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An Exploration of Two Information Literacy Open Learning Object Repositories: Value, Content, and Engagement

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Abstract

Information literacy (IL) open learning object repositories (LORs) provide a space for librarians to find and exchange instruction resources and lessons. Given many librarians enter the workforce with little or no formal training or educational opportunities to learn about pedagogy, these repositories are indispensable resources to the Library and Information Science field. This study explored the contents of two popular IL LORs, Project Cora and the Association of College and Research Libraries Framework for Information Literacy Sandbox, to uncover how users engage with the resources and how the repositories differ. This study's findings suggest that while resources within the LORs are being used, yearly submissions have stagnated. Intentional assessment of disciplinary and information literacy concept gaps, followed by targeted calls for resources, may improve and increase engagement with the repositories as communities of practice.

Keywords: information literacy, learning object repository, open educational resources

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An Exploration of Two Information Literacy Open Learning Object Repositories: Value, Content, and Engagement

As highlighted in the Association of College and Research Libraries' (ACRL, 2017) *Roles and Strengths of Teaching Librarians* document, the instructional responsibilities of an academic instruction librarian are expansive and include roles such as a teacher and instructional designer. Academic librarians' instruction responsibilities have evolved significantly in the past decade, moving from what Julien et al. (2018) described as "teaching students how to find materials in the library" (p. 179) to the instruction of information literacy threshold concepts, critical thinking, and a vast array of related literacies meant to nurture students into information literate citizens. However, MLIS programs do not appear to have responded adequately to these changes and increasing instructional responsibilities. As early as 2006, researcher Walter remarked, "after thirty years of discussion and debate, teacher training is still a relatively minor part of the professional education for librarians even as it becomes an increasingly important part of their daily work" (p. 216). More recently, a review of 98 ALA-accredited MLIS courses related to the *Roles and Strengths of Teaching Librarians* document found that only three were required. The researchers suggested that this finding indicates MLIS programs do not see instruction as a "required educational competency" (Valenti & Lund, 2021, p.539). Valenti and Lund's findings echo others who have noted that MLIS/MLS programs are sorely missing the mark in preparing librarians to teach, including Wang et al. (2022), Julien et al. (2018), and Davies-Hoffman et al. (2013).

Julien et al. (2018) sought to understand the experiences of instructional librarians through surveys and identified several challenges relevant to the context of this study. First, scheduling and planning instruction is a time-consuming process for which there is not enough time. Second, there is very little training in MLIS/MLS programs on instruction. Finally, the librarians surveyed described a disconnect between the expectations of library administration to teach as much as possible and the feasibility of mass one-shot instruction for librarians with other responsibilities. Libraries have increasingly sought ways to demonstrate the value of libraries to campus constituents, policymakers, and funders. At the 2018 California Academic & Research Libraries conference, instructional designer and librarian Zoe Fisher (2018) presented some ways researchers have tried to connect libraries to student success, including linking student attendance of information literacy instruction statistics to grades and retention rates. As colleges and universities face enrollment drops

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and stagnant budgets, pressure has only increased on academic libraries to prove their value, often through data like instruction session counts. As some of the librarians voiced in Julien et al.'s (2018) study, teaching more does not necessarily equate to a higher impact, and the librarians teaching are often underresourced and underprepared for the jobs expected of them.

Equipped with little instructional knowledge and tools from MLIS/MLS programs and calls from administrators to teach and teach more, new instruction librarians often turn toward other resources such as lesson plan books, more experienced colleagues, and conferences focused on information literacy instruction to prepare to teach. However, increasing professional membership fees, conference costs, rising inflation, time constraints, and health concerns have heightened the need for open and freely accessible instruction resources. Learning object repositories (LOR), such as Project Cora and the Association of College and Research Libraries Framework for Information Literacy Sandbox (henceforth, ACRL Sandbox), seek to meet this growing need by hosting open educational resources (OER) for information literacy instruction. Commonly defined by the United Nations Educational, Scientific and Cultural Organization (UNESCO, n.d.), OER are "learning, teaching, and research materials in any format and medium that reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, re-use, re-purpose, adaptation, and redistribution rights by others" (para. 1). Project Cora and the ACRL Sandbox are still relatively new but promise a new way for librarians to save time designing lessons by providing access to free and accessible information literacy instruction materials. These resources offer a place of community where librarians may learn from each other, share adaptations of lessons, and build on the work of others. This study intends to explore how these two IL-focused LORs are used and ways the resources might be improved to better support users and contributors. The two main research questions pursued were:

- RQ1: What are the similarities and differences between Project Cora and ACRL Sandbox resources?
- RQ2: Are librarians using the materials available in Project Cora and the ACRL Sandbox?

Literature Review

Librarians' Instructional Training

LIS educators, researchers, and practitioners have continued to critique MLIS/MLS programs for a lack of instruction courses (Julien et al., 2018; Valenti and Lund, 2021), student preparation to take on instructional roles (Wang et al., 2022), and coverage of pedagogical theories (Schachter, 2020). In 2015, McKinney and Wheeler reviewed the literature for ways librarians hone instructional abilities and found studies by Westbrock and Fabian (2010) and Bewick and Corral (2010) that indicated librarians learn to teach on the job and through peers. McKinney and Wheeler (2015) conducted a phenomenographic study with six academic librarians regarding teaching practice and self-conception. In the study's conclusion, the authors posited that librarians' instructional self-efficacy could be improved by greater access to teaching resources and training. A survey of 320 community and 4-year college librarians found that librarians believe instruction skills are often learned on the job by observing peers and engaging with professional development (Wang et al., 2022).

A survey of 622 instruction librarians by Julien et al. (2018) found that full-time librarians often faced challenges related to a lack of time. One participant noted that classes "frequently happen in a small period of time, making a couple of weeks really crazy" (p.187). A lack of instructional education combined with time constraints can lead experienced librarians to feel demoralized and frustrated, let alone someone new to the field. While attending conferences targeting information literacy, such as the Lifelong Information Literacy Conference (LILi), can be an excellent place for librarians to develop as teachers, conferences are typically held only once a year and do not serve well as a time-of-need resource. Conversely, community of practices resources, such as library instruction blogs (Brecher & Klipfel, 2014) and information literacy learning objects repositories (Archambault, 2018), can serve as time-of-need resources that aid librarians in the development of pedagogy and help them save time developing lessons.

