download counts from our IR will appear with the Plum Analytics statistics in the future.

PlumX is linked to our IR. All publications in IR have PlumX metrics embedded. In addition, all university researchers can request PlumX Profile (this is currently set up by library staff). We are developing mechanism by which end users will be able to set their own PlumX profiles. Symplectic, when implemented, will streamline the process of collecting research outputs of faculty thus providing us with more robust data sets for PlumX and other analytics (e.g., feed to SciVal or InCites, etc.)

Reports for individual titles are available via <http://www.escholarship.org/>.

Several sources are integrated with Symplectic Elements and VIVO.

The IDEALS institutional repository provides simple metrics for each item on total number of downloads, downloads this month, and downloads today.

The IR platform (DSpace) displays item-stats for views and downloads. An additional DSpace module provides deeper, more customized reporting, and web visits are tracked through Google Analytics.

The IR software includes the ability to automatically output usage statistics.

There is an author dashboard for tracking downloads.

Top downloads, usage stats, RSS

Usage reports are a feature of the IR, and an altmetric badge is integrated into IR.

Usage statistics are automatically tracked and sent using the SobekCM Open Source Repository Software (www.sobekrepository.org).

Usage statistics are provided to authors.

We currently provide download counts by item in our institutional repository.

We have a DSpace repository that allows us to track downloads and general usage statistics.

We license Digital Commons software, which provides monthly download reports to authors.

We use Google Analytics to assess the usage of repository content.

Additional Comment N=1

We do get distribute usage/download reports from the IR, but I don't think that's what you mean.

9. If scholarly output assessment software/resources are integrated in your institutional repository, do you provide repository usage reports? N=39

Yes	34	87%
No	5	13%

If yes, please briefly describe the type of usage report. N=31

Administrators of collections are emailed brief reports with page hits and file downloads. They can also view information like metadata views and locations that engaged with the material online.

At this point, reports are limited to download counts by item.

Authors and series administrators are provided use data on a monthly basis.

Authors can request regular notification of downloads.

Authors receive an email report on the number of times each work has been downloaded.

Automated usage stats

Basic downloads and hits

Bepress provides automatic usage reports directly to authors. The Repository Coordinator also uploads Google Analytics and makes them freely available along with bepress comparisons with other repositories.

DSpace statistics

Each item and category in the repository has its own use report by default, and we occasionally generate aggregate reports for individuals, units, etc.

Faculty can elect to check their "Digital Commons Dashboard" to see readership activity and/or select to get email reports of same.

If asked, but people are encouraged to access on their own.

In addition to monthly download report emails to authors, additional reports are being set up for department chairs and college deans.

In addition to statistics noted above (the number of page views and downloads for deposited files—both for individual files that one has deposited and for the total of files one has deposited), our IR can capture other statistics that might be considered a usage report. They include the following: total number of files in IR, totals by visibility, the top file formats, and total IR users.

Individual content submitters can elect to receive usage statistics of their submissions, which provide download counts of individual records. Administrators of communities within the IR have access to download usage reports.

It goes to each author who has deposited into the IR, and it reports the number of downloads for the most recent month, and also a total downloads number.

Item-level download and view stats are freely available from the respective webpage. Spreadsheets and charts showing use for subsets of the collection are available upon request. Annual use reports are published in an IR impact report.

Number of downloads

Number of downloads of article citations via Web of Science

Number of times content is downloaded

Only on request, however

Page views and downloads

Plum Analytics

The usage report provides the number of downloads over the last month and the lifetime of the object.

There is a DSpace analytics page that sends out reports to community administrators but not authors. There are also author reports that inform the author of the number of downloads of a publication.

Users can publicly view simple metrics for their items, including total number of downloads, downloads this month, and downloads today.

Via monthly emails sent to users, and usage information is also displayed publicly for all items.

We create general repository usage reports for the dean of libraries. We can provide targeted reports upon request from departments or individuals as requested, but that doesn't come up much.

We offered usage reports when requested by the administration.

We provide reports on views and downloads.

Yes, authors of the items deposited in the repository receive download counts by e-mail every month.

Additional Comment N=1

At this stage, we only produce internal reports showing growth in content and use of IR. Also, those with PlumX Profile can generate their own reports.

10. Please enter any additional comments you have on scholarly output assessment software/resources. N=22

Current usage reports require a lot of staff time to collect and distribute so they are offered only occasionally.

Discussions are underway regarding further development of services via our IR, including the implementation of a Google Analytics function by item so that users can get richer and more accurate download and view counts by time and geographic origin. We are also currently evaluating the possibility of integrating repository downloads to an alt-metrics widget that would be applied to our Blacklight instance.

DSpace software provides usage statistics.

Google Analytics tracks additional use and download information for our bepress Digital Commons instance.

In addition to usage statistics, citations and events related to the digital items and collections are tracked when the data is available.

In the very near future, our faculty profile system will be integrated with our digital repository, but as we are just rolling it out we have not integrated it yet. In addition, we currently only have the native DSpace statistics reports that users can see for their items in the collection. It's not an integrated 3rd party software, but it is a statistical report.

Library administrators are currently participating in a university-wide group considering performance metric tools for purchase.

The Health Sciences library on our campus is currently working with ORCID on author disambiguation.

The IR logs activity such as browsing items and downloading files. Once scholarly content grows, it will be possible to generate usage statistics and reports as input for assessment.

The next iteration of our institutional repository will include integrated scholarly output assessment software.

The university's central IT pays for the campus subscription to SciVal and the Program for Institutional Research & Assessment pays for the campus license to Academic Analytics.

There isn't any cost sharing, per se, but other units (i.e., RENCI, Renaissance Computing Institute, renci.org) pay for some software/resources and make them available to the institution.

Users can generate reports but the library does not provide reports as a service.

We are currently overhauling our IR software. It's too early to tell what functionality will be included in the new software.

We are just now getting the altmetrics donut into our press website as well as the IR.

We built our own usage statistics service that draws upon repository usage (article download) data. We have been looking at opportunities for integrating vended software/tools such as incorporating altmetric data into our repository.

We currently integrate only Google Analytics into our repository and provide dynamic reports at the article and collection level.

We don't provide any usage reports, but usage data is available to all users of the IR.

We or IR provide reports to departments, individuals, and/or some library staff on campus based on information provided by the IR vendor and/or Google Analytics. This can include download counts at the item level.

We plan to integrate scholarly assessment resources into our digital repository in the current calendar year including usage reports related to repository items and/or faculty, students, and staff represented. In consultation with campus partners, we will be evaluating many of the services listed in the survey to determine which service(s) might best provide assessment data useful to aggregate within our digital repository.

We're still developing a more dynamic method of providing scholarly output assessment for the institutional repository.

While our IR does not incorporate the software or resources described in your question, it does provide download counts for all objects. In addition, our IR creates DOIs for each record, providing a basis for interoperability.

SCHOLARLY OUTPUT ASSESSMENT TRAINING

11. Does your library offer or sponsor training sessions to scholars, researchers, staff, and/or students that relate to assessment of scholarly output? N=77

Yes	49	64%
Not yet, but we are considering developing training	18	23%
Not yet, but such training is in development	3	4%
No, and the library has no plans to provide such training	7	9%
No, but another unit in the institution does	0	—

If yes or training is in development, please briefly describe the content of classes or workshops offered by your library. N=44

A workshop has been offered through the Research Commons that covers information related to tracking output using Research in View and archiving scholarly content in the Knowledge Bank (our institutional repository). Jason Priem (ImpactStory) gave a presentation at the University Libraries on the topic of "Scholarly Communication and Alternative Metrics."

Answers should be Yes, Not yet but in development, and No but another unit.... UL is developing introductory workshops on impact factors; also offering "managing your scholarly identify." Law does not offer workshops.

APIs for Scholarly Resources: brief overview of scholarly research APIs available to the community with examples of current research. Overview of Citation Analysis: overview of citation analysis, including sources of data for citation analysis, common impact measures, and freely available software.

"Basics of Citation Metrics" offered to library staff covers Web of Knowledge platform tools (WoS, Journal Citation Reports, ESI), Scopus (altmetric) and journal comparison tool, Google Scholar, and My Citations. "Impact Measurements" webinars open to all—but attended mostly by university faculty, graduate students, and staff—covers the above, as well as an intro to non-citation based analytics. The MyResearch graduate series Module 4 covers all of the above. The library provides training to Media Relations Office on all of the above.

Citation Analysis, Citation Management, Collaboration, Communicating Research, Digital Humanities, Data Management, Enhancing Research Impact, Responsible Research, Scholarly Communications, etc.

"Determining Your Scholarly Impact" is a 1-hour class offered each semester to anyone who wants to come (primarily targets our health sciences campus). "Scholarly Impact: Traditional and Alternative Metrics" was a 1-hour workshop our Scholarly Publishing Committee put on to educate librarians and staff last year.

Explains concepts and demonstrates tools in workshops offered through network learning Initiatives.

