Bridging the Chasm: Faculty Support Roles for Academic Librarians in the Adoption of Open Educational Resources

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Despite demonstrated student benefits from Open Educational Resources (OER), especially those in community colleges, faculty adoption remains marginal. This study is framed by diffusion of innovations theory, which acknowledges that adoption of an innovation must exceed a tipping point to ensure enduring success. The study focuses on community college faculty with demonstrated OER engagement, on the basis that these faculty have greater likelihood to adopt OER and help "bridge the chasm." In surveying faculty, we tested a range of roles librarians have played in supporting OER adoption. Findings show that faculty value librarians' roles in discovery, cataloging, and information literacy but are less open to librarians operating outside these traditional roles, including mentoring and policy development. Faculty were supportive of librarians' role in advocacy for OER and, overall, felt that librarians have a role to play in the OER movement on their campuses.

Introduction

Open Educational Resources (OER) in the United States trace their origins back to MIT's Open Courseware Initiative (OCW) launched in 2001. This initiative had the objective of making the full curriculum of the elite engineering institution available to all—transparently and without cost. Toru Ilyoshi and Vijay Kumar, two of the individuals behind the initiative, summarized the principle behind the project as "education can be improved by making educational assets visible and accessible and by harnessing the collective wisdom of a community of practice and reflection."[1] Now, there are OER repositories, conferences, research teams, and dozens, if not hundreds, of initiatives at the local, regional, and national levels to promulgate the adoption of OER and open education. One such support is a robust and widely adopted licensing scheme in the form of the Creative Commons (CC), which underlies and facilitates the "some rights reserved" model of open sharing.

Despite this progress, advantages, and support, OER remains, overall, at the margin of American higher education, even in the domain of community colleges, the publicly supported

open-enrollment institutions that serve nearly half of the total college-enrolled population in the United States.[2] According to *Opening the Textbook*,[3] only 8.6 percent of courses use an openly licensed (CC or public domain) textbook of any variety. The authors observe that this percentage closely tracks the similarly small percentage of faculty who report that they are "very aware" of OER.[4]

In the expansive literature on the diffusion of innovation, a phenomenon known as the "chasm"[5] plays a significant role. Simply stated, without crossing the roughly 16 percent adoption point that represents the innovators (2.5%) and early adopters (13.5%) in a system and separates those groups from the mainstream "early majority" population, innovations rarely take hold to the extent that they have a significant impact on society. After 15-plus years in the marketplace of ideas, OER still falls below this diffusion tipping point.

While at the forefront of support for OER, librarians cannot drive OER adoption across the chasm by themselves—adoption takes place at the level of the individual or groups of faculty who make decisions regarding course materials. This study seeks to better identify, understand, and describe where some of the most productive leadership opportunities may lie for librarians who want to promote and support OER adoption among faculty, with a specific focus on the community college context with implications for all academic librarians.

To better understand the leadership and collaboration opportunities for librarians seeking to advocate and support OER adoption, this research seeks to address the following research questions:

RQ1: How familiar are community college faculty with the roles that librarians might play in supporting OER?

RQ2: In which of these roles have faculty had personal experience with librarians while considering or engaging in OER adoption or development?

RQ3: What is the level of favorability of faculty toward librarians in those roles supporting OER with which they have had personal experience?

RQ4: Regardless of whether they have had prior experience with librarians in these roles, which roles do faculty choose as important for librarians to play in supporting OER?

RQ5: How does the use of other library resources or services by faculty correspond with attitudes regarding the librarians' role in supporting OER?

RQ6: Does a greater level of faculty engagement with OER correspond with attitudes regarding the librarians' role in supporting OER?

Literature Review

In the community college context, the expense of course materials plays an outsized role. At a private institution, for the $52,500 tuition, room, and board price tag, CollegeBoard figured that $1,240 for course materials and supplies is only 2.4 percent of the total budget.[6] At a community college, however, the slightly higher $1,440 figure for the same materials is 8 percent of the total budget. When compared to just the cost of tuition, however, the cost of course materials and supplies for a community college student balloons to 40 percent of the cost.[7] While faculty ranked the "Cost to Student" as the most important factor in *selecting* course material, when it came to their actual *satisfaction* with the current market, cost ranked lowest on a list of nine possible factors influencing adoption.[8]

The ongoing escalation of cost course materials from commercial publishers in particular has been the subject of numerous analyses and reports in recent years. In 2018, the Florida Virtual Campus found that the high cost of textbooks is negatively impacting student access, success, and completion; textbook costs for Florida students continue to trend higher; required textbooks are purchased but not always used in course instruction; and, in terms of the cost of the textbook and other instructional materials, college students were in even worse shape than university students.[9] Furthermore, students did not purchase some of their required materials (66%), may have earned a poor grade (37.6%), or even failed a course (19.8%) as a result of not having a textbook. Students also reported taking fewer courses, not registering for courses, dropping courses, and withdrawing from courses due to textbook expenses.[10]

In recent years, however, the range of options for commercially published course materials has expanded. In addition to the options of new, used, and rental of print materials, and most recently "inclusive access," there has come a range of digital options, including "flat" e-textbooks (no multimedia or interactivity), digital quizzes and flashcards, multimedia video and audio materials, and adaptive tools.

Open Educational Resources

The term "open educational resources" is defined as "teaching, learning and research materials in any medium, digital or otherwise, that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions."[11] Creative Commons outlined four broad categories that play a part in OER definitions: (a) Open copyright license required; (b) Right of access, adaptation, and republication; (c) Nondiscriminatory (rights given to everyone, everywhere); and (d) Does not limit use or form (does not include noncommercial limitations).[12]

When librarians think about OER as an alternative to materials purchased by students from commercial publishers, they also need to think about how "open" includes rights that unlock powerful possibilities beyond "free to *our* students" or "freely available on the web." In numerous conversations on OER with academic librarians over the past several years, an understandable impulse has been seen to first reach for licensed materials rather than first investigating to see if open materials that would achieve the same end are available.

In some cases, the increasing popular term "Affordable Course Content" may serve as a guise by which to privilege licensed library materials in favor of open materials. However, it is critical that library initiatives such as the University of Minnesota's Affordable Course Materials and Digital Course Packs recognize that "free" and "open" are nonequivalent, and position the library to add value from both unlocking the value of the investment in their collections and in seeking to make OER or Open Access (OA) materials the go-to option when availability, quality, and appropriateness for curriculum support the choice. They also position the library in a leadership position by supporting the development of new OER through library backing and resources.

The Community College Context

If OER are to become a high-impact and sustainable alternative to commercial course materials, they must gain traction in gatekeeper courses with broad adoption potential across a large number of institutions. Community colleges, in particular, have a range of intrinsic factors that make them particularly attractive to the adoption of OER. Community colleges enroll 42 per-

cent of all college students, totaling 10.1 million students nationwide, of which disproportionate numbers are first-generation, black, and Hispanic students.[13] By their nature, community colleges focus on lower division, gatekeeper, and high enrollment courses. For example, at Northern Virginia Community College (NOVA), a large, multicampus institution enrolling approximately 75,000 students annually in the metro Washington, D.C. area, the top 20 courses have a combined yearly headcount enrollment of just over 120,000 students. If those courses were to move to OER materials, the savings to students could be on the order of $10.5 million annually, simply for one institution.[14] By way of comparison, in the same year, NOVA students spent approximately $13 million on textbooks just through the college's contracted bookstore.[15]

Fische, Hilton, Robinson, and Wiley reported a 6 percent improvement in the success rate (defined as reduced drops, withdraws, and final grade of C or better) in both face-to-face and online sections employing OER.[16] In a subsequent article, Wiley, Williams, DeMarte, and Hilton suggested that, as a result of the increase in student enrollment resulting from OER adoption, OER adoption efforts might potentially be self-sustaining through the increase in tuition generation alone.[17] This is an important finding in the context of the challenges to OER sustainability, outside of ongoing infusions of grant dollars.