Learning Object Repositories

LORs serve as storage spaces that make OER accessible, including items such as tutorials, lesson plans, textbooks, slides, and more. Several national repositories broadly concentrate on information literacy and library instruction materials, including Project Sharp for media literacy, Peer Reviewed Instructional Materials Online (PRIMO), Project Cora, and the

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ACRL Sandbox. A few university libraries have invested in institutional information literacy repositories, including California State University, Fullerton (O'Neill, 2017), Virginia Tech (Becksford & Metko, 2018), and even the National Network of Libraries of Medicine has its own established repository (Knapp et al., 2020). O'Neill (2017) noted several concrete benefits for libraries that deposit materials into institutional repositories, including increased prestige and recognition of librarian-led instruction and improved librarian onboarding. Additionally, some libraries have begun to use the Canvas Commons learning object repository to store and share resources (Farmer et al., 2021; Olsen & Harlow, 2022).

Project Cora and the ACRL Sandbox launches bookended 2016, with the former initiated in January and the latter in December. The repositories offered a new way for librarians to access information literacy instructional materials such as research assignments, tutorials, and videos. Before open repositories were available, librarians relied on lesson plan books and colleagues to cultivate new teaching ideas (Bewick & Corral, 2010; Westbrock & Fabian, 2010). The publication process for books often meant several years could pass before a chapter was published on an emerging topic like artificial intelligence or open pedagogy. Books were limited by page counts and the proposal process, which may inadvertently exclude a lesson plan or underrepresent certain information literacy concepts. For example, Troupos (2021) noted in his book review of *Faculty-Librarian Collaborations: Integrating the Information Literacy Framework into Disciplinary Course* that several ACRL *Framework* frames were nominally covered. The author praised Project Cora and ACRL Sandbox as resources that bolster access to ACRL *Framework* lesson plans.

The scope of Project Cora and the ACRL Sandbox are similar but differ in several key areas. Project Cora accepts research assignments, while the ACRL Sandbox broadly allows for any materials related to the ACRL *Framework for Information Literacy for Higher Education,* including items like a "rubric, chart, infographic, slides, or online resource such as a LibGuide" (Musgrove et al., 2018, p.249). All materials on Project Cora share the Creative Commons license BY-NC-SA license, which allows users to share and adapt any materials assuming they give attribution, use it for non-commercial purposes, and use the same license. Creators sharing items to the ACRL Sandbox can choose from a broad range of Creative Commons licenses, most allowing for some adaptation given a few contingencies. While Project Cora has a more specific material scope than the ACRL Sandbox, the website's adaptations feature, mapping of a wide range of international information literacy

concepts from several information literacy standards to research assignments, and suggested citations feature allows for more community-building than the ACRL Sandbox.

Librarian Use of Project Cora and ACRL Sandbox

Information literacy LORs have been posited as essential and valuable resources for librarians. Reflecting on the development of Project Cora, Archambault (2018) argued that OERs can help librarians save time preparing for classes, given that the amount of time it takes to prepare a lesson from scratch is substantially longer than remixing and revising one. Leuzinger and Grallo (2019) explored librarian practices around transparent assignment design and found that many of the 130 survey respondents used Project Cora and Sandbox, along with PRIMO. Brager et al. (2018) noted that the LORs are a place where librarians can begin to learn about and engage with the ACRL *Framework*. Suppose further proof is needed to demonstrate the value of these repositories to the field. In that case, one might look at recent ACRL *Framework* companion documents or recent conference proceedings to find the Project Cora and ACRL Sandbox repositories referenced as valuable resources for lesson plan development (ACRL, 2021a; ACRL, 2021b, Siddell & Sutrina-Haney, 2017).

It is evident from recent literature that many have used information literacy LORs for professional development, including Click et al. (2021), Kowalski et al. (2021), Pittman et al. (2020), Feerrar (2020), and Dale et al. (2019). At the University of the District Columbia, four librarians reviewed lessons available in Project Cora and ACRL Sandbox to become familiar with the ACRL *Framework* and identify "student-centered active learning activities" (Kowalski et al., 2021, p.114). Pittman et al. (2020) similarly utilized the repositories to help prepare librarians to teach with the ACRL *Framework* by having them create or adapt existing lessons as a part of a 23 Framework Things program. At the University of North Carolina Wilmington, librarians involved in training faculty to teach with the ACRL *Framework* acknowledged that the Sandbox provides "concrete examples" (Crowe et al., 2019, p. 288).

Incentives frequently mentioned for submitting materials to open LORs include the promise of increased visibility for reviews and promotion (Millard et al., 2013), along with what Archambault (2018) described as "the promise of more frequent citations" (p. 3). However, few research articles have cited materials in Project Cora or the ACRL Sandbox. Instead, content creators have relied primarily on download numbers to assess the impact and registered adaptations in Project Cora. Reviewing papers from a Google Scholar search for

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("Project Cora" AND "information literacy") OR "Framework for Information Literacy Sandbox" shows that often, when a Project Cora or ACRL Sandbox lesson or resource is cited within a research paper, it is the author's work (Hare & Evanson, 2018; Mannheimer & Banta, 2017; Press & Meiman, 2021; Stoothoff & Camacho, 2021). In several of the papers found, authors noted the originality of the lesson or the lack of resources in a specific area. For example, Hartman-Caverly and Chisholm (2020) found no other resources with similar tags around privacy in Project Cora or the ACRL Sandbox when submitting their *Privacy Workshop* lesson. Gardner (2019) called for "more lessons on algorithmic bias," (p. 8) while Korber and Shepherd (2019) were disappointed to find only one "choose your own adventure" lesson across the LORs PRIMO, Sandbox, and MERLOT. Roach-Freiman (2021) encouraged others to adapt their *BEAM Me Up* lesson and share it on Project Cora. Finally, several authors have hoped that the repositories would increase access to lessons around related literacies, including a creator of Project Cora (Archambault, 2018) and Fulkerson et al. (2017). Undoubtedly, many librarians have shared lesson plans and resources on instructional repositories because they want them to be seen, used, and easier to access than those behind a paywall (Hare & Versluis, 2019). Little is known about how faculty use LORs (Xu, 2016); the same is true for librarians. Given this gap in current knowledge and the vital role Project Cora and ACRL Sandbox play in the lives of instruction librarians, this study seeks to explore how librarians are engaged with the LORs Project Cora and ACRL Sandbox and the resources available within each.