Google Scholar, Publish or Perish, Altmetrics

Hands-on workshops. Topics include: using Scopus, cited reference searching, creating citation reports, Google Scholar Citation Profiles, ORCID profiles, Altmetrics (including social media, ImpactStory, etc.) We've also talked about possibly doing online reputation management (as it relates to increasing scholarly visibility).

Health Sciences Library conducts workshop on using SciVal, and has prepared a SciVal LibGuide.

Librarians offer classes on using tools for measuring scholarly output and understanding measures such as the h-index and altmetrics.

Library has offered in the past workshops on alternative metrics. We are developing materials to complement campus rollout of Symplectic Elements.

Metrics workshops for grad students and early-stage faculty, non-traditional scholarly communication (e.g., Twitter), workshops for administrators re: metrics for faculty assessment

Mostly tenure metrics, establishing research impact using article-level citation metrics like h-index from Web of Science, Scopus (just acquired), and Harzing's Publish/Perish, but also noting altmetrics, especially in fields where citation metrics are not a good reflection of impact.

Much of the training that we do is in the context of upper-level library instruction. Many of our liaison librarians also consult with individuals or small groups as needed. However, the librarians in our Health Sciences Library offer a systematic review service. As part of this service, they host workshops. There are three sessions, which were promoted through local listservs (for administrative assistants and research coordinators). The content of the three sessions are: basic library overview (finding articles, ILL, website navigation), bibliometrics as it pertains to grants and P & T, and a tutorial in Endnote Web for reference management software. Additionally, one of our education librarians has offered a professional development session specifically for the College of Education on this topic.

One of our liaison librarians in the health sciences has been offering workshops on metrics to faculty, graduate students, and library staff.

Scopus, Citation Analysis, Data Management, Individual Databases, Research IDs, Altmetrics, Visualization Tools

Scopus training, SciVal Experts training, Tools for Researchers

SCOPUS: A Tool for Authors, Enhancing the Visibility and Impact of Your Research, Who is Citing Your Work? You're in Good Company: Research Studios for Advanced Graduate Students in the Humanities (include some information on monitoring their own work). A variation of Enhancing the Visibility and Impact of Your Research is in development for non-medical campus.

The content of workshops reflect the unique needs of the participants. Content has been varied, highlighting one or a mix of the following: overview of bibliometrics/altmetrics, h-index and Eigenfactor, Scopus and Web of Science comparison, Google Scholar, InCites, etc.

The library has offered occasional workshops for graduate students on the significance of h-index for scholarly output assessment.

The project manager of the faculty profile system being rolled out trains faculty regularly. Also, information on other resources is part of classes that the subject liaisons regularly teach in their informational sessions to graduate students and faculty.

The University Library Scholarly Commons provides a wide breadth of workshops and events for researchers, staff, and students about research topics, including those pertaining to scholarly output.

This currently takes place on limited basis, only as requested by users. More integrated approach is planned for development in FY16 planning cycle.

Through the medical school's continuing professional development series, a workshop on research metrics is offered that discusses "different approaches to assess the quality and impact of your research on other researchers in your field." This hands-on and practical workshop will focus on the three areas of article, author, and journal assessments.

Participants will become familiar with different multi-faceted citation analysis using a variety of metrics and their implications. Content on assessment of scholarly output is also included in other workshops or instruction sessions, e.g., a session might contain information on how to find an h-index or how to find out who has cited your own work.

Traditional and alternative metrics, author disambiguation, author profiles and author identification, development of training for the use of MyNCBI tool sciENcv

Training is provided by subject specialists and scholarly communication librarian via one-on-one and small group sessions.

Training sessions are generally one-on-one with faculty, grad students, or administrators who have requested it.

Training sessions offered on an ad hoc basis and are not centrally coordinated; for example, the Health Sciences Library offers drop-in sessions on calculating the h-index.

Use of JCR, SCImago, h-index

Varies by user group

We don't offer formal training workshops, but librarians have one-on-one conversations with faculty about assessment of scholarly output.

We have a workshop on citation tracking geared toward graduate students.

We have offered a workshop to Early Career Researchers on using Open Access and freely available services to increase research exposure and impact.

We offer this in one-on-one consultations.

We offer workshops on Web of Science, Google Scholar, and Altmetrics.

We offered a class entitled: "Impact Factors & Journal Publishing." We invited journal editors on campus.

We run "Expanding Horizons" sessions to grad students and some departmental training.

We've offered a series of "increasing the visibility of your scholarship" workshops to faculty and grad students, focusing on the humanists but inviting all, for example; very successful in the last two years.

Workshop on managing your research impact

Workshops are given on citation measures with JCR and Web of Science.

Workshops on citation analysis, citation management, ORCID, Scopus and such databases as Symplectic (demo) and Mendeley, altmetrics

Workshops on how to access and use and interpret many of the above sources, especially as they are integrated into our faculty profiles system and open access deposit workflow.

Workshops: Journal Impact Factors and Citation Analysis, Keeping Current with Literature, Measuring Your Scholarly Impact, Library Tools for the Publication Cycle—humanities and social sciences and also one for the sciences—some of these are done for particular departments and other are aimed a more general audience.

Additional Comment N=1

Courses on "Article Level Metrics" and "Building Your Academic Profile" are currently offered (marketed to graduate students).

12. What resources do your library staff use for learning about and keeping abreast of the latest trends in scholarly output assessment practices? Check all that apply. N=75

Conferences	72	96%
Webinars or continuing education classes (external)	68	91%
Blogs	66	88%
Email distribution lists or RSS feeds	66	88%
Professional associations or scholarly societies	64	85%
Websites of other libraries	61	81%
Journals or books	59	79%
Internal education for library staff	49	65%
Other resource	9	12%

Please briefly describe the other resource(s). N=9

External workshops, speaker programs and panels, demos, conversations and special library meetings, library committees

Grey literature, twitter, vendors

Involvement with different research communities on campus and broadly

School of Information & Library Science faculty

Social media, twitter in particular

Twitter

Twitter and other forms of social media

Unconference

Vendor propaganda emails

13. What new skills have library staff acquired in order to provide scholarly output assessment services, if any? N=42

Altmetrics

Analysis skills for Altmetrics, Google Analytics, and Web of Science. Creating narratives based on these analyses that demonstrate qualitative impact as well (such as prestigious blogs or persons citing scholarship).

Becoming more acquainted with social media outlets and online "publishing" tools that offer measures of "buzz"/ usage/views related to altmetrics

Content and teaching skills, scholarly communication skills, technology skills

Data analysis and reporting and promoting discipline specific scholarly output trends. Understanding of research metrics tools, their limits and potential application.

Developing familiarity with author disambiguation, citation metrics for individuals, departments, and schools, tracking altmetrics developments, participating in development and review of institutional-level metrics including comparisons of major software packages like SciVal & InCites.

Digital humanities and data management related skills

Discovering and evaluating available metric and altmetric tools and making relevant information available to the university research community.

Familiarity with tools such as InCites, Web of Science, and altmetrics

Formal training on impact tools, visualization tools, and study of the Becker model

Given the ad hoc nature of our current level of support, most staff rely on individuals with more knowledge and experience when assisting patrons with these services.

I'm sure individual librarians have learned new skills, but since it's done in response to questions, I'm not sure what those are. It will be different for each librarian.

In the past year, we have developed expertise in Neo4j, a graph database, with which we are looking for patterns of collaboration in our IR data.

Increasing awareness of article-level metrics

Intensive introduction course about bibliometrics offered by scientometrics professor

Just starting to learn about resources like Plum Analytics, InCites, bepress readership stats, Google Scholar Profile citation stats.

Knowledge of alternative metrics, how altmetric.com works, altmetric-it plug in, learning new resources and ways to communicate the impact

Knowledge of available tools and capabilities of tools, familiarity with the needs of users, methods of using or searching within the tools

Knowledge of new/developing tools, how to calculate h-index and other measures

Knowledge of ORCID, ImpactStory, Altmetrics, etc.

Learning about the variety of sources, pros and cons of each, caveats, and how to interpret them.

Librarians have learned to use various tools in order to demonstrate them.

Library staff have been developing and/or honing skills in utilizing tools for scholarly output assessment, and in training faculty how to use these tools for their own use.

Library staff learned to keep abreast of trends and use new tools.

None.

One librarian attended the European Summer School of Scientometrics in July 2014 and is using a train-the-trainer approach to develop programming for the rest of the staff.

One skill is having to spend time learning the new tools that are entering the market. The second skill is saying vigilant on top of new trends.

Our Publishing Outreach librarian is particularly skilled in this area; she knows this stuff. Not sure if there are any particular skills other than knowing the landscape out there.

Overview of options, experimentation with Excel and other free tools

Project management and leadership, communication with faculty and others, library publishing, product expertise, how to be forward thinking, scholarly communication focus

Scopus training

Selected examples: extracting DOIs from library databases for article-level metric analysis, creating customized reports in Google Analytics

Several staff members have received training in altmetrics.

Skills are developed as needed, but demand is currently low.