Academic Librarians' Role in OER Adoption

When it comes to scholarly publishing, librarians, especially those in research-intensive universities, have taken a central role in raising awareness, developing models, advocating for policy, and supporting faculty as well as maintaining the infrastructure to support the shift to OA. In doing so, they have leveraged the digital shift to bring about a revolution in scholarly communication. In the world of higher education teaching, OER is the corollary to OA in scholarship. Therefore, we argue that, in teaching at intensive and access-focused institutions (predominantly, but far from exclusively, community colleges), academic librarians have both an important role and a professional responsibility to take the lead in supporting faculty and students in expanding the range of OER in service, supporting innovative teaching, and providing a competitive counterweight in the course material marketplace. Okamoto and others have painted several broad categories where librarians can play a role in OER advocacy: advocacy, promotion, and discovery; evaluation, collection, preservation, and access; curation, creation, and facilitation; and funding.[18] Below is a summary listing drawn from across these sources, notated with examples:

- **Adoption:** Librarians model the adoption of OER for their faculty colleagues by leveraging open content in their instructional and outreach roles.
- **Advocacy:** Librarians who see the benefits of OER often serve as institutional advocates for OER and other affordability strategies, such as multiuser e-book licensing, including library content and OER to form hybrid course material sets, and reducing the cost of course packs through leveraging licensed content.
- **Curation, Preservation, and Repositories:** Librarians have critical expertise that is sorely needed to support the long-term visibility and sustainability of OER through the creation and maintenance of OER repositories.
- **Content Development:** Librarians can adapt existing or develop new OER for their own instructional purposes.
- **Description, Cataloging, and Metadata:** Librarians can support the organization and facilitate discovery by providing expertise related to the description, cataloging, and developing OER metadata.

- **Discovery:** Librarians can support faculty and students in effective search strategies to identify OER and to develop and provide LibGuides and other finding aids to support general or discipline-specific identification of high-quality OER.
- **Funding:** Libraries can, on their own or in partnership with others on campus, develop funding programs to encourage and support faculty seeking to make the change to OER or more affordable course materials.
- **Information Literacy:** Librarians can provide expert assistance for collection development and instruction on identifying and evaluating the authority and quality of OER materials.
- **Licensing/IP/Copyright Assistance:** Librarians can serve as local experts on CC, Fair Use, and copyright and support faculty and students in making determinations regarding how materials can be used, combined, and shared.
- **Policy Development:** Librarians can take a leadership role in the development of institutional policy regarding OER adoption and development.
- **Professional Development:** Librarians support online and face-to-face professional development for faculty who are seeking to gain certifications or improve their understanding of OER.
- **Publishing:** Libraries can take on the role of OER publisher, soliciting authorship of content, developing collateral materials, providing editing and proofreading services, and creating a distribution channel for new OER.
- **Recognition:** On their own or in partnership with academic leadership, student government, or educational foundations, libraries can establish reward, recognition, and awards for faculty who model best practices and leadership related to creating, adopting, or promoting OER.
- **Team Members:** Librarians can serve as information specialists and other roles on OER development teams alongside faculty subject-matter experts, instructional designers/technologists, and media developers.

Faculty–Librarian Collaborations

Another critical area of librarians' role in supporting OER initiatives is the history of librarian–faculty collaboration. Woodward, in her article on OER advocacy, discovery, and adoption, drew a connection between librarian–faculty collaboration and the priorities outlined in Oakleaf's pivotal report on the *Value of Academic Libraries,* stating that, "Librarian contributions to a campus open textbook project [serve] as an opportunity to build library value in faculty teaching."[19] She also pointed to opportunities for collaboration with other campus units, in particular the college Center for Teaching and Learning (CETL).

With respect to OER, the question is whether challenges that librarians face regarding information literacy instruction and collaboration with faculty may or may not apply to the OER domain. It is an underexplored question as to whether faculty who have curiosity or commitment regarding open education will see librarians as potential, or even natural, partners or if they will face dismissal, rejection, or skepticism when they seek to advocate or support adoption of OER. In diffusion theory, librarians in this context could be considered change agents, those who seek to influence the decisions of a target population, which in this case is faculty who are making adoption decisions regarding course materials.

Therefore, to what extent are faculty who have evidenced interest in OER open to support from their library colleagues? Will librarians face the same challenges they have struggled with for years regarding information literacy instruction, or are faculty open to the idea that librarians can, as Woodward suggested, "build library value in faculty teaching" through promotion and support of OER?[20]

Methods

Drawing from a principle of diffusion of innovations theory, which holds that faculty inhabiting the innovator and early adopter roles will have greater potential to model and influence OER adoption, a group of community college faculty who had expressed curiosity or commitment regarding OER was selected as the population for the study. This group, hereafter referred to as Zx23 faculty, were from the Virginia Community College System (VCCS) and had participated in a series of professional development activities related to OER. The VCCS has been at the forefront of the OER movement among community colleges in the United States, having participated in several national OER projects, notably Tidewater Community College's Z-Degree program, which served in part as a model for the 2016–2018 nationwide Achieving the Dream OER initiative.[21] In 2015–2016, the VCCS received a $400,000 grant from the Hewlett Foundation to scale the Z-Degree model across 16 of the 23 VCCS colleges.[22] As part of this grant, numerous professional development events for faculty were offered, and a repository of OER courses materials, aligned with VCCS course content summaries (course outcomes), were made available through the shared, systemwide learning management system. Included in the portfolio of professional development activities available to all VCCS faculty were a fully online, 6-week workshop in the basics of OER and open licensing, a two-day "peer-group" OER miniconference, along with email discussion lists specific to OER and the Zx23 project. In addition, Lumen Learning, an external company hired by the VCCS to provide technical support, host an OER course and evaluate the overall cost savings and impact on student success, offered onsite workshops on OER and course design. Librarians were visible and active as participants, leaders, or presenters in many of these efforts. This made the VCCS an opportune setting to address the research questions. Given that the target population is defined as faculty who have engaged at some level regarding OER, it can be understood that the level of OER awareness is likely to be greater than the 58 percent majority of faculty who reported they were generally unaware of OER.[23]

While the Zx23 faculty participants could be assumed to have a higher than average level of awareness and engagement regarding OER, each having expressed some degree of interest by establishing a connection with the project, the reported levels of OER awareness and adoption are exceptionally high. This raises concerns that there may be a self-selection bias within the respondent pool, in which the most engaged and enthusiastic members of the Zx23 cohort chose to respond to the survey. Countering these concerns, the broad demographics of the respondents correspond in general with the VCCS faculty population at large. At the time of the survey, there were 3,277 full-time (30.9%) and 7,292 part-time faculty (69.1%) employed across the system (Catherine Finnegan, Personal Communication, July 27, 2017); respondents to this survey therefore represent 3.0 percent of the full-time faculty and .075 percent of the part-time faculty. The distribution across institutional sizes corresponds with the overall distribution of VCCS faculty among institutional sizes. Also, both the age of faculty and the time in position correspond with averages obtained from the VCCS.