Method

To address this study's first research question, Project Cora and ACRL Sandbox resources were reviewed to identify content overlap and how the content differed. As discussed in the literature review, the ACRL Sandbox accepts a broader variety of resources than Project Cora. The "Resource Type" labels applied to ACRL resources were examined to identify the range of materials included in the ACRL Sandbox, contrasting with the focus on assignments or lesson plans in Project Cora. Contributors to Project Cora and the ACRL Sandbox applied disciplines, information literacy concept labels, and tags to each resource. These facets were examined and compared to uncover how the content within each repository differs. While the ACRL Sandbox limits users to labeling resources with information literacy concepts from the Association of College and Research Libraries (ACRL, 2015) *Framework for Information Literacy for Higher Education*, Project Cora allows for several other information literacy frameworks. For the purposes of this study, only the

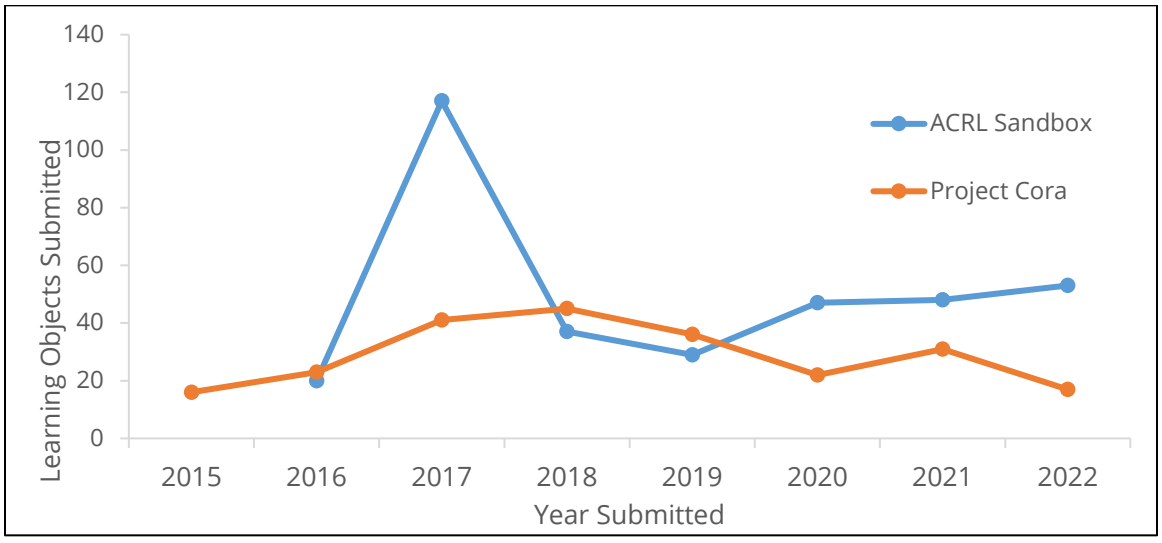
ACRL *Framework* concepts were examined from Project Cora in comparison with those present in the ACRL Sandbox.

Project Cora and the ACRL Sandbox's file download statistics and the adaptation counts from Project Cora were reviewed to evaluate the extent to which librarians used the resources. Many resources in Project Cora and the ACRL Sandbox included multiple files attached, each with a unique download number. As such, download statistics were examined at the file and not the resource level. A script was written in F# to automatically download the resources' title, author, date posted, description, information literacy concepts, discipline information, and tags from the Project Cora and ACRL Sandbox websites. The script then generated a spreadsheet file with this data, which was opened and saved as an Excel file for review and analysis.

Results

As of December 2022, there were 231 assignments available in Project Cora and 351 resources in the ACRL Sandbox. When it was established, the ACRL Sandbox saw a quick influx of materials, followed by the steady submission of 40 to 60 new items each year (see Figure 1). Conversely, Project Cora's submission appeared to have peaked in 2018 and now averages 20 to 30 submissions yearly.

Figure 1: Learning Objects Submitted to Project Cora and ACRL Sandbox, 2015–2022



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Project CORA accepts research assignments, while ACRL Sandbox collects a broader scope of resources. This study found that items in the ACRL Sandbox have anywhere from one to nine resource-type labels applied. The most common resource types were activities, learning objects, tutorials, and lesson plans. Conversely, items related to scholarship (e.g., white paper) or curriculum and course content (e.g., syllabi) appear to be applied the least (see Table 1). A review of submissions suggests that some duplication is happening across the repositories. Twenty-one items were uploaded to both repositories, four resources appeared twice in Project Cora, and two items were duplicated in the Sandbox.

Table 1: Resource Types in the ACRL Sandbox

Resource Type	Total
Activity	127
Learning Object	104
Tutorial	67
Lesson Plan	63
Instruction Program Material	42
Worksheet	40
Assessment Material	38
Slide Deck	35
Publication	32
Research Guide	32
Assignment Prompt	30
Learning Outcomes List	23
Professional Development Material	19
Practitioner Reflection	17
Blog Post	16
Other	16
Rubric	15
Bibliography	9
Curriculum Map	8
Conference Presentation	3
Syllabus	3
White Paper	1

In total, 223 individuals and organizations submitted items to one or both repositories (see Table 2). Over half of the contributors (n = 124) submitted only one item, while 11 submitted over 10.