The use of metrics offered by various software programs

Understanding of Altmetrics

Understanding of different metrics; proficiency with Scopus, Web of Science, and Google Scholar

Understanding of newer measures of article impact, including h-index, Eigenfactor, altmetrics data, etc. A better understanding of how Excel can be used to manipulate citation data.

Understanding the various altmetrics measures, and understanding what our administrative units prefer for measures.

Using Endnote and Zotero to harvest citations, familiarity with h-Index

Using social network analysis tools, Excel, and other software.

We have run a number of internal seminars providing librarians with training on the principles of bibliometric assessment of research outputs as well as information on the needs and uses of such information by researchers (e.g., grant applications, tenure and promotion, etc.) Librarians were also encouraged to test research assessment tools we had on a trial period available to Pitt community.

14. Please enter any additional comments you have on scholarly output assessment training. N=16

A lot of our training is informal: one-on-one research consultations with faculty, open meetings, brown bag lunches.

An area for development for us

As above, there are individuals within the Libraries here who work to better educate themselves about scholarly output assessment, but there is no program across the Libraries to do so.

At present, the scholarly output assessment training discussed above also occurs on an ad hoc basis rather than in a programmatic way.

Hard to teach use of these tools across disciplines, perceptions are that much of this is only related to science/STEM fields, not humanities.

Interestingly, librarians perceive research assessment as a brand new skill and often do not understand why such service could be delivered from a library.

More to come

The librarians in the system who know a lot about scholarly assessment are mostly self-taught.

The majority is self-directed; librarians acquire skills as needed to perform their work.

This is considered to be a requisite skill that needs to be addressed.

This is what liaison librarians do to support our learning, teaching, and research mission for the library and campus... nothing new.

We are in the process of developing a training and outreach program in this topic area.

We don't promote this as a "service" like circulation or reserves or instruction sessions. So it's done as needed, when requested.

We have the potential to develop collaborative goals between our Academic Liaison Program and Scholarly Communications Task Group. We are also interested in considering research data as another element in the scholarly output landscape.

We walk a careful line between educating researchers and not stepping on any possible conflicting issues with promotion & tenure philosophies related to new scholarship measures.

Workshops for faculty were offered in Fall 2014, but were very poorly attended, so alternate approaches are currently being evaluated.

SCHOLARLY OUTPUT ASSESSMENT STAFFING

(Note: This section does **not** pertain to library staff responsible for assessment of library-based activities.)

15. Which of the following statements describes the library staffing model for scholarly output assessment services and training at your library? Check all that apply. N=67

Staffing Model	Services	Training	N
Provided by several full-time library staff	52	41	55
Provided by designated specialist(s)	26	27	31
Provided by others who work part time	5	5	5

16. Please indicate how many library staff have responsibility for scholarly output assessment activities and the total FTE these individuals represent (i.e., are they full-time or part-time). N=53

Library Staff	N	Minimum	Maximum	Mean	Median	Std Dev
Individuals	53	1.00	56	12.59	10.00	12.27
FTE	53	0.10	56	7.81	2.00	11.56

# of Individuals	Responses
1	2
2	5
3	9
4	1
5	2
6	2
7	3
8	2
10	6
>10	21

# of FTE	Responses
0.10	1
0.20	2
0.25	3
0.33	1
0.50	2
0.80	1
1.00	9
1.50	1
2.00	7
2.50	1
3.00	4
4.00	1
5.00	1
6.00	1
7.00	2
8.00	1
10.00	2
>10.00	13

17. Please list the job titles of up to three library staff who provide scholarly output assessment services. N=62

Position 1 N=62	Position 2 N=53	Position 3 N=37
Assistant Director Learning Services	Director of Learning Environments	Open Education and Online Learning Environments Librarian
Biology Librarian	Agricultural Sciences & Natural Resources Librarian	Associate Dean for Research & Scholarly Communication
Biomedical Librarian and Emerging Technologies Librarian	Education Librarian	Digital Content Specialist and Head ScholarSphere User Services

Position 1 N=62	Position 2 N=53	Position 3 N=37
Branch Heads	Individual liaison librarians	
Chemistry Librarian	Data, Network, and Translational Research Librarian	Assistant Director for Public Services
Clinical Education Librarian	Sciences Librarian	Education Librarian
Clinical librarian	Reference librarian	Reference librarian
Collection and Organizational Data (CODA) Librarian (UL)	Faculty Services Librarian (Law)	
Collection Development Librarian/Open SIUC	Natural Sciences Librarian	Health Sciences Librarian
Digital Projects Specialist	Scholarly Communication Coordinator	
Digital Repository Specialist	Digital Data Repository Specialist	
Digital Scholarship Coordinator	Scholarly Communications Assistant	Graduate Assistant in Technology and Digital Scholarship
Director, Copyright & Digital Scholarship Center	Various subject specialists	
Director of Library Operations	Head of Reference & Education, Education & Outreach	Reference Librarian, Education & Outreach Librarian
Director of the Institutional Repository and Scholarly Communication Librarian	Collection Development and Analyst Librarian	
Director of the Office of Scholarly Communications	Digital Scholarship Librarian	Subject Librarian(s)
Director, Scholarly Communications	Institutional Repository Coordinator	
Engineering Librarian	Collections & Scholarly Communications Librarian	Digital Library Software Engineer
Head of Social Sciences	Science Librarian	Scholarly Communication Librarian
Head, Digital Scholarship Center	Scholarly Communications Librarian	Science Librarian
Head, Scholarly Communication & Copyright Office	Research Data Librarian (.5 FTE)	Coordinator, Institutional Repository
Information Services Librarian		
Informationist	Subject librarian	
Liaison Librarian	Scholarly Communications Coordinator	
Liaison Librarian	Coordinator	
Liaison Librarian		
Liaison Librarian		
Liaison Librarians		
Liaison Subject Librarian	Curator	Digital Scholarship Librarian
Librarian	Data Curation Specialist	Advanced Research and Engagement
Program Manager, Scholarly Publishing, Copyright & Licensing	Director of Research for MIT Libraries	Program Manager, Scholarly Repository Services
Public Services Librarian	Institutional Repository Manager	Educational Specialist
Publishing Services Outreach Librarian	Coordinator of IR	Selectors/Liaison Librarians

Position 1 N=62	Position 2 N=53	Position 3 N=37
Reference & Instruction Librarian	Senior Reference Librarian	
Research & User Services Librarian		
Research Services Librarian	Digital Research Services Librarian	
Scholarly Communication and Special Initiatives Librarian	Scholarly Communications Resident Librarian	Social Sciences Research Services Librarian
Scholarly Communication Librarian	Digital Repository Librarian	Science and Engineering Librarian
Scholarly Communication Librarian	Head of Collection Development	
Scholarly Communication Librarian	Liaison Librarians	
Scholarly communication librarian	Liaison librarian	Library technician
Scholarly Communications and Science and Technology Librarian	Associate Professor & Head of Science and Technology Department	Scholarly Communications and Social Sciences & Humanities Librarian
Scholarly Communications Committee Chair	Assistant Director	
Scholarly Communications Librarian	Science Liaison Librarian	Health Science Liaison Librarian
Scholarly Communications Librarian	Liaison Librarian	Coordinator of Strategic Assessment
Scholarly Communications Librarian	Subject liaisons	Collections Officer
Scholarly Communications Services Manager	Humanities Librarian	Physical and Mathematical Sciences Librarian
Scholarly communications unit head	Digital scholarship specialist	Liaison/collection librarians
Scholarly Publication Librarian	All liaison librarians	Research Services Librarian (Engineering & Science)
Scholarly Publishing librarian	Senior Librarian for Evaluation and Assessment Services	Variety of reference librarian/subject librarian job titles
Science Librarian	Reference librarian	Health Science Librarian
Science Research Support Librarian	Instructional Design Librarian (medical library)	Education Services Librarian (medical library)
Social & Behavioral Sciences Librarian		
Staff of the Office of Copyright & Scholarly Communication	Subject liaison librarians	
STEM librarians	Humanities librarians	Repository/scholarly communications librarians
Strategic Initiatives Manager	Scholarly Communications Librarian	Subject liaisons (several)
Subject (reference) librarians		
Subject Librarian	Subject Librarian	Subject Librarian
Subject Librarian (Health / Natural Sciences)		
Subject/Area Librarians		
TRaCS Knowledge Management Librarian	Head of Science Library	Library Liaison, School of Pharmacy
Visiting Project Manager, Researcher Information Systems	Life Sciences Data Services Librarian	Instructional Services Librarian

18. Please indicate whether your library has hired new staff or reallocated library staff or is planning to do so to provide scholarly output assessment activities. Please make one selection per row. N=64

Options	Library has done	Library plans to	Library has no plans to	N
Hire new staff	6	10	43	59
Reallocate staff	14	6	41	61

19. Please enter any additional comments you have on scholarly output assessment staffing. N=37

Above the FTE doesn't mean they spend all of their time working on scholarly output, but that they are full time individuals at the library.