The 18-item survey collected basic information from the respondents pertaining to their institutional role, namely, full- or part-time faculty, discipline, years of service, and their level of direct experience and familiarity with OER. These data were used to conduct a comparison across groups and determine if there are fundamental differences in attitudes or options based on demographic characteristics within the larger group. In addition, a set of questions documented their recent experience working with librarians or using library materials in support of instruction or research. The core of the survey was questions intended to assess instructors' level of familiarity with the range of roles librarians might take in supporting OER and to solicit feedback on their attitudes and opinions regarding these roles. Finally, an opportunity was provided for open-ended feedback to help capture any topics that faculty wished to address that might not have been covered in the survey and to provide an opportunity for feedback on the survey itself.

Subsequent to IRB approval, the survey was pilot-tested with 10 community college faculty who had not participated in the Zx23 program. No major changes were made to the survey as a result of results or comments from the pilot test. The survey distributed to a total of 689 VCCS faculty (all of the faculty who participated in the Zx23 program) by means of the SurveyMonkey software application. The survey was available to respondents for 30 days, and 2 reminder(s) were sent to faculty to respond. Results were analyzed using SPSS software. In addition to basic descriptive reports, such as frequency analysis and measures of central tendency, an additional analysis was conducted by means of cross-tabulation across response categories.

Results

Of the 689 total email invitations sent, 318 (46.2%) were opened and 20 (2.9%) were returned as undeliverable. In total, 193 responses (28.7% response rate of valid addressees) were received for the survey. Of these respondents, 27 (14.4%) respondents identified as other than full- or part-time faculty and were screened out of the survey as ineligible.[24] Of the 165 qualifying individuals, 162 completed the survey for a completion rate of 98.0 percent. Average time to complete the survey was 6 minutes.

Demographics

Overall demographics of the respondents are summarized in table 1. Respondents were slightly more likely to be full-time faculty, older, and experienced teachers. Most taught in the humanities and STEM subjects. Notably, there were no respondents from fields outside those thought of as academic degree transfer pathways and critical components of the community college workforce development and vocational education mission: Technical Studies (in other words, HVAC, electrical, plumbing, automotive, and the like), Workforce Development, or Law/Criminal Justice.

Teaching Modalities

The preponderance of faculty (n = 135, 83.0%) teach both face-to-face and in hybrid/online delivery modalities, although proportionally more part-time faculty than full-time faculty (n = 14, 26.0% vs. n = 13, 12.0%, respectively) taught only face-to-face. Looking across disciplinary areas, 80.0 percent or more of faculty in each group taught online, with the largest percentage in Business Administration at 92.0 percent and the lowest in STEM at 80.0 percent.

TABLE 1 Demographics	
Item	**%**
Teaching Role	
Full-time	66.7
Part-time or Adjunct	33.3
Primary Discipline	
STEM	36.4
Humanities	29.6
Social Sciences	15.4
Business Administration	8.0
Health Sciences	7.4
Other	3.1
College Size	
Medium	50.3
Large	46.0
Small	3.7
Years Teaching	
6–10	21.0
11–15	20.4
16–20	19.8
More than 25 Years	13.6
1–5	13.0
21–25	12.3
Age	
61 Years or Over	29.4
41–50	28.8
51–60	28.1
31–40	13.8
30 Years or Under	0.0

Library Engagement

The majority of faculty respondents reported making use of the library resources and services or engaging with librarians in one or more ways (see table 2). Only 9.9 percent (n = 17) reported no interaction with the library in the past year; of those, 13 were full-time faculty and three were part-time or adjunct faculty, the majority of which were in STEM disciplines.

OER Awareness, Engagement, and Obstacles/Deterrents

As a group, the respondents had a very high level of awareness and engagement regarding OER and open licensing. Of the respondents, 70.0 percent (n = 114) said they were "highly aware" and another 23.0 percent (n = 37) were "moderately aware" of OER. Only 11 respondents (7.0%) reported being either somewhat aware or slightly aware; just one respondent stated they had no prior knowledge. Between 35.0% and 40.0% of faculty reported being knowledgeable of CC, Public Domain, and copyright licensing; an additional 32.0% to 37.0% reported being moderately knowledgeable.

Regarding OER engagement (see table 3), only 4.3 percent (n = 7) of faculty reported no OER engagement in the prior 12 months. Notably, more than half of all respondents (56.8%, n =

TABLE 2 Library Engagement	
Item	**%**
Used library databases to find articles for teaching or research	66.7
Assigned work to students that required using the library	64.2
Visited your college's library in person	63.6
Placed a textbook or other course materials on reserve	38.3
Borrowed a book from your college's library	37.7
Had a librarian deliver library instruction sessions to students	29.0
Consulted with a librarian regarding instruction for students	27.8
Consulted with a librarian regarding designing assignments	25.3
Consulted with a librarian regarding your research interests	21.6
Used your college library's interlibrary loan services	17.3
None of the above	9.9
Other	3.7

TABLE 3
OER Engagement for Previous 12 Months

Item	%
Participated in a professional development activity on OER	75.3
Considered an OER textbook or supplementary course materials	66.0
Adopted OER as primary materials for a course you teach	56.8
Joined an email list or online forum where OER was subject	43.8
Adopted OER as supplementary materials for a course you teach	39.5
Adapted OER as primary materials for a course you teach	39.5
Created new OER for use in a course you teach	34.6
Adapted OER as supplemental materials for a course you teach	32.1
Shared OER materials you created or adapted under open license	29.6
None of the above	4.3
Other	0.0

88) reported adopting an OER primary text for a course they taught. In addition, 75.3 percent (n = 122) had participated in an OER-related professional development activity, 39.5 percent (n = 64) had adopted OER as supplementary course materials, 34.6 percent (n = 55) had created new OER, and 32.1 percent had adapted new OER materials as supplementary to their courses.

Looking deeper, 15.4 percent of faculty (n = 25) had engaged in Zx23 project activities such as joining a listserv, participating in professional development, or reviewing an OER text from the project repository, but reported not yet having adopted OER as either primary or secondary course materials. These faculty can be considered to be "persuadables"—interested in OER but not yet committed—and will be discussed in greater detail below.

Respondents were asked to identify the top three obstacles they encountered in adopting OER (see table 4). Remarkably, more than a third indicated they perceived no obstacles to OER adoption (n = 57, 35.2%). Of those who reported obstacles, the most frequently cited

TABLE 4
Perceived Deterrents to OER Adoption

Item	%
None of the above: There are no deterrents for me	35.2
Resources are not high-quality or up-to-date	26.5
Not enough resources for my subject	22.8
Too difficult or time-consuming to integrate into courses	18.5
No comprehensive catalog of resources	17.9
Too hard to find what I need	16.0
Too difficult to change or edit	14.2
Other	9.9
Don't know if I have permission to use or change materials	9.3
Not used by other faculty I know	6.8
Lack of support from my institution	6.2
I do not currently have an interest in using OER	1.2
I am unaware of OER and have no opinion about deterrents	0.6

were the low quality/currency of materials available (n =n43, 26.5%), the scarcity of resources in their discipline (n = 37, 22.8%), and effort and time needed to integrate materials into their courses (18.5%). Lack of institutional support was selected by only 6.2 percent (n = 10) of the respondents, and just 1.8 percent of respondents indicated that they either had no interest in (1.2%) or did not have sufficient experience with OER to have an opinion regarding deterrents (0.6%).