Table 2: Where IL Practitioners Deposited Information Literacy Learning Objects

	Project Cora	ACRL Sandbox	Project Cora and Sandbox	Total (N)
IL Practitioners	96	112	15	223

Attachment Downloads

When materials are shared on Project Cora or ACRL Sandbox, the contributor can link to materials or upload documents related to the resource or assignment. Neither repository provides data on the number of clicks; however, download counts are publicly available for the files. Approximately 85% of assignments (n = 193) in Project Cora (N = 231) had files attached. Most commonly, there were one (n = 18) or two (n = 39) attachments; however, a few (n = 14) included five or more attachments. A review of the 386 attachments in Project Cora shows that, on average, files were downloaded 997 times or a median of 647 times. The "Historical Sources" activity from the *Evaluating Historical Sources* assignment by Bailey (2017) and the "This is the PDF version of the assignment" document from the *Wikipedia vs. Encyclopedia* assignment by Masunaga (2015) were downloaded most frequently, with 30,630 and 19,477 downloads respectively.

In the ACRL Sandbox (N = 351), 215 items included attachments. Most items included one (n = 177) or three (n = 24) files, although sixteen had five or more. The 363 attachments in the repository were downloaded an average of 863 times or a median of 513 times. The most downloaded attachments included a "Research Questions Generator" worksheet (Reinwald, 2018), a "4-step source assessment" infographic (Liu, 2020), and the "Master Literature Review" infographic (Liu, 2021). Even files attached to the newest assignments in Project Cora and ACRL Sandbox, such as *Rise Against the Machines: Understanding Algorithmic Bias* (Hallman, 2022), *Pharmacy: Aspects of Patient Care Literature Searching* (Maluski, 2022), and *True or False: Authority is Constructed and Contextual* (Hammons, 2022) have already been download over 100 times.

Disciplines

When submitting assignments to Project Cora and ACRL Sandbox, contributors must select a relevant discipline(s) from a pre-existing list. In Project Cora, users applied the Multidisciplinary label most commonly, while the least represented disciplines were

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Accounting, Geology, and Law (see Appendix 1). Similarly, the most applied labels in the ACRL Sandbox were Not Discipline Specific, Multidisciplinary, and Interdisciplinary (see Appendix 2). These three labels appear on 70% of the resources with attachments in the ACRL Sandbox. Users are advised to select both Multidisciplinary and Interdisciplinary when selecting more than three disciplines in the ACRL Sandbox. It is unclear why both disciplines exist when they appear to be the same. This issue is further confused by the Not Discipline Specific label, which could also be interpreted as Multidisciplinary or Interdisciplinary. Disciplines applied to the fewest assignments were Math, Classics, Counseling, Human Resources, Occupational Therapy, Social Work, and Urban Studies (see Appendix 2).

Contributor Tags

A total of 487 unique tags were applied across 254 materials in the ACRL Sandbox. Frequently applied tags included "#bizinfolit" and "#fakenews" (see Table 3). The majority of tags (n = 319) were only applied once, including topics such as "attention economy," "subject terms," and "archives." Most ACRL Sandbox contributors added one to five tags, while others generously applied six to 10 (n = 39) or 11 to 19 (n = 12).

Table 3: ACRL Sandbox Tags Applied Ten or More Times

Tag(s)	Number of Resources Applied to
#fakenews	17
#bizinfolit	16
Active learning	12
Research News Literacies Alliance metacognition assessment	11
privacy literacy privacy fake news digital privacy Critical Thinking	10

There were fewer unique tags in Project Cora than in ACRL Sandbox, with 212 unique tags applied to 192 items. Resources included anywhere from one (n = 31) to 27 tags (n = 1). Various literacies, source evaluation, and references to activities and active learning appear to be the most common topics (see Table 4).

Table 4: Project Cora Tags Applied Ten or More Times

Project Cora	Times Applied
active learning	45
Information Literacy	28
acrl framework	24
activities	22
digital literacy evaluates	18
critical thinking	17
evaluating sources	16
information types social justice	13
digital scholarship lesson plan media literacy research instruction teamwork	11
CA Catholic IL Project critical information literacy first year students information needs	10

ACRL Framework

As a required field during submission, all materials in the ACRL Sandbox ($N = 351$) were labeled with one of the six *Framework* frames and/or the label "Framework as a Whole." Most items were marked with an ACRL *Framework* label once ($n = 196$) or twice ($n = 83$). However, ten resources were marked as all *Framework* frames and "Framework as a Whole." Contributed resources were most commonly connected to the "Searching as Strategic Exploration" frame, while the "Scholarship as Conversation" and "Framework as Whole" frames were the least common (see Table 5).

Table 5: ACRL Framework Frames present in ACRL Sandbox

ACRL Framework Label	# of Labels
Searching as Strategic Exploration	113
Authority is Constructed and Contextual	99
Information Has Value	93
Research as Inquiry	93
Information Creation as Process	85
Scholarship as Conversation	77
Framework as a Whole	77

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Project Cora does not require submissions to be labeled with information literacy concepts and provides information literacy concept options beyond the ACRL *Framework*. Only the 186 items within Project Cora ($N = 231$) labeled with ACRL *Framework* frames were examined for this study. Like ACRL Sandbox, "Searching as Strategic Exploration" was the most commonly applied frame (see Table 6).

Table 6: ACRL Framework Frames present in Project Cora

ACRL Framework Frame	Count
Searching as Strategic Exploration (Frame 6)	58
Information Creation as Process (Frame 2)	49
Information Has Value (Frame 3)	47
Authority is Constructed / Contextual (Frame 1)	45
Scholarship as Conversation (Frame 5)	45
Research as Inquiry (Frame 4)	41

Project Cora Adaptations

Unique to Project Cora, this study examined how often users marked they had adapted lessons from the repository. Just over 10% ($n = 31$) of the research assignments were marked as adapted, anywhere from one to seven times (see Table 7). Some of the most frequently adapted lessons include Caffrey's (2016) *Pass the Problem* lesson (seven adaptations), Banta's (2016) *Scholarly Party* (four adaptations), and Archambault's (2015) *Research Exploration Exercise* (three adaptations).