All liaison librarians play an assessment role. It's difficult to gauge the amount, so we added their effort up to 1 FTE.

All subject liaisons are expected to have some knowledge of scholarly output assessment and be able to speak to their faculty about how to use them. Scholarly Communications Librarian is working to put together base-level service expectations and training to assist subject liaisons.

All subject librarians are expected to be knowledgeable and be able to advise and assist researchers and answer questions related to scholarly output activities. Only a handful are comfortable teaching workshops/classes on the tools and topics. (All 14 librarians with subject responsibilities are FT).

As mentioned earlier, those librarians who have expertise have mostly taught themselves. Most colleagues know who they are and can go to them for assistance if needed. We have no "dedicated" staff who are charged with having this expertise.

Expertise is very distributed across the library system and is part of the expectation for library faculty liaisons and library leadership.

Here, this is considered part of the skill set for liaison librarians. It's something done in response to a question, or brought up in a classroom session discussion.

In addition to leveraging the liaison model for liaison librarians to assist faculty in scholarly output assessment and existing Exhibits Coordinator and Digital Scholarship Librarian positions for their collaborations with liaisons, the Libraries also hired a Scholarly Communications Librarian and is in the process of hiring a Data Librarian who will also collaborate with liaisons to provide services across all areas on campus.

In our answer above to which we answered (17,15) we are referring to the number of subject & liaison librarians on our staff. All of these librarians spend only a small portion of their time on such activities.

In our institution, the responsibilities for this area are very diffuse, each subject specialist is the initial point of contact because they know the scholarship culture of their departments. They consult with a few people on staff that have developed special expertise in metrics based on previous experience and their normal ongoing research interests. At this point, no one is specifically assigned as a general point person, though as chair of the scholarly communications committee, I function informally in that role, though it is not a specific dedicated job responsibility. Hence the questions you ask above are difficult to answer. I suspect we will move toward dedicating more staff time to this area, but it may be a while before we formally create specific staff positions to address this area. This is complicated by the fact that other institutional support and assessment offices like Institutional Analysis and Sponsored Programs see this as their function and tend to act independently of the library.

In theory, all of our librarians with public service responsibilities might have some experience with scholarly output assessment activities. However, for the purpose of this survey, I have indicated the number of librarians most likely to be involved with these activities on a routine basis: subject-specialist librarians, librarians serving our professional schools (medicine and law), and librarians serving graduate programs outside the main campus.

It is not so much the reallocation or addition of staff as the realignment of existing subject specialist roles to support bibliometric analysis and publication analytics. This survey does not sufficiently account for that possibility.

Law notes that services are provided by designated specialist. UL notes training and services. At Law, faculty services librarian may occasionally request support from other librarians. At UL, various liaisons provide these services, or they are provided at the reference desk, thus difficult to estimate FTE/staff time overall with exception of CODA librarian, who does this work.

Liaison librarians provide many of these services to their constituents as part of their professional assignment. We are looking to incorporate skills and expertise into position descriptions for new hires, particularly in STEM fields.

Liaison librarians provide support and training for scholarly output assessment upon request and through targeted workshops for faculty.

No one has specific responsibility for this, no one is specifically designated to deal with these issues, but anyone who works with faculty will provide services related to SOA.

No library employee is tasked solely with work related to scholarly output assessment. The work is done by full-time librarians but it is only part of any individual's workload.

Scholarly Communications committee that offers programming and services about scholarly output assessment. The committee is made up of librarians from various libraries on campus.

Scholarly output assessment is considered to be an important component of the liaison role and broadening this skill set needs to be carried out in a coordinated fashion. An assessment protocol needs to be established to review the current products.

Scholarly output assessment is not an official, explicit part of any position description, however, the people who provide these services do so because they believe it falls within their responsibility.

Scholarly output assessment work with library users is part of the typical subject librarian portfolio of outreach and reference activities.

Staff has not been hired specifically for this, but a combination of new and existing staff have this as part of their portfolio.

Staffing model varies a lot in different libraries. On medical campus two librarians have responsibility; on non-medical campus all subject/departmental librarians would include scholarly output assessment services and training in their responsibilities and amount of attention varies widely by personnel and by discipline.

Subject/area librarians and other full-time staff in Research Services and Collections, Technical Services, and Scholarly Communications provide support related to scholarly output assessment on an ad hoc basis. There are no dedicated staff members whose responsibilities are only related to this area.

The University Library is currently building an Office of Research to support the research activities of faculty and students. This will include increased attention on scholarly analytics and collaboration with other units on campus.

The librarians who sometimes provide scholarly output assessment do so only very rarely and on a casual basis. There is not developed program for this.

The library has shifted from a centralized support for scholarly communication services (1 FTE faculty librarians plus 1 FTE staff) to distributed support for scholarly communication services. This distributed support is coordinated by a Scholarly Communication Committee, composed of representative members from Public Services departments (Humanities, Social Science, Science, Information Commons), Special Collections, Technical Services, and the IR manager. Each of the committee's 10 members is responsible for being a consultant on scholarly communication issues within her/his library department. Though the committee has 10 members, the total FTE investment is likely 1–2, since each individual dedicates a portion of time to scholarly communication endeavors.

There is not one designated person who provides this kind of training and services. Instead, different librarians spend part of their time on providing the training and services.

These services fall under other new roles that were created, but the new roles were not focused on scholarly output assessment. These roles were created through reallocation.

This work has been incorporated into the existing subject specialist librarian positions.

We are creating a unit called E-Resources and Digital Services that will be more responsible for tracking a lot of these metrics. All librarians have some skill in these areas and have multiple contacts within the library from Information Technology staff who do web analytics to system-wide contacts outside the library of institutional repository staff who can provide analysis.

We currently are accepting applications for a new position of Scholarly Assessment Librarian.

We have 3 full-time librarians who work on a research guide covering scholarly output assessments, but this is a very small part of their overall responsibilities.

We have a project manager for training and implementing the campus faculty profile system, which includes training on the assessment tools provided therein. I am not sure how this breaks down into FTE percentages.

We have no staff whose primary job focus is scholarly output assessment, as any services or training are provided on an ad hoc basis by some subject librarians. The Institutional Repository does have more focused staff support.

We have staff involved in different areas of scholarly output assessment. Library administrators are involved at the planning and university-wide level, liaison librarians provide services and training to faculty and students, and a Metadata Management Librarian manages our institutional repository.

When we hire a Scholarly Communications Librarian, we expect this to be part of that position.

PARTNERSHIPS WITH THE PARENT INSTITUTION

20. Has your library partnered with specific units of your parent institution on scholarly output assessment activities? N=75

Yes	40	53%
Not yet, but planning is in process	20	27%
No, the library tried to initiate a partnership but was unsuccessful	2	3%
No, the library has not done this	13	17%

If yes, please identify the unit(s) and briefly describe the scholarly output assessment activities the library has collaborated on. N=39

Dean's offices when doing program evaluation and especially the Office of Institutional Analysis

Division of IT, Office of the Vice President for Research, Office of Academic Planning & Assessment

Graduate School, and individual departments and programs

In the past the Libraries have partnered with Faculty Affairs and the president's office on these activities.

Individual academic departments that have expressed an interest in scholarly assessment for their faculty

Librarians have been meeting with Office of Research and Office of Institutional Research staff to review scholarly output assessment software options.

Library has invited deans for research from across the institution to help assess research evaluation tools considered for purchase. Library is working closely with central IT to implement ORCID and faculty info system.

Office of Research

Office of Research, grad school, provost

Office of Research, Sponsored Programs, VP Research, colleges and schools of Arts & Sciences, Engineering and Computer Science, Graduate School

Office of Sponsored Research: creation of patent profiles for individual researchers, as well as patent search and patent citation training for students working at OSR. Media Relations Office: collaborated on the training of MRO staff. Graduate and Postdoctoral Studies as well as Teaching and Learning in the development of graduate student research training (MyResearch).

Office of the Provost: provide guidance and reports re methodologies used by college and university ranking groups. University's Institute of Clinical and Translational Sciences (ICTS), members of the ICTS Tracking and Evaluation Team. The Office of the Vice Chancellor for Research (OVCR): provide guidance and reports for various academic/research groups. Dean School of Engineering: systematic delivery of some reports to department chairs.

Office of the Vice President for Research, Sponsored Program Services

Provost's office is the lead for faculty profile system, and library supports major components of this. Office of Institutional Research, Office of News & Communication, and some deans and department offices collaborate with the library to use these services.

Provost's office: assistance with search criteria and training for faculty using Elements. Individual liaison librarians work with their colleges and departments: primarily in business, engineering, and the sciences.

REACHNC: includes scholarly output assessment activities in the way of visualization tools. This is a locally developed product for the entire university system (17 units).

Research Administration

School of Medicine Office of Research [medical campus]

Several years ago collaborated campus-wide on the selection of InCites. Worked with provost, Research Office, etc. All administrators have turned over, and we have no current subscription for InCites or comparable product.

Texas Digital Libraries

The Libraries have partnered in the implementation of Digital Measures. This was originally with staff in the provost's office, who are now part of the Office of Institutional Research due to a reorganization.