Regarding their freedom to choose what materials they used for instruction, most faculty felt they had "full control" over the selection of their course materials (n = 98, 61.0%). More than a quarter (27.0%, n = 44) reported having input in the process, but they were then expected to abide by a departmental or collegewide adoption; only 6.0 percent (n = 10) felt they could only use assigned materials and did not have input in selection. All of these respondents who reported having no input in or control over the selection of course materials were also part-time or adjunct faculty, who are frequently expected to work from assigned texts for their courses. Despite this, just over half (n = 26, 52.0%) of part-time/adjunct faculty reported having full control over their choice of course materials.

When asked about their intentions regarding OER adoption, the responses were overwhelmingly in the affirmative, with 78.0 percent (n = 121) reporting they were either extremely likely (60.0%) or very likely (18.0%) to use OER as either primary or supplementary materials in at least one course in the upcoming academic year. Only four respondents (2.5%) stated they were not at all likely, while 20.0 percent (n = 31) said they were slightly or somewhat likely to use OER.

Research Questions: Perceptions of Library Role in OER Support

The following presents the awareness, experience, favorability, and value that faculty place on the role librarians might play in supporting OER adoption and whether the level of faculty engagement with the library, OER, or mode of instructional delivery might have a corresponding relationship with attitudes regarding librarian support.

RQ1 & RQ2: *How familiar are community college faculty with the roles that librarians might play in supporting OER? In which of these roles have faculty had personal experience with librarians while considering or engaging in OER adoption or development?*

When asked how familiar they were with the range of roles that librarians might play in supporting OER from their own experience, there was a broad range of responses selected from those available (see table 5). The top five, selected by at least 30 percent of respondents, were: OER advocacy (n = 66, 40.7%), discovery (n = 63, 38.9%), adoption (n = 60, 37.0%), information literacy (n = 60, 36.4%), and curation (n = 49, 30.2%). Notably, just below the highest ranking roles, was "None," which was selected by 28.4 percent (n = 46) of faculty respondents. The lowest-ranking roles regarding awareness, each selected by fewer than 20.0 percent of respondents, were as follows: policy development (n = 25, 15.4%), funding (n = 12, 7.4%), publishing (n = 12, 7.4%), and recognition (n = 7, 4.3%).

RQ3. *What is the level of favorability of faculty toward librarians in those roles supporting OER with which they have had personal experience?* When asked to select their top five OER support activities that were "most appropriate for librarians to play" in their professional role (see table 6), faculty selected roles very much in line with traditional perceptions of librarianship: discovery (n = 91, 56.2%), curation (n = 88, 54.3%), cataloging and metadata (n = 87, 53.7%), information literacy (n = 78, 48.1%), and advocacy (n = 77, 47.5%).

TABLE 5 Awareness of Librarian OER Roles from Experience	
Item	**%**
Advocacy: Librarians raise awareness of OER among faculty	40.7
Discovery: Librarians assist in locating appropriate OER	38.9
Adoption: Librarians use OER in presentations and instruction	37.0
Information Literacy: Librarians help assess quality of OER	36.4
Curation: Librarians add OER to library collections	30.2
Professional Development: Librarians lead workshops on OER	28.4
None of the above	28.4
Licensing: Librarians assist with understanding OER licenses	27.8
Cataloging and Metadata: Librarians make OER more retrievable	24.7
Team Members: Librarians serve as experts in OER development	22.8
Content Development: Librarians create OER for instruction	21.6
Policy Development: Librarians help advance OER policies	15.4
Funding: Librarians assist with funding to support OER	7.4
Publishing: Librarians publish materials under open licenses	7.4
Recognition: Librarians provide awards for contributions to OER	4.3
Other	3.7

TABLE 6 Perceptions of Appropriateness of Librarian OER Roles	
Item	**%**
Discovery: Librarians assist in locating appropriate OER	56.2
Curation: Librarians add OER to library collections	54.3
Cataloging and Metadata: Librarians make OER more retrievable	53.7
Information Literacy: Librarians help assess quality of OER	48.1
Advocacy: Librarians raise awareness of OER among faculty	47.5
Licensing: Librarians assist with understanding OER licenses	30.9
Content Development: Librarians create OER for instruction	26.5
Adoption: Librarians use OER in presentations and instruction	22.8
Team Members: Librarians serve as experts in OER development	18.5
Professional Development: Librarians lead workshops on OER	16.7
Policy Development: Librarians help advance OER policies	13.0
None of the above	7.4
Funding: Librarians assist with funding to support OER	6.8
Publishing: Librarians publish materials under open licenses	6.2
Other	4.3
Recognition: Librarians provide awards for contributions to OER	3.1

Less than a third of faculty surveyed responded that librarians serving as experts in understanding licenses for OER was appropriate for their position (n = 50, 30.9%), and fewer than one in five saw an appropriate role for librarians being key personnel in OER development or leadership roles, such as serving as team members in OER development projects (n = 30, 18.5%), as providers of professional development around OER (n = 21, 16.7%), as leaders in policy development (n = 21, 13.0%), or in funding or publishing of OER development initiatives (6.8% and 6.2%, respectively).

RQ4. Regardless of whether they have had prior experience with librarians in these roles, which roles do faculty choose as important for librarians to play in supporting OER? When asked to rank the top five roles, from their perspective as faculty, that they valued for librarians to

play regarding OER, the responses (see table 7) roughly paralleled the ratings of what was considered appropriate, again along the lines of traditional library roles: discovery (n = 94, 58.0%), information literacy (n = 74, 45.7%), cataloging and metadata (n = 73, 45.1%), curation (n = 70, 43.2%), and content development (n = 54, 33.3%). Again, fewer than 20.0 percent of respondents perceived librarians as being valued as members of OER development teams (n = 28, 17.3%), and in policy development (n = 21, 13.0%), funding (n = 15, 11.1%), publishing (n = 14, 9.3%), or reward and recognition (n = 6, 4.3%). A small number of respondents (n = 14, 8.6%) selected "none" of the activities as valuable to them.