Table 7: Frequency of Resources Adapted in Project Cora

Number of Adaptations	Number of Resources
0	201
1	22
2	6
3	1
4	1
7	1

Discussion

There is an evident need for lesson plans and resources for instruction librarians, particularly those that are free and easily accessible. Project Cora and ACRL Sandbox are two prominent LORs that meet this need. These repositories provide mostly unique

resources from many authors, with research assignments available in Project Cora and a wide range of materials in the ACRL Sandbox (see Table 1). Assignments in Project Cora have more than doubled since Archambault's 2018 case study of the repository. However, there appears to have been a modest decline in annual submissions, and the ACRL Sandbox shows only modest annual growth (see Figure 1). This pattern is consistent with findings by Wojcik and Rataj (2020) that institutional repositories typically do not see "exponential growth" (p. 1) and recommendations by Knapp et al. (2020) that continued training and modeling with LORs is needed to sustain user adoption.

The number of attachment downloads from the repositories show that people are using these resources. One might hope that as more people use the resources from the repositories, they might consider contributing. However, this does not necessarily seem to be the result when comparing the high download stats to the low number of materials contributed to each repository and the low use of the adaptation feature in Project Cora. Upload-a-thons like the one recently held in April 2023 by the ACRL Instruction Section Framework for Information Literacy Sandbox Committee are but one approach to increasing new user engagement with these open LORs. Targeted calls for resources in emerging topic areas and disciplines with few submissions could also increase user engagement.

Reflecting on the early success of Project Cora, Archambault (2018) characterized librarians as collaborative and outside the competitive spirit that so often plagues academia. However, many academic librarians hold faculty status or have some expectations of publishing peer-reviewed research (Crampsie et al., 2020; Walters, 2016). Peer-reviewed publications remain the focus of many librarians' employment reviews, while newer ways to demonstrate impact, like uploading to Project Cora or ACRL Sandbox, appear to receive less acknowledgment (Archambault, 2018). Assuming promotion and reappointment requirements cannot be changed overnight, library and information science journals should consider requiring authors to upload lesson plans and other materials if publishing on teaching methodologies or instructional case studies, in the same spirit as the research data accessibility movement. Some authors appear to be doing so already (e.g., Gardner, 2019; Press & Meiman, 2021; Stoothoff & Camacho, 2021;**)**, and undoubtedly readers would benefit from access to the materials.

Although significant efforts were made by Project Cora creators to foster a community of practice and increase the practice of giving credit during the development phase, only 30 out

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of 231 lessons (see Table 7) have been marked as adapted (Archambault, 2018). Kowalski et al.'s (2021) study identified the *Sphere of Discourse* by Hoppe (2019) as an assignment they adapted, but the related Project Cora page shows no adapters. Chandler (2020) adapted the *P.R.O.V.E.N. Source Evaluation Process* lesson plan in Project Cora by Carey (2017). However, the authors shared the adaptation in the North Carolina Independent Colleges and Universities lesson plan repository rather than sharing the adaptation back on Project Cora. Materials placed in institutional repositories are less visible than those in general LORs, such as Project Cora and the ACRL Sandbox. Additionally, institutional repositories generally limit who can contribute resources to only those affiliated with the institution, while LORs allow everyone to contribute. Arguably, LORs allow for a larger community of practice to develop than institutional repositories.

Surveying librarians who have used either Project Cora or ACRL Sandbox materials would help uncover more about how the resources are used, the impact of access to such instructional materials on practice, and how to increase engagement and contributions to the repositories. While it was not within the scope of this study to review every resource available for content, the author found several instances where videos were no longer available, cases of the same lesson with minor changes instead of one assignment with suggested modifications, and materials uploaded by library vendors which required logins to access. While minor issues overall, if librarians hope to garner greater use of LORs, it is essential that materials are accessible and that there is enough content for librarians to find them valuable (Wojcik & Rataj, 2020; Xu, 2016).

Project Cora and ACRL Sandbox ask contributors to apply tags as materials are uploaded. Someone browsing the repositories could search and find an item if it has a relevant tag, or someone may click on a tag applied to a resource to find other relevant items. User-generated tags, in theory, can increase the findability of materials by matching the natural language of users. Further, user-generated tags support the quick addition of emerging topics such as privacy by Hartman-Caverly and Chisolm (2020). However, a known issue with this indexing is the duplication of topics in tags (Manzo et al., 2015). This problem appears more present within the ACRL Sandbox ($N = 351$), which had over double the number of unique tags than Project Cora ($N = 231$). While part of this difference could be attributed to the overall number of resources in each repository, there is a notable difference in the submission process. Project Cora provides a list of existing tags for users to select and the option to suggest a new tag. In contrast, users are not provided a list of existing tags and can add any tags to materials in the ACRL Sandbox. For example, contributors have applied

various tags for business-related resources, including #businessinformationliteracy, business ethics, business information, international business, and #bizinfolit.

The ACRL Sandbox and Project Cora are valuable resources for librarians with instructional responsibilities. However, it is unclear if the user-generated tags help users find relevant resources. LORs that support user-generated, or in this case contributor-generated, tagging should consider moving towards a more cooperative approach that allows contributor input while considering the usability of such tags for users. Mai (2011) suggested that such an approach can only help further the goals of social technology (i.e., Project Cora). In implementation, this could mean the ACRL Sandbox adopting a similar approach as Project Cora, where contributors are suggested and select tags from a list. Another option could be allowing registered users to suggest tags after materials are uploaded instead of solely relying on the person who uploaded the materials to tag the item.

Conclusion

Project Cora and the ACRL Sandbox are important resources for information literacy instructors to develop pedagogy and inspire new ideas. While the repositories' scopes overlap marginally, the items within each repository are primarily unique, and librarians would benefit from searching each when seeking resources. Arguably, communities of practice resources, like the LORs Project Cora and ACRL Sandbox, need librarians to use and contribute resources for the repositories to be successful. The literature suggests a need for an increased breadth of lessons and resources available in Project Cora and the ACRL Sandbox to expand and encompass other literacies that have become entwined with information literacy, including news and privacy literacy. This study found that some disciplines and ACRL *Framework* information literacy concepts were less represented than others. While significant effort was undertaken to promote these repositories, increased content assessment and promotion for submissions might bolster engagement. Finally, the scholarly expectations of librarians may deter librarians from depositing materials in LORs. It is critical that contributors and users of LORs reflect on how the librarian community can address this known issue or explore other incentives for depositing, such as journal publishing requirements.