The Libraries were core partners for the VIVO grant and are partners for various trainings and activities with Research Computing, the Division of Sponsored Programs, the Graduate Editorial Office, and Office of Undergraduate Research for training and assessment related activities including ORCIDs and more.

The library is partnering with the Office of Research Services and the Office of Planning and Institutional Research.

The University Library has primarily collaborated with other units such as the Office of the Vice Chancellor for Research to implement researcher information systems and the Graduate College to facilitate electronic theses and dissertations. The first goal of these projects is to collect and disseminate Illinois research, but over time we may see greater library collaboration with other campus units for analytics and assessment.

The University's Grant Assist Program is offered via The Office of the Vice-President (Research). This office currently provides publicity, scheduling, registration, and assessment of bibliometrics/research impact workshops provided by librarians. In addition, some faculties and/or department contacts connect with their library liaisons to coordinate training.

The Vice President for Research helped fund our digital repository. One librarian works with the Associate Provost for Faculty Office to present faculty development workshops, which include scholarly output assessment tools.

There is currently a university working group comprised of partners from our Research Office, School of Graduate and Postdoctoral Studies, library, and various faculties. We've also worked directly with faculties or departments, with individual faculty, communications staff, and associate deans of research to learn about their needs and either provide information or instructions/training for them.

University's Academic Personnel Office provides OPUS system of record for academic appointees. The library has been working on implementing ORCID at a campus-wide level and integrating with Symplectic.

University Libraries partnered with the Office of Distance Education and eLearning to present a joint workshop through the Research Commons covering Research in View and the Knowledge Bank (our institutional repository): "Undisciplined Research: Planning and Publishing Across Disciplinary Boundaries." Looking for collaborators in other disciplines at the university? Want to hear about options for sharing your work digitally or starting a new open access journal? Join ODEE, the Libraries' Publishing Program, and the Knowledge Bank to learn more about valuable tools for finding collaborators and making your work more accessible to researchers in other disciplines.

University system has purchased SciVal Experts/PURE for all system schools. We are currently working with Elsevier to fix bugs in one instance and then may be rolling that out to campus.

Vice-President, Research Faculty of Nursing, Faculty of Medicine, provost's office

VP executive, VP research

We collaborate with University Information Technology on the implementation of Symplectic Elements and the connection to the institutional repository.

We have more than one answer to this question. Law answered no, but UL answers both yes and no. At UL, life sciences librarian partnered with NUIT Research Computing, FASIS/HR and others to explore ORCID options. Head of Electronic Resources & Collection Analysis Department at UL sits on the Scholars/FASIS team.

We work closely with the Office of Research Services. Currently we're engaged with them on implementing a new phase of our Tools for Research @ Queen's (TRAQ) system for managing the research cycle that includes scholarly output assessment.

We work with the medical school quite a bit largely due to the NIH mandate.

We worked with the Office of Knowledge Enterprise Development on their evaluation and eventual implementation of SciVal.

We've been working with the University Data Warehouse and Business Intelligence to identify and evaluate potential software for use in a comprehensive faculty information system.

We've collaborated with the California Digital Library to promote and support the UC e-Scholarship repository on this campus.

Planning is in process N=7

Collaboration with Office of Faculty Affairs is in development. This office manages the campus instance of VIVO.

Institutional Research

Institutional Research Office: using data on publications in custom services developed on campus for tracking outputs.

Library will collaborate with academic departments and Institutional Research on the use of Digital Measures.

Office of Research

The Libraries are collaborating with the Division of Research (VPR) on an experimental basis on bibliometrics, e.g., quantifying the monograph output of faculty.

Work with different campus units on an ORCID implementation.

Tried to initiate a partnership N=2

Research & Innovation Services

University (provost's office) contracted for Academic Analytics and Digital Measures. The Libraries wasn't consulted but after the contracts we've worked periodically with the Digital Measures team in the provost office.

21. Please enter any additional comments you have on scholarly output assessment partnerships. N=17

Carolina Health Informatics Program has recently relocated its offices to the Health Sciences Library and provides a potential partnership in this area. ODUM institute for social behavior science located in Davis Library also provides collaborative services.

Have consulted with the Office of Research staff about potential source of faculty publication data useful for populating SciVal and VIVO (e.g., Scopus, Pubmed, Web of Science, etc.)

Instruction with SOA tools is often integrated into workshops/sessions with broader coverage. One librarian has been invited to give special presentations to university committees (appointed by the provost's office) to educate them on research evaluation software and the differences between different tools.

Office of Institutional Research does an evaluation of a scholar's impact as part of tenure review process, but said office does not appear to provide services directly to faculty members.

Partnership with the main campus Office of Research is likely.

Plan to explore the potential for collaboration with the university's research services department.

The library only played a facilitating role in introducing assessment services and resources, beyond the library holdings, to various campus units.

The provost's office subscribes to Digital Measures. We are making efforts at working with them, so that we can ingest citation information (and maybe full-text) into our institutional repository.

There has also been work done independently of the library on assessing academic programs through scholarly output assessment measurements through our Academic Planning and Institutional Research Office.

This is a growth area for library services. It's important to be able to show impact of our university's research for a variety of reasons, and library staff are well placed to understand how best to do this.

This is a new area and there needs to be more communication and cooperation among the various entities interested in assessing the scholarship of our institution. The other problem is that direct quantitative assessment (the numbers game) can create furor and significant push back where the validity of the metrics used, the underlying data, and interpretation of results is questioned. Librarians tend to come from a perspective of transparency and openness, but that is not always the perspective of everyone else. Understandably, this is a sensitive area and perhaps not enough care has been taken to make sure scholars and departments are assured that they will not be nor be judged by a single "magic" number.

We are in the planning stages of partnering with the provost on scholarly output assessment.

We have had very preliminary conversations about standardizing ORCID's across campus with the associate provost for research.

We have no formal arrangements, but the library is part of the conversation at all different levels, e.g., serve as consultant on specific databases, products.

We would like to work more closely with the graduate school as well as vendors, e.g., ProQuest dissertations dashboard.

We're seriously considering building the software for a faculty information system in-house rather than purchasing from a vendor.

Working with partners is key to understanding all of the different parts of the issue and reaching all of the different relevant groups. For us, our strategic plan and the focus on research outcomes is a driving force.

MARKETING AND PUBLICITY

22. What methods does your library use to promote scholarly output assessment activities and services? Check all that apply. N=73

Word of mouth	54	74%
LibGuides	48	66%
Library website	44	60%
Blog posts	21	29%
Social media messages	20	27%
Flyers	15	21%
Brochures	12	16%
Other method	34	47%

Please briefly describe the other method(s). N=34

Campus activity/course guides

Campus Daily Digest

Campus media

Departmental meetings

Departmental meetings and emails

Direct email to the targeted users

Emails to faculty

Electronic display boards

Email (3 responses)

Email invitations sent directly to faculty members via central campus communications channels. Some targeted communication with deans/associate deans on metrics relevant to their disciplines, provided upon request.

Email lists to faculty and grad students

Email notifications sent out by university public affairs to all university community members, bookmarks given out at orientation

Email to faculty and newsletters

Email to faculty listservs

Emails to department liaisons, announcements at faculty events, blog advertising is new; only started last year

Eventually we intend to use webguides and departmental liaisons.

For campus awards, people are referred to librarians for citation analysis reports that are then submitted as part of the campus award application packet.

Individual email communication, departmental meetings with faculty

Liaison librarians, integration with other systems and processes on campus, attending academic department meetings, presentations in courses and workshops, integration of library staff with research labs

Library-held wine and cheese event for new faculty, posters, open week events, brown bag lunches at departments, and presentations to user groups (usually as a part of long-standing series)

Local listservs

Meetings between key faculty members from departments who have responsibility for these activities and the appropriate library liaisons

Mostly through direct contact from those interested; we're not doing a lot of advertising.

Once we get the altmetrics donut up on the publishing/press website we will certainly be promoting it via social media, brochures, and the library websites.

Regular publication reports include notes about new tools/features available for scholarly assessment.

Via liaison librarians and the library newsletter

We do not yet have a program to promote. Services are provided on-demand.

We do not yet promote the scholarly output assessment activities and services; we fold these activities and services into our overall scholarly communication program.

We have depended more on liaison contacts within their departments to proactively become aware of and take action on any of these assessment needs rather than formal printed or electronic materials. However, we do have a concise and I think excellent scholarly publishing web site.

We speak to faculty in meetings and for their workshops as requested or arranged.

Workshops

Workshops on metrics

SCHOLARLY OUTPUT ASSESSMENT ADVICE

23. What advice can you offer to your peers on providing scholarly output assessment activities or establishing a scholarly output assessment program? N=43

Although we do not have a designated scholarly output assessment program, we are able to provide these services via one-on-one consultations, workshops, targeted professional development classes, and upper-level course-related instruction.