RQ5. How does the use of other library resources or services by faculty correspond with attitudes regarding the librarian's role in supporting OER? To better understand the relationship between these factors, the corresponding variables were combined to form a smaller number of variables inclusive of several related factors. For library engagement, the original 11 response

TABLE 7
Library Use by Valuableness of Librarian OER Roles

Item	None (n = 16) (%)	Visited Only (n = 10) (%)	Used Resources (n = 60) (%)	Interacted with Librarian (n = 73) (%)	Perceived Value (%)
Adoption: Use OER in presentations and instruction	6.3	0.0	15.0	24.7	17.3
Advocacy: Raise awareness of OER among faculty	6.3	30.0	28.3	37.0	29.6
Curation: Add OER to library collections	12.5	20.0	41.7	56.2	43.2
Content Development: Create OER for instruction	18.8	30.0	31.7	39.7	33.3
Cataloging and Metadata: Make OER more retrievable	31.3	40.0	43.3	49.3	45.1
Discovery: Assist in locating appropriate OER	43.8	60.0	55.0	64.4	58.0
Funding: Assist with funding to support OER	6.3	0.0	13.3	11.0	11.1
Information Literacy: Help assess quality of OER	43.8	30.0	35.0	57.5	45.7
Licensing: Assist with understanding OER licenses	31.3	50.0	23.3	38.4	32.7
Policy Development: Help advance OER policies	12.5	0.0	13.3	15.1	13.0
Professional Development: Lead workshops on OER	62.5	40.0	20.0	34.2	32.7
Publishing: Publish materials under open licenses	12.5	10.0	10.0	8.2	9.3
Recognition: Provide awards for contributions to OER	6.3	0.0	3.3	4.1	4.3
Team Members: Serve as experts in OER development	6.3	30.0	11.7	21.9	17.3
None of the above	12.5	10.0	13.3	4.1	8.6
Other	0.0	0.0	3.3	1.4	1.9

options were grouped to form categories, reflecting four levels of library engagement: no engagement, visited library only, used library resources (collections, databases, services), and interacting with librarians. These results were then compared (cross-tabulation) against the "appropriate" (those with more than 40.0% faculty support) and "valuable" (those with more than 50.0% faculty support) activities.

For the valuable category, the five highest-rated response options across categories were: discovery (58.0%), information literacy (45.7%), cataloging and metadata (45.1%), curation (43.2%), and content development (33.3%). Looking at roles by level of library engagement (see table 7), those who interacted with librarians (highly engaged faculty) were most likely to value the librarian role in discovery (64.4%), information literacy (57.5%), curation (56.2%), cataloging and metadata (49.3%), and content development (39.7%). In each of these instances, the leading option was almost five percentage points ahead of the next highest category.

In the appropriate category (see table 6), the top five selections by respondents overall were: discovery (56.2%), curation (54.3%), cataloging and metadata (53.7%), information literacy (48.1%), and advocacy (47.5%). In this next example, the pattern is less straightforward than on the valuable category (see table 8). The "visited only" group rated discovery the highest at 70.0 percent, while they rated advocacy at 60.0 percent. The "visited only" and "interacted with librarian" groups rated curation almost equally at 60.0 percent and 60.3 percent, respectively. The "used resources" and "interacted with librarian" respondents rated cataloging and metadata almost equally at 58.3 percent and 58.9 percent, respectively, and rated information literacy almost equally at 50.0 percent and 52.1 percent, respectively.

TABLE 8 Library Use by Appropriateness of Librarian OER Roles				
Item	None (n = 16) (%)	Visited Only (n = 10) (%)	Used Resources (n = 60) (%)	Interacted with Librarian (n = 73) (%)
Adoption: Use OER in presentations and instruction	6.3	0.0	26.7	27.4
Advocacy: Raise awareness of OER among faculty	25.0	60.0	51.7	49.3
Curation: Add OER to library collections	31.3	60.0	53.3	60.3
Content Development: Create OER for instruction	12.5	20.0	33.3	24.7
Cataloging and Metadata: Make OER more retrievable	31.3	20.0	58.3	58.9
Discovery: Assist in locating appropriate OER	56.3	70.0	48.3	60.3
Funding: Assist with funding to support OER	6.3	0.0	6.7	6.8
Information Literacy: Help assess quality of OER	31.3	40.0	50.0	52.1
Licensing: Assist with understanding OER licenses	37.5	40.0	30.0	28.8
Policy Development: Help advance OER policies	12.5	10.0	13.3	13.7
Professional Development: Lead workshops on OER	31.3	30.0	15.0	13.7
Publishing: Publish materials under open licenses	6.3	10.0	6.7	5.5
Recognition: Provide awards for contributions to OER	6.3	0.0	3.3	1.4
Team Members: Serve as experts in OER development	12.5	30.0	11.7	24.7
None of the above	18.8	10.0	10.0	2.7
Other	0.0	0.0	5.0	5.5

RQ6. Does a greater level of engagement with OER by faculty correspond with attitudes regarding the librarian role in supporting OER? To address this question, two comparisons were conducted. The first was based on level of faculty OER engagement based on three combined categories: low engagement through awareness activities (such as joining a listserv, participating in professional development activities, or requesting access to review an existing OER text) (n = 18, 12.0%), moderate engagement through adoption or adapting existing OER resources for primary or supplemental use (n = 65, 42.0%), or high engagement through building/sharing new OER (n = 71, 46.0%). The second was based on faculty responses to their plans for using OER in the upcoming year. These responses were grouped into two categories: one for those faculty who said they were very or extremely likely to use OER in their courses for the upcoming year (n = 123, 78.0%), and those who said they were not at all, slightly, or somewhat likely to be using OER (n = 35, 22.0%). These two groups were then compared across the response items receiving the five highest ranking response items for survey questions relating to whether the faculty thought librarian OER activities were valuable or appropriate.

Overall, five activities were rated most highly as valuable (see table 9):
1. Discovery: moderate engagement (66.2%), high engagement (57.7%), and low engagement (50.0%);
2. Information literacy: high engagement (50.7%), moderate engagement (49.2%), and low engagement (27.8%);

TABLE 9 OER Engagement by Valuableness of Librarian OER Roles			
Item	**Low*** **(n = 18) (%)**	**Moderate**** **(n = 65) (%)**	**High*** **(n = 71) (%)**
Adoption: Use OER in presentations and instruction	27.8	20.0	14.1
Advocacy: Raise awareness of OER among faculty	22.2	38.5	26.8
Curation: Add OER to library collections	16.7	46.2	52.1
Content Development: Create OER for instruction	50.0	29.2	33.8
Cataloging and Metadata: Make OER more retrievable	27.8	49.2	50.7
Discovery: Assist in locating appropriate OER	50.0	66.2	57.7
Funding: Assist with funding to support OER	16.7	7.7	12.7
Information Literacy: Help assess quality of OER	27.8	49.2	50.7
Licensing: Assist with understanding OER licenses	22.2	38.5	32.4
Policy Development: Help advance OER policies	16.7	13.8	12.7
Professional Development: Lead workshops on OER	22.2	38.5	31.0
Publishing: Publish materials under open licenses	16.7	7.7	8.5
Recognition: Provide awards for contributions to OER	0.0	4.6	5.6
Team Members: Serve as experts in OER development	16.7	12.3	22.5
None of the above	11.1	4.6	7.0
Other	0.0	3.1	1.4
*Low Engagement = Joined email list/online forum, participated in workshop/conference, or considered textbook/materials. **Moderate Engagement = Adopted or adapted OER as primary/supplementary materials for a course you teach. ***High Engagement = Created new OER for a course you teach or shared OER you created or adapted under an open license.			

3. Cataloging and metadata: high engagement (50.7%), moderate engagement (49.2%), and low engagement (27.8%);
4. Curation: high engagement (52.1%), moderate engagement (46.2%), and low engagement (16.7%); and
5. Content development: low engagement (50.0%), high engagement (33.8%), and moderate engagement (29.2%).

Regarding the appropriate activities, the top four placements were similarly rated (see table 10). The exception in this instance is that "advocacy" placed higher than "content development," landing in the fifth position.