References

Association of College and Research Libraries. (2015). *Framework for information literacy for higher education.* https://www.ala.org/acrl/standards/ilframework

https://pdxscholar.library.pdx.edu/comminfolit/vol17/iss2/6
DOI: 10.15760/comminfolit.2023.17.2.6

Association of College and Research Libraries. (2017). *Roles and strengths of teaching librarians.* https://www.ala.org/acrl/standards/teachinglibrarians

Association of College and Research Libraries. (2021a). *Companion document to the ACRL* Framework for information literacy for higher education*: Politics, policy, and international relations.* http://hdl.handle.net/11213/17208

Association of College and Research Libraries. (2021b). *Companion document to the ACRL* Framework for information literacy for higher education*: Research competencies in writing and literature.* http://hdl.handle.net/11213/17209

Archambault, S. (2015). *Research exploration exercise.* [lesson plan]. CORA (Community of Online Research Assignments). https://www.projectcora.org/assignment/research-exploration-exercise

Archambault, S. G. (2018). Developing a community of online research assignments. *portal: Libraries and the Academy*, *18*(3), 451–471. https://doi.org/10.1353/pla.2018.0028

Bailey, K. (2017). *Evaluating historical sources* [lesson plan]. CORA (Community of Online Research Assignments). https://www.projectcora.org//assignment/evaluating-historical-sources

Banta, R. (2016). *Scholarly party.* [lesson plan]. CORA (Community of Online Research Assignments). https://www.projectcora.org/assignment/scholarly-party.

Becksford, L., & Metko, S. (2018). Using a library learning object repository to empower teaching excellence for distance students. *Journal of Library & Information Services in Distance Learning*, *12*(3-4), 120–129. https://doi.org/10.1080/1533290X.2018.1498621

Bewick, L., & Corrall, S. (2010). Developing librarians as teachers: A study of their pedagogical knowledge. *Journal of Librarianship and Information Science*, *42*(2), 97–110. https://doi.org/10.1177/0961000610361419

Brager, T., Pittman, K., & Mars, A. (2018). Don't panic: The academic librarian's guide to building community around the ACRL *Framework*. *LOEX Conference Proceedings 2018, USA*, 71–76. https://commons.emich.edu/loexconf2018/29/

Brecher, D., & Klipfel, K. M. (2014). Education training for instruction librarians: A shared perspective. *Communications in Information Literacy*, *8*(1), 43–49. https://doi.org/10.15760/comminfolit.2014.8.1.164

Caffrey, C. (2016). *Pass the problem.* [lesson plan]. CORA (Community of Online Research Assignments). https://www.projectcora.org/assignment/pass-problem.

Carey, E. (2017). *P.R.O.V.E.N. source evaluation process* [lesson plan]. CORA (Community of Online Research Assignments). https://www.projectcora.org/assignment/proven-source-evaluation-process

Chandler, K. (2020). *Source evaluation for financial and career readiness: Information literacy concepts in everyday life.* [lesson plan]. Rio Lesson Plan Repository. https://digitalcommons.gardner-webb.edu/nlc-rio-lesson-plan-repository/1

Click, A. B., Wiley, C. W., & Houlihan, M. A. (2021). "We're a little different:" Business information literacy perspectives on the ACRL *Framework*. *Communications in Information Literacy*, *15*(1), 24–56. https://doi.org/10.15760/comminfolit.2021.15.1.2

Crampsie, C., Neville, T., & Henry, D. B. (2020). Academic librarian publishing productivity: An analysis of skills and behaviors leading to success. *College & Research Libraries*, *81*(2), 248–271. https://doi.org/10.5860/crl.81.2.248

Crowe, S., Pemberton, A., & Yeager, V. (2019). Information literacy faculty fellows program: Building a faculty-librarian framework community of practice. *College & Research Libraries News*, *80*(5), 285–288. https://doi.org/10.5860/crln.80.5.285

Dale, M., Wetzel, D., & Kani, J. (2019). Hitting it out of the park with game-based learning for FYEs and libraries. *College & Undergraduate Libraries*, *26*(3), 205–220. https://doi.org/10.1080/10691316.2019.1650683

Davies-Hoffman, K., Alvarez, B., Costello, M., & Emerson, D. (2013). Keeping pace with information literacy instruction for the real world: when will MLS programs wake up and smell the LILIACs? *Communications in Information Literacy*, *7*(1), 9–23. https://doi.org/10.15760/comminfolit.2013.7.1.131

Farmer, K., Henry, J., Thompson, D. S., Vance, C. K., & Wilson, M. (2021). Using Canvas Commons to transform information literacy instruction. In B. Holland (Ed.) *Handbook of research on library response to the COVID-19 pandemic* (pp. 231–247). IGI Global. https://doi.org/10.4018/978-1-7998-6449-3.ch012

Feerrar, J. (2020). Navigating literacies. *Journal of New Librarianship, 4*(1), 145–148. https://doi.org/10.21173/newlibs/6/9

https://pdxscholar.library.pdx.edu/comminfolit/vol17/iss2/6
DOI: 10.15760/comminfolit.2023.17.2.6

Fisher, Z. (2018, April 15). Who succeeds in higher education? Questioning the connection between academic libraries & student success. *Quick Ask Zoe.* https://quickaskzoe.com/2018/04/15/who-succeeds-in-higher-education

Fulkerson, D. M., Ariew, S. A., & Jacobson, T. E. (2017). Revisiting metacognition and metaliteracy in the ACRL *Framework*. *Communications in Information Literacy, 11*(1), 21–41. https://doi.org/10.15760/comminfolit.2017.11.1.45