As we develop output assessment services, we find it beneficial and insightful to think outside of the article as scholarship and outside of the h-index as impact measurement. We encourage our colleagues to gain insight in this growing area as well.

Become informed about your campus assessment tools and become involved in those efforts, as it serves the overall institution more effectively than library-only lead efforts.

Build capacity and expertise so that faculty members can create and manage their own profiles themselves. Recognize and tolerate that this area is still in flux. Build awareness, recognizing that this area has not yet gained traction and that traditional methods still prevail.

Construct outreach and training that is in line with disciplinary contexts. Align outreach materials with institutional goals.

Create resources that people within the library can use to educate themselves when they are asked to provide analytics. Provide key contacts with expert knowledge of specific sets of analytical tools. Have staff be familiar with the kinds of tools available, but don't expect them to know how to use them unless they have an ongoing need to exercise their skills.

Current ad hoc model is not effective due to lack of "ownership." Recommend a coordinator responsible for marketing these services and staff training.

Ensure that you have capacity to provide services (from my experiences in Australia, I have seen the demand for such services increase tremendously over short periods of time). Ensure that you are working with reliable data sources (data is cleaned and you capture as much of the outputs as possible). Be honest about the limitations of the bibliometric tools and techniques; always make caveats explicit.

Establish baseline service expectations for both subject liaisons and front-line staff. Create informational pages and training to help get all staff up to speed.

Existing roles and skills of librarians can transfer into scholarly output assessment activities with training and education.

Faculty advocates have a stronger voice in describing the value of these services than library employees.

Focus on established data that faculty are familiar with rather than new social media metrics (almetrics) out there.

Get campus-wide input on the definition of the problem and selection of the tool.

Hire someone with expertise in this area.

Identify user needs. Provide time for staff to learn to do this. Get faculty input to plan programs; we need to understand their needs. Lesson learned: We think that “we” know scholarly communication and how output assessment will benefit faculty. But the big reveal was learning how competitive forces underlie faculty decisions on everything related to scholarly output. They think much differently than librarians.

Integrate this work into existing relationships with faculty to support their work across the research life cycle.

It is challenging and time consuming to stay abreast of the tools and methods used to assess scholarly output. We find that having a core group of librarians acquiring more in-depth knowledge in the area enables others to refer more advanced questions to assist our user population.

It is critical to have the support of the high administration; most of these issues are related to institutional repository and open access. We succeeded in presenting scholarly communication as part of a large “research life cycle” issue/project.

It is helpful to have a dedicated position or at least one faculty member who keeps abreast of emerging products and resources and then provides staff development for other faculty and staff.

It’s important to get faculty buy-in by making the workflow for assessing and tracking scholarly output as easy and pain-free as possible.

It’s very important to understand campus culture and specific researcher or administrative needs in order to have productive conversations.

Liaison model provides expert consultative services for unique concerns for each field as augmented by functional experts support.

Make it extremely easy for the scholar. Any additional effort, no matter how slight, will be met with resistance. For this reason, one must do just about all the work on behalf of the researcher. That means ultimately redeploying library staff.

Need to get other departments on campus involved in order to be successful.

None at this time.

Our institutional repository collection administrators really appreciate the regular email updates with usage statistics on their collections.

Our librarians do not recommend Google Scholar. To researchers who use Google Scholar, our librarians recommend other options such as Journal Citation Reports, Scopus, and Web of Science. While our librarians can provide reports and guide researchers in scholarly output assessment, it is easier to let researchers review citations of their works and correct inaccuracies. For example, it is not rare for a researcher to have multiple researcher profiles due to name changes. Researchers should be responsible to reconcile their multiple researcher profiles and citations. We need to remember that disciplinary differences in publishing cycles affect scholarly output, and that scholarly output of

one discipline is not quite comparable with that of another. Even within the same discipline, there is a difference in publishing cycles between theory and applied articles. It remains controversial to use summative measures like scholarly output assessments in terms of managing departments and their budgets.

Our new workshop series has been very successful, in part because a faculty member approached us with the idea, and co-presented with us. He is a well-respected faculty member and his presence drew more participants to our workshop. We now integrate portions of that workshop into other presentations to grad students (in particular) but also faculty groups.

Partnerships are important. Take a needs-based approach.

Providing such services helps build faculty-library liaison relationships. Faculty are very pleased when we are able to help them prepare for promotion and tenure reviews.

Start with one area of expertise and expand based on gaps or areas of need. Another recommendation is to identify champions such as faculty members or administrative assistants who support the library's efforts in this area. Ask the champions for feedback when piloting new ideas or reports. When a report is requested, provide the report sooner than expected and include other information to supplement the report. Be willing to test and become familiar with new software. Be willing to review the literature on the topic. Attend non-library conferences such as the American Evaluation Association or Science of Team Science.

Stay on track and be persistent.

Tailor your programs to address actual researcher scenarios. Funding applications, dossiers for renewal and tenure, annual reports and promotion. Anticipate and address concerns and misconceptions.

The tools have limitations. Be mindful and explicit about this as you introduce, discuss, and utilize them. Publishing cultures differ by discipline, and this needs to be acknowledged and understood when taking on this work. To provide a full picture of an individual's and/or institution's scholarly output assessment, a broad and diverse range of scholarly impact measures needs to be defined.

The tools to do this can continue to grow. Don't plan on learning about just a few select tools because the faculty are going to be stumbling upon other tools.

This area is growing so we should do it; seems to be a core role for liaison librarians. Library as publisher (formal or informal) also requires that we do more of this type of work. We need to be proactive.

Try to understand the needs and motivations of the researchers, and tailor the program (or at least the messaging around it) directly to that. Academic departments, news & communications staff, and subject liaison librarians are key partners, as they are already working closely with the researchers in many related areas, and have established relationships.

Understand the norms of the discipline and the expectations for faculty and graduate students in each department.

Understand the strengths, weaknesses, and appropriate use of various platforms and measures, and how to communicate this to users. Write scholarly output assessment activities into job descriptions to stress that scholarly output assessment activities are increasingly a part of many librarians' work. If output assessment is used by admin as a contentious tool in faculty performance reviews, it's important for the library to maintain neutrality and not be perceived as taking sides.

We are eager to learn from other institutions.

We are not very far along with this, but we have found that it is important to offer multiple opportunities for faculty to learn more about it.

We've got to partner with others. Our roles and our libraries are changing dramatically, and we have many options for the future. We can't and won't succeed by pursuing all possible directions. We need to make sure this is an area where we can have impact, have the proverbial seat at the table. We can take on every new role proposed and be successful. We need to be very strategic. That said, I do think this is an area that we should aggressively pursue. As a counter example, I am less optimistic that scholars will want and accept help from librarians for data management, except at the lowest level of doing the grunt work. Carefully document every metric and report you do. It can cause a firestorm. Report all assessment data in its full context, what you searched, how you searched, limitations, what the metric is. Know what you are doing or get out of the way. Higher-level metrics for departments, schools, and institutions can be a huge time sink. Author disambiguation and tracking work histories is a huge task, esp. if you want the metric to include all scholarship of your faculty from their first job. Again we need to partner and train others. Our engineering school has a person devoted full-time to tracking metrics. We cannot possibly do citation metrics for the entire university and keep it up to date. If we are not careful, we will spend our entire year sitting in front of a computer and retrieving citation reports.

With workshops it really helps to have someone that is a tenure-track faculty, someone who knows and understands what faculty have to provide for their department annual reports and/or their promotion & tenure portfolios. We have had a LOT more visibility with our efforts since partnering with the provost's office staff who handle faculty development programs and also the VP for Research office. One of the struggles we have had in recent years is that there are two different areas of need; one is the tenure-track faculty promotion/tenure needs, and the other is university administrators who are compiling faculty comparison reports for accreditation or cross-institutional comparisons of faculty scholarship and grant activities. The tools the university administrators tend to need something like University Science Indicators (which has changed name now), Academic Analytics, or Plum Analytics. Faculty have more needs along the lines of finding scholarly impact for disciplines that are less well covered by Scopus & Web of Science, particularly in the humanities. We have needed to address each audience very differently in these discussions. I strongly recommend forging relationships with university committees involved in reviewing faculty promotion & tenure files ... educating them to what is "currently" available and ensuring they are involved in campus discussions about new trends in these areas. Self-promotion, online visibility, and online involvement can impact altmetrics and readership statistics and likely citation rates. It's important to explain how using different tools (repositories, social media, etc.) can affect the visibility and reach of research outputs. Not everyone likes social media, but it is important to be aware of it and to be competent enough with these tools to be able to monitor what's being said and done with your research. It should not be assumed that only the "sciences" are interested in altmetrics. We had more attendees from the social sciences and humanities at our workshop.

SCHOLARLY OUTPUT ASSESSMENT TRENDS

24. What future trends related to scholarly output assessment do you think pose implications for research libraries? N=59

Administration could bypass the library by training their own people to pull the numbers from places like Web of Science, Scopus, Google Scholar, SciVal, etc.