1. Discovery: moderate engagement (63.1%), high engagement (56.3%), and low engagement (44.4%);
2. Curation: moderate engagement (60.0%), high engagement (57.7%), and low engagement (38.9%);
3. Cataloging and metadata: high engagement (63.4%), moderate engagement (50.8%), and low engagement (50.0%);
4. Information literacy: high engagement (53.5%), moderate engagement (52.3%), and low engagement (33.3%); and
5. Advocacy: moderate engagement (55.4%), high engagement (47.9%), and low engagement (33.3%).

TABLE 10 OER Engagement by Appropriateness of Librarian OER Roles			
Item	**Low*** **(n = 18) (%)**	**Moderate**** **(n = 65) (%)**	**High***** **(n = 71) (%)**
Adoption: Use OER in presentations and instruction	27.8	18.5	28.2
Advocacy: Raise awareness of OER among faculty	33.3	55.4	47.9
Curation: Add OER to library collections	38.9	60.0	57.7
Content Development: Create OER for instruction	33.3	29.2	23.9
Cataloging and Metadata: Make OER more retrievable	50.0	50.8	63.4
Discovery: Assist in locating appropriate OER	44.4	63.1	56.3
Funding: Assist with funding to support OER	11.1	7.7	4.2
Information Literacy: Help assess quality of OER	33.3	52.3	53.5
Licensing: Assist with understanding OER licenses	22.2	35.4	31.0
Policy Development: Help advance OER policies	5.6	15.4	14.1
Professional Development: Lead workshops on OER	11.1	18.5	16.9
Publishing: Publish materials under open licenses	16.7	4.6	5.6
Recognition: Provide awards for contributions to OER	5.6	3.1	2.8
Team Members: Serve as experts in OER development	27.8	12.3	21.1
None of the above	16.7	1.5	5.6
Other	0.0	6.2	2.8
*Low Engagement = Joined email list/online forum, participated in workshop/conference, or considered textbook/materials. **Moderate Engagement = Adopted or adapted OER as primary/supplementary materials for a course you teach. ***High Engagement = Created new OER for a course you teach or shared OER you created or adapted under an open license.			

In the following comparison, faculty who say they are more likely to engage with OER consistently rated each of the five highest. However, the lower prior engagement group (joined/participated) generally rated all valuable and appropriate items lower than their peers, with the exception of collection development (valuable) and cataloging/retrieval (appropriate). Likewise, the "less likely" lower future engagement group rated content development (valuable) and professional development (valuable) higher than other items.

When viewed through the lens of a faculty's future plans regarding OER, and again looking at the five activities rated most highly overall as valuable, these were the results for faculty who declared they were "very" or "extremely" likely to employ OER in the upcoming year (labeled below as "more likely") or those who were "not at all," "slightly," or "somewhat" likely to employ OER in the upcoming year (labeled below "less likely") (see table 11):

TABLE 11 Future OER Use by Valuableness of Librarian OER Roles		
Item	Less Likely to Use* (n = 35) (%)	More Likely to Use** (n = 123) (%)
Adoption: Librarians use OER in presentations and instruction	17.1	17.9
Advocacy: Librarians raise awareness of OER among faculty	17.1	34.1
Curation: Librarians add OER to library collections	22.9	49.6
Content Development: Librarians create OER for instruction	40.0	31.7
Cataloging and Metadata: Librarians make OER more retrievable	34.3	48.8
Discovery: Librarians assist in locating appropriate OER	48.6	62.6
Funding: Librarians assist with funding to support OER	14.3	9.8
Information Literacy: Librarians help assess quality of OER	31.4	50.4
Licensing: Librarians assist with understanding OER licenses	22.9	36.6
Policy Development: Librarians help advance OER policies	5.7	15.4
Professional Development: Librarians lead workshops on OER	34.3	33.3
Publishing: Librarians publish materials under open licenses	8.6	9.8
Recognition: Librarians provide awards for contributions to OER	0.0	5.7
Team Members: Librarians serve as experts in OER development	11.4	19.5
None of the above	17.1	6.5
Other	2.9	1.6
*Less Likely to Use = Not at all, slightly, or somewhat likely to use OER in a course in upcoming academic year. **More Likely to Use = Very or extremely likely to use OER in a course in upcoming academic year.		

1. Discovery: more likely OER (62.6%), less likely OER (48.6%);
2. Information literacy: more likely OER (50.4%), less likely OER (31.4%);
3. Cataloging and metadata: more likely (48.8%), less likely (34.3%);
4. Curation: more likely (49.6%), less likely (22.9%); and
5. Content development: less likely (40.0%), more likely (31.7%)

For the ratings for the appropriate category (see table 12), the top five categories were:
1. Discovery: more likely (61.8%), less likely (42.9%);
2. Curation: more likely (61.8%), less likely (34.3%);

TABLE 12 Future OER Use by Appropriateness of Librarian OER Roles		
Item	Less Likely to Use* (n = 35) (%)	More Likely to Use** (n = 123) (%)
Adoption: Librarians use OER in presentations and instruction	20.0	24.4
Advocacy: Librarians raise awareness of OER among faculty	25.7	55.3
Curation: Librarians add OER to library collections	34.3	61.8
Content Development: Librarians create OER for instruction	37.1	24.4
Cataloging and Metadata: Librarians make OER more retrievable	42.9	58.5
Discovery: Librarians assist in locating appropriate OER	42.9	61.8
Funding: Librarians assist with funding to support OER	11.4	5.7
Information Literacy: Librarians help assess quality of OER	40.0	52.0
Licensing: Librarians assist with understanding OER licenses	25.7	33.3
Policy Development: Librarians help advance OER policies	5.7	15.4
Professional Development: Librarians lead workshops on OER	17.1	17.1
Publishing: Librarians publish materials under open licenses	5.7	6.5
Recognition: Librarians provide awards for contributions to OER	0.0	4.1
Team Members: Librarians serve as experts in OER development	17.1	19.5
None of the above	22.9	3.3
Other	2.9	4.9
*Less Likely to Use = Not at all, slightly, or somewhat likely to use OER in a course in upcoming academic year. **More Likely to Use = Very or extremely likely to use OER in a course in upcoming academic year.		

3. Cataloging and metadata: more likely (58.5%), less likely (42.9%);
4. Information literacy: more likely (52.0%), less likely (40.0%); and
5. Advocacy: more likely (55.3%), less likely (25.7%).

Across these four sets of comparisons above, only one has an unequivocally consistent pattern: the final comparison where faculty who are "more likely" to plan to employ OER in the upcoming year are weighing in on the "appropriateness" of librarian activities.

Discussion

The results demonstrated high levels of OER awareness, high levels of understanding of licensing and copyright, high levels of adoption of open resources, and a high level of certainty that they will continue to use OER moving forward. Given that respondents had already self-selected into an OER project, and that 76.0 percent had participated in some form of OER-related professional development in the past year, this level of awareness is understandable. However, it is important to consider that this group of respondents is perhaps novel in contrast to the broader general population of faculty.

While the most frequently cited role in support of OER was advocacy, respondents generally held traditional perceptions of their librarian colleagues, reporting having awareness of them most prominently in roles related to discovery, curation, adoption, and information literacy. This finding supports that of the international survey conducted by Bueno-de-la-Fuente et al., where librarian roles in OER projects included description/classification, management,

preservation, dissemination and promotion of OER, metadata and classification, discovery, information literacy, and repositories.[25] Less than 30.0 percent of respondents had awareness of the role librarians might play regarding OER licensing, 30.0 percent of faculty had no awareness of any of the 15 librarian/OER roles listed, and only 24.0 percent of faculty were aware of librarians as potential partners in OER development teams. This indicates several possible areas for attention: still more awareness-raising by librarians seeking to support OER initiatives, educating faculty on the roles they can play regarding licensing and OER, and professional development for librarians on OER.