Gardner, C. C. (2019). Teaching algorithmic bias in a credit-bearing course. *International Information & Library Review, 51*(4), 321–327. https://doi.org/10.1080/10572317.2019.1669937

Hallman, S. (2022). *Rise against the machines: Understanding algorithmic bias* [lesson plan]. CORA (Community of Online Research Assignments). https://www.projectcora.org/assignment/rise-against-machines-understanding-algorithmic-bias

Hammons, J. (2022) *Authority is constructed and contextual overview* [instruction program material]. ACRL Framework for Information Literacy Sandbox. https://sandbox.acrl.org/library-collection/authority-constructed-and-contextual-overview

Hare, S., & Evanson, C. (2018). Information privilege outreach for undergraduate students. *College & Research Libraries, 79*(6), 726–736. https://doi.org/10.5860/crl.79.6.726

Hare, S., & Versluis, A. (2019). Making the most of and moving beyond your first professional position: Strategies for success. In M. Hodge (Ed.), *The future academic librarian's toolkit: Finding success on the job hunt and in your first job* (pp. 291–312).

Hartman-Caverly, S., & Chisholm, A. (2020). Privacy literacy instruction practices in academic libraries: Past, present, and possibilities. *IFLA Journal, 46*(4), 305–327. https://www.doi.org/10.1177/0340035220956804

Hoppe, B. (2019). *Sphere of discourse* [lesson plan]. CORA (Community of Online Research Assignments). https://www.projectProject Cora.org/assignment/sphere-discourse

Julien, H., Gross, M., & Latham, D. (2018). Survey of information literacy instructional practices in US academic libraries. *College & Research Libraries, 79*(2), 179–199. https://doi.org/10.5860/crl.79.2.179

Knapp, M., Risha, Z., Gatewood, R., Van Der Volgen, J., Brown, R., & Kizilboga, R. (2019). Learning to love the LOR: Implementing an internal learning object repository at a large national organization. *Medical Reference Services Quarterly*, *38*(2), 143–155. https://doi.org/10.1080/02763869.2019.1588049

Korber, I., & Shepherd, J. (2019). Teaching the information literacy *Framework*: Creating choose-your-own-adventure flip-books. *Reference Services Review*, *47*(4), 461–475. https://doi.org/10.1108/RSR-05-2019-0033

Kowalski, M., Meals, C., & Rusk, F. (2021). Transforming theory into practice: Creating student-centered instructional activities rooted in the *Framework*. *College & Research Libraries News, 82*(3), 114–120. https://doi.org/10.5860/crln.82.3.114

Leuzinger, R., & Grallo, J. (2019). Reaching first-generation and underrepresented students through transparent assignment design. In N. Tran & S. Higgins (Eds.), *Supporting today's students in the library: Strategies for retaining and graduating international, transfer, first-generation, and re-entry students* (pp. 103–121). Association of College and Research Libraries.

Liu, G. (2020). *4 step source assessment strategy* [infographic]. ACRL Framework for Information Literacy Sandbox. https://sandbox.acrl.org/library-collection/4-step-source-assessment-strategy

Liu, G. (2021). *Master literature review process* [infographic]. ACRL Framework for Information Literacy Sandbox. https://sandbox.acrl.org/library-collection/master-literature-review-process

Mai, J. E. (2011). Folksonomies and the new order: authority in the digital disorder. *Ko Knowledge Organization, 38*(2), 114–122. 0.5771/0943-7444-2011-2-114

Maluski, K. (2022). *Pharmacy: Aspects of patient care literature searching* [lesson plan]. CORA (Community of Online Research Assignments). https://www.projectcora.org/assignment/pharmacy-aspects-patient-care-literature-searching

Mannheimer, S., & Banta, R. (2017). Personal digital archiving as a bridge to research data management. In B. Marshall (Ed.), *The complete guide to personal digital archiving* (pp. 169–183). ALA Editions.

https://pdxscholar.library.pdx.edu/comminfolit/vol17/iss2/6
DOI: 10.15760/comminfolit.2023.17.2.6

Manzo, C., Kaufman, G., Punjasthitkul, S., & Flanagan, M. (2015). "By the people, for the people": Assessing the value of crowdsourced, user-generated metadata. *DHQ: Digital Humanities Quarterly*, *9*(1). http://www.digitalhumanities.org/dhq/vol/9/1/000204/000204.html

Masunaga, J. (2015) *Wikipedia vs. encyclopedia* [lesson plan]. CORA (Community of Online Research Assignments). https://www.projectcora.org/assignment/wikipedia-vs-encyclopedia

McKinney, P. A., & Wheeler, E. (2015). Are librarians teachers? Investigating academic librarians' perceptions of their own teaching skills. *Journal of Information Literacy*, *9*(2), 111–128.

Millard, D. E., Borthwick, K., Howard, Y., McSweeney, P., & Hargood, C. (2013). The HumBox: Changing educational practice around a learning resource repository. *Computers & Education*, *69*, 287–302. https://doi.org/10.1016/j.compedu.2013.07.028

Musgrove, A. T., Powers, J. R., Rebar, L. C., & Musgrove, G. J. (2018). Real or fake? Resources for teaching college students how to identify fake news. *College & Undergraduate Libraries*, *25*(3), 243–260. https://doi.org/10.1080/10691316.2018.1480444

Olsen, R., & Harlow, S. (2022). Creating library tutorials to provide flexibility and customized learning in asynchronous settings. *Public Services Quarterly*, *18*(1), 19–33. https://doi.org/10.1080/15228959.2021.1896413

O'Neill, J. L. (2017). Deploying a WordPress-based learning object repository to scale up instruction and effect a culture of sharing. *Reference Services Review*, *45*(1), 131–140. https://doi.org/10.1108/RSR-10-2016-0059

Pittman, K., Mars, A., & Brager, T. (2020). Finding expertise in your own backyard: Creating communities of practice to support learning about the Framework. In H. Julien, M. Gross, & D. Latham (Eds.), *The information literacy framework: Case studies of successful implementation* (pp. 48–64). Rowman & Littlefield.