Adoption and use of alternative metrics for scholarly output assessment

Altmetrics and unique identifiers for researchers, e.g., ORCID ID

Altmetrics for sure. But as there are more players (used to be the only citation database was Web of Science) it gets harder and harder to choose the source data, no less the metrics used. The biggest problem yet to be solved is combining results from different citation databases. This is because one not only needs to deduplicate the cited references (the faculty member's papers) but also the citing references. No good way to do the second part. Scholarly output assessment is here to stay, it is a natural area for librarians since most of the assessment is based on citations/mentions/downloads of published material, whether formal or informal. We know scholarly publishing.

Altmetrics that focus on non-scholarly attention to scholarly output will require libraries to turn their attention to things like traditional and social media. Non-traditional scholarly output, such as data sets and code, will require new tools to track citations and impact. Librarians will need to better understand the research process in order to help researchers measure the impact of these outputs.

Arts & Humanities: Even though we think that they will benefit from Altmetrics, they want to use conventional metrics for assessment (e.g., H-index) because that's the only way they can stand on a level playing field with scientists. The H-Index must be used for all faculty disciplines even though some disciplines may see problems with it. Librarians focus on the problems of traditional metrics like H-index and JCR. But this does not help administrators use metrics better; it only makes them annoyed (at us).

As North American universities adopt research information management and research assessment software, libraries will be more involved in explaining what it means to faculty, and will be positioned to help faculty present their scholarly outputs in the best light.

As scholarly output increasingly moves toward non-traditional platforms (e.g., blogs, social media), what are the implications for collecting and preserving the scholarly record? What types of scholarly output will be prioritized among research libraries? How might current methods and tools for assessing scholarly output reshape the scholarly record that will be available through research libraries in the future?

Author disambiguation (ORCID, Researcher ID, etc.) and related metadata are only as useful as the data source you are harvesting from is accurate, detailed, and accessible. Financial limitations and inaccurate data will continue to challenge forward progress in this area unless libraries and publishers work together to improve the situation.

Cost of the tools, difficulty aggregating the data

Currently, popular service in the sciences but will become increasingly important in the humanities. Campus administration's increased interest in scholarly output assessment is something libraries need to be aware of and respond to.

Data (and other digital scholarship "objects") are a big issue. Not only the preservation of data but finding ways to assess usage beyond citation metrics. There are groups examining this. Data citation is one method, but has yet to become standard practice. This is likely to be messy for a while yet. In the last few years, we have suddenly started seeing problems with researchers not understanding the difference between a "journal" and a series of publications posted on a website. Electronic journals have caused confusion with what is a volume and issue number and why is it needed ... along with being able to determine the "reputation" of a journal before submitting articles for publication. There is a need to spend time educating researchers about predatory publishing and vanity presses. One of our librarians reached out to a society publisher whose name was being "reused" by a predatory venue and it led to the publisher producing a three-part mini-series on the topic in their society newsletter.

Data sharing and digital scholarship/humanities result in scholarly output other than journal articles. Datasets are published through repositories with digital object identifiers (DOIs) for ease of citation. Data citations should be counted in scholarly output assessment, and new types of research output from digital scholarship/humanities projects should be considered in addition to other forms of scholarly output.

Decrease in institutional budgets. Increase in cost of tools. Increase in automated harvesting of information. Increase in competition for resources and prestige. Increase in institutional silos.

Develop new tools & data sources for non-journal materials. Services and workshops are focused on promotion and tenure efforts.

Develop support to academics editing a peer review journal. Continue developing a local assessment team on the bibliometric impact of university research. Work on a unique researcher ID (e.g., ORCID type) or signature.

Different groups of scholars (e.g., digital humanists, open access advocates) decry creeping neoliberalism in academia and advocate for thinking about P&T decisions in new ways. Research libraries need to be cognizant of how SOA feeds into these other issues (and how these issues feed into SOA).

Everyone at the university is much more interested in measuring scholarly output, both for individual scholars and for the overall ranking of the university, and libraries will be recognized as being expert about metrics, citation analysis, etc. As interest grows, library faculty and staff will take on, and want to take on, new roles in this area. Since institutional repositories, open access mandates, and library publishing are implicated, all areas in which we are working, scholarly output assessment will be part of our work. We will collaborate more with publishers, we will need more resources in terms of staffing and sources, and we will recruit for and reassign to new positions.

Expanding the portfolio of liaisons to include these new services. We need to educate subject librarians, who have the most direct contact with students and faculty within the institution, about scholarly output assessment and associated tools.

Explosion of tools on market that are challenging to keep up with and support. These also have budget implications, i.e., library cannot purchase all. Rather, promote resources library has available and free tools. Another trend is use of these tools across disciplines, including to those not familiar with concepts, or where they are perceived not to be useful/accurate.

From a faculty services perspective, the evolving role of output assessment in tenure and promotion will mean that librarians acquire more knowledge and skills in bibliometrics and scientometrics. From an information literacy perspective, the shift from pre- to post-publication review and assessment will change how librarians teach students to assess sources.

Funding for expensive platforms such as Digital Measures. Proliferation of free services that do different things.

I think major library vendors and publishers will begin to offer this service as a package with other services.

I think the increasing importance of alternative metrics will continue to raise implications. For example, many tools that measure alternative metrics rely on information from the author in order to be accurate, which means that it would be difficult, if not impossible, to have a comprehensive tool assessing scholarly output that is implemented without active author involvement.

I think there are more opportunities for libraries in this area because this is using databases (Scopus, WOS) and journal information (which feeds Google Scholar) to connect with faculty profile tools that have many purposes from running metrics at individual, department, and campus levels in addition to many other purposes. If libraries are not involved in these implementations on their campus, they are losing out on an important opportunity to remain relevant to their users and to build further collaborations.

Increase in the emphasis that faculty members and researchers demonstrate success in collaborations as well as by the impact of their research means that the tools and the skills to do this are becoming increasingly important. This

highlights the role for Information Technology in the development of self-help software and tools, and the challenge for research library liaisons to match the appropriate tool with the specific needs of the discipline.

Increased significance of altmetrics. Increased need for researchers to demonstrate qualitative impact to multiple audiences within the university and industry. New publications methods and increasing importance of non-traditional scholarly output. Increasing system and process integration. Increased importance of research data in assessment.

Increased demand and focus; open access movement and altmetrics taking greater prominence; capturing 'non-traditional' data about scholarly output (e.g., music performances); changes in promotion and tenure processes to reflect different scholarly dissemination environment.

Increased level of specialization within disciplines suggests necessity of training librarians of various disciplines to best communicate with a diverse faculty. Need for careful navigation of the role of libraries between that of supporting faculty and that of assisting administration in evaluating faculty.

Increasing use of article-level metrics and how those tie into tenure and promotion discussions.

Increasing use of standards like ORCID improve the quality of scholarly data and promise greater interoperability. In addition, we anticipate more campus conversations about Altmetrics.

Libraries need to be out in front and provide these services and/or partner with other departments on campus.

Making the connection between immediate needs of scholars/researchers to demonstrate the importance/value/impact of their work (a private "good"), with "openness" (a public good), seems to work very well here.

Many research libraries need to hire Scholarly Communication Librarians who can help lead the development of robust services in this area.

Many tools and measures, federal research requirements, changes possible in tenure processes

More and more funding agencies, publishers, and professional associations are using ORCID. This gives librarians an opportunity to promote ORCID.

More system integration across our campuses is needed and widespread use of standard identifiers for researchers and their outputs.

New methods for assessing and analyzing impact

Open Access; San Francisco Declaration on Research Assessment; Radical Collaboration and evaluation of collaborative activities, practices, and impacts; Digital Scholarship trends broadly including Digital Humanities; assessment and impact tracking with new programs and requirements from funding agencies and for legislative support with public institutions, and with greater emphasis on accountability

Reallocate costs for new position in this area of expertise or stop offering services of this kind.

Scholarly assessment is a niche area that represents a transformative service model for libraries. Librarians possess skill sets that are well suited for scholarly assessment activities. Librarians are familiar with bibliographic databases and have an understanding of how the data can be used for grant reporting, tenure/promotion, benchmarking for performance, to name a few. We are also familiar with the academic and research practices including funding mechanisms. Services and expertise on scholarly output assessment may help libraries to move beyond traditional publishing support to support of other sorts of output, such as data, code, informal dissemination, etc.

Scholarly output assessment tools are not advanced enough yet for the trend of team science and team-level assessment, as opposed to traditional individual scholarly assessment.

Stronger relationship between output assessment and the funding, tenure, and promotion of faculty. The integrity of data will come into question, especially when it comes to use (e.g., identifying “real” vs. robot web visits). Do the metrics actually measure what we hope they do?

The area of altmetrics poses new challenges in research output evaluation as there is still little research to the meaning of these metrics. It also provides exciting opportunities to capture impact of new forms of scholarly communication. Libraries should keep a keen eye on the developments in this area.

The big publishing conglomerates are all trying to corner the market in this space. Libraries will need to be careful not to get stuck in unhealthy relationships again, with closed standards, closed systems, and proprietary software and data. It will be important to promote openness and competition, and for universities to have control over their own data.