In response to the question of which librarian/OER roles they thought were appropriate for librarians to play in supporting OER, again the roles faculty rated highest were generally consistent with traditional librarianship and those highlighted by Bueno-de-la-Fuente et al.: advocacy, discovery, adoption (by librarians), information literacy, and curation.[26] Of this list, the advocacy role was ranked highest, making it stand out in contrast to the other roles, perhaps because the Zx23 faculty are such committed advocates in their own right regarding OER that they welcome the advocacy from their librarian colleagues.

However, when looking at some of the less traditional roles, such as those suggested by Kleymeer et al., Okamoto, and Walz, much less faculty enthusiasm is seen: professional development, policy development, funding, publishing, and reward/recognition ranked at the bottom of the ratings.[27] The good news in this picture is that, while faculty may not see librarians as mentors (professional development, licensing) or in leadership or institutional roles such as policy development, publishing, funding, reward, and recognition, only a small minority ruled out librarian OER support roles across the board.

There are also some shifts in how respondents perceived the role of librarians when asked specifically what is valuable to their professional role as faculty. Notably, advocacy drops from its top-place ranking under the awareness and appropriate questions to the middle of the field, with 32 percent listing it on their top five valuable roles. Discovery, information literacy, cataloging and metadata, curation, and content development placed in the top five. Interpretation of these rankings indicated that, while the majority of respondents were already adopters, were committed to ongoing use of OER, and claimed familiarity with adapting or improving resources, these librarian roles that were rated as valuable align with the top deterrents faculty may struggle with: "locating resources in their discipline," challenges to discovery ("too hard to find what I need" and "no comprehensive catalog"), and concerns expressed regarding the quality of OER.

While there was some movement in the top choices seen as valuable, in contrast to awareness and appropriateness, the traditional librarian role once again prevailed in the roles seen as least valuable by faculty. Faculty did not see (rated by 20.0 percent or fewer as a "top five" choice) librarians as team members for OER development, policy development, funding, publishing, or reward and recognition. However, the project faculty respondents very rarely rejected the value of the librarian role in OER support across the board, placing "none of the above" nearly at bottom of the ranking list.

In light of this, when engaging with faculty who have existing experience with OER, librarians may most easily serve as facilitators of access to high-quality resources, curated with the interests and needs of faculty within their disciplines, and in supporting the discovery of OER in response to specific faculty needs. It remains to be seen whether these faculty would be open to librarians in less traditional roles, should librarians seek to assume them and/or

advocate for standing in policy, sustainability, and strategy conversations at the institutional level.

Respondents reported high levels of library engagement, with more than half assigning work to students involving the library or library resources or having visited their library and used library resources for their teaching and research. When responding about appropriateness, faculty who had some (but limited) contact with the library (visited only) expressed a preference for discovery, curation, and advocacy, perhaps indicating an interest in librarians raising the profile of OER at their campuses and making OER more accessible. However, for highly engaged faculty, there was not a single factor or pattern that stood out uniformly in the analysis, perhaps indicating there was no clear consensus of opinion for them regarding this focus.

Highly engaged faculty expressed their preference for librarian OER engagement in the discovery, information literacy, cataloging and metadata, and content development roles. As mentioned above, this points to faculty valuing support for making quality OER resources for their use visible. There were two sets of relationships of note in the data pertaining to this question, however. The first set was for faculty who expressed a higher level of confidence regarding their plans for OER adoption for the upcoming academic year, choosing "very" or "extremely" likely. For each of the top five categories (discovery, curation, cataloging and metadata, information literacy, and advocacy), these faculty expressed a clear preference regarding the appropriateness of librarians in each of these OER engagement roles across all of the categories. Second, this same group deemed as valuable only information literacy, cataloging and curation, and content development roles, ranking discovery and advocacy lower than their less committed peers. In responses to other items in the survey, the researchers noted that discovery was closely linked with cataloging and metadata and curation, which makes this exception interesting.

A challenge in this analysis is the overall enthusiasm of the respondents regarding OER. The subset of respondents who could be considered "preadoption" for OER is limited in the data set. However, by selecting respondents who reported lower levels of engagement for OER activities (the "none of the above," "joined email list," "participated in professional development," or "considered and OER textbook" options), there is a group of 25 respondents who have expressed interest in OER but have not yet adopted and could be considered "persuadables."

When looking at the persuadables, respondents who expressed deterrents to OER adoption, only 8.0 percent (n = 2) reported "having no interest in OER" as a concern; alternatively, 24.0 percent (n = 6) reported they perceived no deterrents (see table 13). In several categories, they reported a lower perception of deterrents than did adopters: Not enough resources in my subject, resources not high quality or up to date, and too difficult to change or edit were all rated lower than by adopters. What they did perceive as obstacles higher than adopters did were: "don't know if I have permission to change or use materials" and "too difficult or time consuming."

Despite listing material permissions (licensing and copyright) as obstacles, when it came to librarian roles, persuadables rated "librarians assist with understanding OER licenses" lower in value than the already relatively low ratings of adopters (20.0% to 35.0%), along with information literacy (24.0% to 49.6%) or professional development (24.0% to 34.3%) (see table 14). They did not seem to place a high value on librarians engaging in OER advocacy, with only 16.0 percent—vs. 32.1 percent of adopters—selecting this role as one of their top

TABLE 13
Adopters and Persuadables by Perceived Deterrents to OER Adoption

Item	Adopters (n = 137) (%)	Persuadables (n = 25) (%)
Too hard to find what I need	16.1	16.0
Not enough resources for my subject	24.1	16.0
No comprehensive catalog of resources	18.2	16.0
Resources are not high-quality or up-to-date	27.7	20.0
Don't know if I have permission to use or change materials	8.0	16.0
Too difficult to change or edit	16.8	0.0
Too difficult or time-consuming to integrate into courses	16.8	28.0
Lack of support from my institution	6.6	4.0
Not used by other faculty I know	6.6	8.0
I do not currently have an interest in using OER	0.0	8.0
I am unaware of OER and have no opinion about deterrents	0.0	4.0
None of the above: There are no deterrents for me	37.2	24.0
Other	8.8	16.0

five. Perhaps most notably, persuadables were four times more likely than adopters to say no librarian OER activities are valuable ("None of the above"), with 24.0 percent vs. 5.8 percent, respectively. They were also less likely to choose the traditional librarian roles of discovery, curation, and cataloging and metadata as valuable when compared to adopters. The exception is content development, with 44.0 percent to 31.4 percent.

In a similar manner, when reviewing appropriateness (see table 15), persuadables again rated most librarian roles lower than did adopters. Much of the difference is explained by two options that are somewhat inconsistent—first, that no librarian OER activities are appropriate (28.0% vs. 3.6%), but also that librarians might serve as team members (28.0% vs. 16.8%). As was the case with value, content development was ranked higher by persuadables, but only slightly (28.0% vs. 26.3%).

This group is consistently less inclined than their peer adopter colleagues to either value or see as appropriate librarians providing assistance in OER-related roles. However, given their small numbers, it is possible they do not accurately represent "preadoption" faculty in the broader faculty population.