Press, M., & Meiman, M. (2021). Comparing the impact of physical and digitized primary sources on student engagement. *portal: Libraries and the Academy*, *21*(1), 99–112. https://doi.org/10.1353/pla.2021.0007

Reinwald, D. (2018). *Research question generator* [worksheet]. ACRL Framework for Information Literacy Sandbox. https://sandbox.acrl.org/resources-search?combine=research+question+generator

Roach-Freiman, A. (2021). BEAM me up: Teaching rhetorical methods for source use and synthesis. *Communications in Information Literacy*, *15*(2), 227–239. https://doi.org/10.15760/comminfolit.2021.15.2.5

Schachter, D. (2020). Theory into practice: Challenges and implications for information literacy teaching. *IFLA journal*, *46*(2), 133–142. https://doi.org/10.1177/0340035219886600

Siddell, K., & Sutrina-Haney, K. (2017) State-It: Connecting students to the archives. In F. Baudino, K. Hart, & C. Johnson (Eds.), *17th annual Brick & Click: An academic conference* (pp. 2–8). Northwest Missouri State University. https://digitalcommons.xula.edu/fac_pub/1/

Stoothoff, P., & Camacho, A. (2021). Advancing inclusive digital collections and student scholarship through participatory learning approaches. In D. M. Mueller (Ed.), *Ascending into an open future: The proceedings of the ACRL 2021 virtual conference, April 13–16, 2021* (pp. 261–268). Association of College and Research Libraries. http://hdl.handle.net/11213/17599

Taylor, L. R. (2023). 2021 ACRL Academic Library Trends and Statistics Survey: Highlights and key academic library instruction and group presentation findings. *College & Research Libraries News*, *84*(4), 149–157. https://doi.org/10.5860/crln.84.4.149

Troupos, C. (2021). Review of faculty-librarian collaborations: Integrating the information literacy framework into disciplinary courses. *Journal of New Librarianship, 6*(1), 70–75. https://doi.org/10.33011/newlibs/10/8

United National Educational, Scientific, and Cultural Organization. (n.d.) *Open educational resources.* https://www.unesco.org/en/open-educational-resources

Valenti, S. J., & Lund, B. D. (2021). Preparing the instructional librarian: Representation of ACRL roles and strengths in MLS course descriptions. *College & Research Libraries*, *82*(4), 530–547. https://doi.org/10.5860/crl.82.4.530

https://pdxscholar.library.pdx.edu/comminfolit/vol17/iss2/6
DOI: 10.15760/comminfolit.2023.17.2.6

Walter, S. (2006). Instructional improvement: Building capacity for the professional development of librarians as teachers. *Reference & User Services Quarterly*, *45*(3), 213–218. https://www.jstor.org/stable/20864516

Walters, W. H. (2016). Faculty status of librarians at US research universities. *The Journal of Academic Librarianship*, *42*(2), 161–171. https://doi.org/10.1016/j.acalib.2015.11.002

Wang, T., Lund, B. D., Widdersheim, M., & Fay, B. (2022). Comparison of U.S. 4-year and community college librarians' perspectives on competencies, challenges, and educational preparation for the instructional role. *Journal of Librarianship and Information Science*, *54*(4), 703–718. https://doi.org/10.1177/09610006211042661

Westbrock, T., & Fabian, S. (2010). Proficiencies for instruction librarians: Is there still a disconnect between professional education and professional responsibilities? *College & Research Libraries*, *71*(6), 569–590. https://doi.org/10.5860/crl-75r1

Wojcik, J., & Rataj, M. (2020). Learning objects lost in the network. *2020 IEEE Frontiers in education conference (FIE), Uppsala, Stockholm, Sweden* (pp. 1–7). IEEE. https://doi.org/10.1109/FIE44824.2020.9274278

Xu, H. (2016). Faculty use of a learning object repository in higher education. *VINE Journal of Information and Knowledge Management System, 46*(4), 469–478. https://doi.org/10.1108/VJIKMS-05-2016-0024

Appendix 1: Assignment Disciplines in Project Cora

Disciplines	Number of Affiliated Assignments
Multidisciplinary	100
Library and Information Science	64
Communication Studies	48
English	46
Rhetoric, Composition, and Writing	42
History	32
Liberal Studies	30
Sociology	25
Psychology	24
Business	22
Political Science	21
Women's Studies	21
Health	19
Education	18
Art	17
Environmental Studies	16
Urban Studies	16
Anthropology	15
Biology	15
Economics	13
Ethnic Studies	13
Theology	13
Film and TV	12
Chemistry	10
Philosophy	10
Classics	9

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Disciplines	Number of Affiliated Assignments
Computer Science	9
Engineering	9
Archaeology	8
Linguistics	8
Information Management	7
Physics	7
Social Work	7
Theater Arts	7
Dance	6
Music	6
Accounting	5
Geology	5

Appendix 2: Resource Disciplines in the ACRL Sandbox

Disciplines	Number of Affiliated Resources
Not Discipline Specific	164
Multidisciplinary	79
Interdisciplinary	59
Business	46
Library and Information Science	31
Communication Studies	18
Other	17
Rhetoric, Composition, and Writing	17
Education	16
English	16
Political Science	15
Biology	9
History	9
Journalism	9
Economics	8
Art	7
Psychology	7
Environmental Studies	6
Liberal Studies	6
Anthropology	5
Film and TV	5
Health	5
Information Management	5
Music	5
Nursing	5
Theater Arts	5

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Disciplines	Number of Affiliated Resources
Ethnic Studies	4
Linguistics	4
Physical Therapy	4
Sociology	4
Women's Studies	4
Accounting	3
Area Studies	3
Chemistry	3
Computer Science	3
Criminal Justice	3
Law	3
Public Health	3
World Languages	3
Archaeology	2
Dance	2
Engineering	2
Philosophy	2
Theology and Religious Studies	2
Classics	1
Counseling	1
Human Resources	1
Mathematics	1
Occupational Therapy	1
Social Work	1
Urban Studies	1