The development of Altmetrics is something to watch, and will likely become more important and relevant in the next five years.

The incomplete, but very interesting and easy, results provided by services like ResearchGate and Google Scholar Profile are already influencing people to accept the quick, free, and incomplete data versus data from the commercial sector like SciVal, InCites, etc.

The integration of more traditional scholarly output assessments (citation impact factor, h-index) with new methods of assessment and with new partners on campus (institutional research, office of research)

The limitations of the h-index in the shifting scholarly communications landscape will most likely demand new skills and training for library professionals to implement assessment for emerging forms of scholarship and impact.

The tracking of altmetrics will become much more prevalent.

There are so many new avenues of scholarly assessment that appear almost daily. At this point I think that it is too early to understand the value of many of them.

There is a high cost to scholarly output assessment products such as ImpactStory, Plum Analytics, etc. Many universities have Web of Science or Scopus but most campuses can't afford both. At the campus level, which unit will be expected to pay for products such as Plum Analytics, Digital Measures, InCites, etc.? Offices on campus often point to the library to pay, but library budgets generally can't absorb these costs. Scholarly output assessment measures are poised to shift and additional measures be added to assessment but adoption and integration per discipline or department will not occur all at once. Campus and discipline tenure and promotion processes will include new metrics but some will be slower to adapt. Also libraries are being asked to double check commercial research impact products/results, which is impossible since the commercial products use a proprietary methodology. Adoption and widespread use of ORCID identifiers will help, but this will still take several years to ramp up.

There is no one-size-fits-all solution for scholarly output assessment. There is a need to think beyond the STEM disciplines to the ways in which other disciplines, particularly in the humanities, can and should evaluate scholarly output. There is also an increased need to account for alternative methods of scholarly output, such as conference posters or the development of new technology or methods based on research.

Use of measures beyond citations in promotion and tenure decisions and departmental evaluations, including alt metrics and institutional repository statistics. Also, defining what those measures mean qualitatively as well as quantitatively.

Vendors will develop tools that we have to evaluate and budget for. Faculty will use a variety of vendors and open source software, creating a range of demands from different departments and disciplines. It will take time to develop consensus on the most effective tools. Changes in publishing will impact how output is assessed (e.g., data publications and article-level metrics).

We expect to see more and more interest in identifying and visualizing scholarly networks. We expect the role of linked data and semantic web technologies to continue to grow in this area.

We need to see more integration into traditional bibliometrics work. We also need to see more standardization of the data—that is what is being measured. All of the vendors do it differently. Glad to see that NISO is stepping up in this arena.

We should know how social networking tools might be used to support promotion and tenure cases for graduate students, newer faculty, and well-established faculty.

When libraries collaborate with other university units to host assessment tools like VIVO and semprotics, faculty will have a more formal and trusted means to rely on their use.

ADDITIONAL COMMENTS

25. Please enter any additional information that may assist the survey authors' understanding of your library's scholarly output assessment activities and services. N=24

As indicated earlier in the survey, it should be emphasized that the services available to patrons and the training activities available to patrons and Libraries staff are generally offered on an ad hoc basis rather than through established programs related to scholarly output assessment.

Most activities thus far have been related to science, engineering, and medicine groups, with some in business.

One of the successes the library system has had is the grass roots effort to develop a Health & Natural Sciences team. This is an interdisciplinary group of librarians that has led the initiative for creating activities and services of scholarly output assessment for the libraries through a series of classes branded as Accelerate Your Research.

Our activities and services in this area are largely left up to individual library liaisons. We do have an expectation that librarians will provide these services.

Our activities are not coordinated at this time but happen in various departments of the library as faculty needs arise and training and willingness on the part of library staff continues.

Our activities have been somewhat reactive to date. Support has been provided when requested, but we are working on developing a more well-defined set of services in this area.

Our response to this survey will rapidly evolve since we have started a major reorganisation of our structure from top to bottom. New positions will be created in the future while some others will disappear. This will mainly be done by reallocation of staff.

Scholarly output assessment has not been a distinct focus, but is part of our larger effort to support the scholarly publishing needs and interests of our user communities.

The university is a decentralized institution, and as a result, the collection of scholarly research outputs is taking place many times over at the individual, department, college, and campus levels. It is time consuming to collect and report on this information. Our campus is in the process of implementing the PURE researcher information system for faculty and researchers, which we hope will help to centralize data collection, automatically capture many outputs, and serve as a showcase for our research. Improving research analytics is a secondary goal of this project, but we see opportunities for sharing information across systems, simplifying data collection and activity reporting for colleges.

There are varying levels of service in scholarly output assessment in our library. The Medical Center has done a lot of forward-thinking work on this front and has been doing so for years, whereas other units are just now getting involved.

This is a major area of interest and conversation in our library system and there seem to be many opportunities for collaborating with other campus units, but such collaborations are complex politically, strategically, procedurally, and technically.

This survey is difficult to complete since we are in the early planning stages of a program. We are interested to find out if there are other institutions that have made this assessment a priority and have implemented a program.

Through our distributed model, we are building expertise across our library system and across disciplines. We are being proactive and notice the growing interest. We value the deep expertise some library faculty have already attained.

We do not have a developed program in this area, yet. This survey has prompted several conversations and ideas for further development in this area.

We do not provide or generate reports as a normal service to our faculty/researchers. We focus on teaching them how to use the tools and on their weaknesses and strengths. Often help is needed to formulate complicated queries in systems like Web of Science and Scopus.

We have strong partnerships with the Office of Research & Engagement and the Office of the Provost. They have acquired systems and look to the library to support faculty and administrators in using the systems.

We need to be more pro-active in training and development of staff in this area. Our services need a more coordinated approach; we are now too decentralized and fractured. As a result, campus units are hiring their own in-house expertise to do this work, side-stepping the library.

We offer the most limited, non-advertised, occasional support by a reference librarian to the occasional faculty member.

We recognize the importance of services in this area and are currently advertising for a Scholarly Communications Librarian to develop these services.

We're just at the beginning, and still have a lot to learn and do.

We've pretty much covered it. We have an established scholarly communications program, but a new librarian in the role who is bringing a new focus on scholarly assessment. Because of this, much of the material requested is under development, and we do not have live pages to offer links for at this time.

We understand the importance of developing library services that assist researchers throughout the lifecycle of the research process, including evaluation. We are committed to developing research assessment service here and have already undertaken a number of steps in that direction. These include a series of talks and seminars on the importance of bibliometric services to support research activity of university faculty, trials of industry-standard tools, and FY16 project to develop bibliometric service.

While currently we don't offer a dedicated advertised service called "Scholarly Output Assessment," services of that kind are coming as we get started with our transition to campus-wide adoption of a faculty profile system (Symplectic Elements). This tool will enable scholars to track many aspects of their scholarly impact and scholarly communication. The strategic initiatives manager here at the library has done (and continues to do) training with campus faculty to understand how to use the tools available in the faculty profile system. Other assessment questions that come in are frequently directed to the scholarly communications librarian or subject liaisons.

While subject liaisons have always provided assistance with citation reports, scholarly output assessment is not an established, dedicated service at our institution. However, academic units started to express the desire and need

for assistance with the process. The library is actively engaged in consultations and conversations with academic departments to identify specific aspects of this effort where the library could play a leading role.

RESPONDING INSTITUTIONS

University at Albany, SUNY	University of Maryland
University of Alberta	University of Massachusetts, Amherst
Arizona State University	Massachusetts Institute of Technology
Boston University	University of Miami
Brigham Young University	University of Michigan
University of British Columbia	University of Missouri
University at Buffalo, SUNY	New York University
University of Calgary	University of North Carolina at Chapel Hill
University of California, Irvine	North Carolina State University
University of California, Los Angeles	Northwestern University
University of California, San Diego	University of Notre Dame
Case Western Reserve University	Ohio University
University of Chicago	Ohio State University
University of Colorado at Boulder	University of Oklahoma
Colorado State University	Oklahoma State University
University of Connecticut	University of Oregon
Duke University	University of Ottawa
Emory University	Pennsylvania State University
University of Florida	University of Pittsburgh
Florida State University	Purdue University
George Washington University	Queen's University
Georgetown University	Rutgers University
University of Georgia	Smithsonian Institution
Georgia Institute of Technology	Southern Illinois University Carbondale
Harvard University	Stony Brook University, SUNY
University of Hawaii at Manoa	Syracuse University
University of Illinois at Chicago	Temple University
University of Illinois at Urbana-Champaign	University of Tennessee
Indiana University Bloomington	University of Texas at Austin
University of Iowa	Texas A&M University
Iowa State University	University of Toronto
Johns Hopkins University	Vanderbilt University
University of Kansas	University of Virginia
Kent State University	Virginia Tech
University of Kentucky	University of Washington
Université Laval	Washington University in St. Louis
Louisiana State University	Western University
University of Louisville	University of Wisconsin–Madison
McGill University	Yale University
University of Manitoba	