The study has several limitations that should be considered in interpreting the results. One limitation of this study is the unknown validity and reliability of the survey instrument. While the survey instrument was pilot-tested—offering evidence of content validity—no additional reliability or validity analysis was completed. Future use of the survey instrument would benefit from efforts to establish further evidence of reliability and validity. Another limitation of this study is the acknowledged low response rate of 23.5 percent. The authors recognize that this low response rate impacts the ability to generalize findings to the population. However, as the intent of this study and the survey was to explore rather than confirm, the authors still feel the collected data have value for better understanding community college faculty's perception and value of the roles of librarians in OER.

TABLE 14
Adopters and Persuadables by Valuableness of Librarian OER Roles

Item	Adopters (n = 137) (%)	Persuadables (n = 25) (%)
Adoption: Librarians use OER in presentations and instruction	16.8	20.0
Advocacy: Librarians raise awareness of OER among faculty	32.1	16.0
Curation: Librarians add OER to library collections	48.9	12.0
Content Development: Librarians create OER for instruction	31.4	44.0
Cataloging and Metadata: Librarians make OER more retrievable	49.6	20.0
Discovery: Librarians assist in locating appropriate OER	61.3	40.0
Funding: Librarians assist with funding to support OER	10.2	16.0
Information Literacy: Librarians help assess quality of OER	49.6	24.0
Licensing: Librarians assist with understanding OER licenses	35.0	20.0
Policy Development: Librarians help advance OER policies	13.1	12.0
Professional Development: Librarians lead workshops on OER	34.3	24.0
Publishing: Librarians publish materials under open licenses	8.0	16.0
Recognition: Librarians provide awards for contributions to OER	5.1	0.0
Team Members: Librarians serve as experts in OER development	17.5	16.0
None of the above	5.8	24.0
Other	2.2	0.0

TABLE 15
Adopters and Persuadables by Appropriateness of Librarian OER Roles

Item	Adopters (n = 137) (%)	Persuadables (n = 25) (%)
Adoption: Librarians use OER in presentations and instruction	23.4	20.0
Advocacy: Librarians raise awareness of OER among faculty	51.1	28.0
Curation: Librarians add OER to library collections	58.4	32.0
Content Development: Librarians create OER for instruction	26.3	28.0
Cataloging and Metadata: Librarians make OER more retrievable	56.9	36.0
Discovery: Librarians assist in locating appropriate OER	59.1	40.0
Funding: Librarians assist with funding to support OER	5.8	12.0
Information Literacy: Librarians help assess quality of OER	52.6	24.0
Licensing: Librarians assist with understanding OER licenses	32.8	20.0
Policy Development: Librarians help advance OER policies	14.6	4.0
Professional Development: Librarians lead workshops on OER	17.5	12.0
Publishing: Librarians publish materials under open licenses	5.1	12.0
Recognition: Librarians provide awards for contributions to OER	2.9	4.0
Team Members: Librarians serve as experts in OER development	16.8	28.0
None of the above	3.6	28.0
Other	4.4	4.0

Conclusions

This study focused on the importance of OER in increasing the accessibility and affordability of higher education and the potential for OER to contribute to the success of community college students. The study also defined the critical issue of the adoption gap. In reviewing the literature and evidence regarding the adoption of OER, the balance points to OER continuing to be a niche phenomenon, the province of innovators and early adopters. From the diffusion of innovation research, it is clear that OER must reach beyond this fault-tolerant and self-confident segment of the faculty population. It needs to become a mainstay for the majority who have not, as yet, found OER a compelling alternative to the materials they currently use.

While innovative faculty are pioneers regarding their own work, overall they take a largely traditional perspective to the librarians' work and where they feel library support is either appropriate or valuable in supporting OER adoption. They downplayed a range of nontraditional roles for librarians that have been suggested or documented in the library/OER literature.[28] Roles such as policy development, funding OER creation, reward and recognition programs, and creating OER publishing enterprises were deprecated in favor of librarians supporting discovery, curation, cataloging, information literacy, and perhaps the most encouraging: advocacy. Faculty did not report valuing librarians as team members in OER development groups and rejected librarians as a resource for providing OER professional development for faculty.

Where they do value librarians is in roles supporting OER adoption, roles around organizing and making resources visible and useful, and in assisting faculty in identifying resources. In those areas, there is alignment with their perceived challenges—locating good quality resources, resources appropriate to their disciplines, and frustration over the challenges in finding and effectively using OER repositories. Thus, there is an indication that these faculty want assistance and support from librarians while keeping a traditional vision of the library as a useful warehouse of information and of librarians as selectors and minders of the inventory.

When considering taking on new roles for libraries and librarians, the question of resource constraints looms large. Even in community colleges, where OER should be considered analogous to OA in research institutions, there are typically longstanding unmet needs for instruction, assessment, programming and outreach, and other activities also known to have benefits. For most community college libraries, the idea that new staffing and resources are going to be made available simply to support OER roles is naïve. If resources are to be allocated, they will typically need to be carved out of existing staff and existing budgets, or funded through grants and other soft-money sources that pose challenges for long-term sustainability.

The data in this study open interesting questions for future research. In general, the survey data do a better job of describing the "what" over the "why." There are opportunities for qualitative research, such as individual interviews and focus groups with faculty to understand the reasoning behind these findings. Qualitative studies could explore the degree to which faculty acceptance and value of the librarians' role in supporting OER may be constrained by assumptions that are due to a simple lack of awareness or familiarity and that are open to change, or perhaps where there is deep resistance that would require effort beyond that which can be marshaled to overcome objections. In addition, there is need for additional survey work. This study serves as an initial probe into the questions that have been posed, and additional work remains to survey faculty outside those who already have an interest in OER.

If librarians are enthusiastic and sincerely believe OER are of value, even without becoming experts, they can familiarize themselves with the nuts and bolts of OER, with resources

and repositories, fundamental principles of OER, the basics of CC licensing, and with key facts and research around the impact OER can have on access, affordability, and student success. Even if libraries cannot afford to hire specialized in-house expertise, they can leverage the OER-librarian community for resources (in other words, libguides and repositories), provide direction to the work of others from their local college webpages, and promote and share those resources. They can leverage expertise across their professional networks to gather information and connect to external expertise. The OER community is literally defined by sharing, and only in rare exceptions will reasonable requests for outreach and assistance to those who are in need be declined.

If librarians are committed to supporting student success, improving access, and reducing the cost of education and believe that OER are appropriate for the needs of their local institutions, it is up to them to continue to serve as advocates within their academic communities for the changes that are needed. Change is hard work, requiring ongoing effort and overcoming obstacles that at times may seem insurmountable. However, librarians can find inspiration in the findings of this study, which suggest that faculty are receptive to librarians' efforts to bridge the chasm.

Notes

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14. Savings are based on NOVA's AY13 enrollments in the top 20 courses and calculated based on the formula of the actual used text price from the college's bookstore (assuming no new book purchases), and assuming only an 80 percent purchase rate.

15. If, using the National Association of College Stores survey figures, only 55 percent of students were

"loyal" to the campus bookstore (purchasing all their materials there), and the remaining 45 percent purchase elsewhere, the total spend might be on the order of $15.25 million (OnCampus Research, 2015, Spring). Student Watch: Attitudes and Behaviors Toward Course Materials. Oberlin, OH: NACS Foundation).

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