Part IV:
Current Issues in the Field

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Introduction

As the field of open education has grown and OER adoption has become more widespread, discussion about related critical issues has also developed, particularly in the discipline of Library and Information Science (LIS). This section explores current issues that are often less visible or present in the literature but are paramount to librarians interested in furthering OER and representing the complexities of OER creation and adoption in their outreach.

OER provide an important solution to the access disparities that high course materials costs cause, but they are not a panacea for the complicated issues that plague higher education. We believe that this stance can and should shape librarians' practice: we can balance presenting OER as an important tool for furthering access while still adequately representing the numerous barriers and constraints involved in adopting, sharing, accessing, and creating OER.

Our section begins by grounding OER usage within the larger publisher landscape, discussing trends in the delivery of OER and publisher attempts at "openwashing," or co-opting open to further financial gains. We then address the unsustainable labor practices inherent in the open education movement, including the trend of temporary and part-time positions in leading OER work, limited compensation, overreliance on grant funding, and a lack of recognition of collaborators. Finally, we discuss how technocracy is embedded in open education discourse, by addressing barriers students and educators face when adopting or using OER. Throughout the section, we present practical tips and resources, ultimately providing open advocates with a conceptual overview of critical issues as well as tangible actions they can undertake.

Remember, critique is an act of care and OER are valuable and worthy of investment. Our critique serves not to dismantle ideas or movements, but to improve them. Only with critical engagement will librarians move the discourse about OER forward and make our practices more nuanced and accessible.

Current Publisher Landscape

Recently, publishing companies like McGraw-Hill Education, Pearson, Wiley, and Cengage have seen decreased revenues on course material sales as students use a variety of strategies to save money (SPARC 2019). The Scholarly Publishing and Research Coalition (SPARC) has conducted an in-depth analysis of the factors driving publishers' decline in revenue, which include decreasing national student enrollment, pricing challenges, and declining rates of student purchasing. In order to address their shrinking revenue, publishing companies have had to pursue and implement creative strategies for product development, often shifting their focus to digital learning or online-only course material and assessment products. These trends have resulted in publishing companies entering the OER and data collection space.

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At the same time, North American higher education as a whole is increasingly concerned with creating efficiencies while maximizing student retention. In order to reduce teaching costs, many institutions have opted to hire increasing numbers of sessional or untenured instructors, leading to widespread adjunctification and large course loads for instructors. This emphasis on efficiency has fostered an overreliance on using quantitative data to evaluate instructor effectiveness and student learning.

This emphasis on demonstrable success enables a technocratic audit culture which relies almost exclusively on statistical data to measure progress. Quantifiable statistics, such as higher test scores, lower course costs, and increased graduation rates, become synonymous with improved teaching and learning, which ultimately risks placing erudition and memorization entirely over critical engagement and transferable skills (Danforth 2016). These technocratic higher education systems view their students less as students and more as human capital used to justify and measure an institution's success and prestige. This is compounded by the material conditions of teaching at the post-secondary level, where widespread adjunctification and large course loads has become the norm. Insecure faculty employment, coupled with higher education's predilection for asserting efficiency above all has fostered an overreliance on quantitative data to evaluate both instructor effectiveness and student learning.

Openwashing

Sometimes called *faux-pen*, openwashing intentionally co-opts the language of open for proprietary means without investment in the commons (Watters 2014). Publishing companies openwash when they call content that is not openly licensed "OER" or "open." There have been a number of recent examples of companies marketing new open or OER products that simply are not open (Elder 2018). This strategy capitalizes on the fact that instructors have been told that open is inherently good without a thorough explanation of open licensing or *why* open matters.

Openwashing is taken a step further when companies fetter OER as part of their products or platforms. Billy Meinke (2019), OER Technologist at the University of Hawai'i, notes that to fetter means "to restrain from motion, from action, from progress." In the case of OER, fettering packages free and openly-licensed materials into for-profit products, essentially rendering the 5R permissions that characterize OER untenable and limiting future adaptations and revisions. There are several models companies use to sell products that use OER. One is "open wrapping," which Associate Director of Digital Learning and Design Scott Robison (2017) describes as publishers wrapping services around OER. These services can include "ancillary teaching materials, adaptive/personalized learning tools, data analytics, [and] customer support" (Robison 2017, par. 1). Another model is the freemium model, where instructors are given access to one of these services temporarily or until they reach a particular threshold, at which point they are asked to pay or are prompted to encourage their institution to purchase the product. Both of these models are designed to provide a seamless, value-added option for instructors, as they often make searching for OER more straightforward and robust by aggregating repositories and cleaning metadata, providing ancillary materials like question banks, and offering easy-to-use assessment mechanisms. However, despite the platforms using free OER, students are asked to pay to access them, either through fees related to a particular

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course or by contributing a portion of their tuition dollars to purchase institutional use. While the labor that companies contribute to enhance OER should be compensated, these products inherently ignore the creator of the original OER's intent: to enable others to build upon the work. Additionally, while the enhancements provided often center on instructors and administrators, they frequently result in students being charged.

In short, these tools exploit several gaps that the open education movement has not yet been able to address: discoverability, the availability of ancillary materials, metadata consistency, the ability to pay instructors to develop content in areas where there are not many options, and the resources needed to continually maintain content. In a recent blog post, Jhangiani (2019) noted that sellers of these tools even purposefully present OER adoption as difficult, sometimes impossible, arguing that their product is the only mechanism instructors can use to manage this feat. Despite their characterization as a "magic bullet" solution, these platforms are problematic in that they utilize openly licensed content and the labor of OER creators, but none of this additional work benefits the commons. OER repositories are not improved and related ancillary materials are not shared broadly or openly licensed as a result of publisher participation.

The revision of content is even stymied, as publisher platforms often limit the permissions that were originally inherent in the OER content they use. For example, one platform may use an OpenStax textbook that was originally licensed CC BY. When the OER is shared on the OpenStax site, the 5R permissions—often used a litmus test for evaluating if something is an OER—are intact. Educators can distribute the text, edit and remix it, and then re-share their adapted OER under any license they choose. When this same openly licensed text is locked in a commercial platform, there is often no mechanism for educators interested in remixing content. The platform makes it difficult to export an entire file in order to make changes. Beyond co-opting OER, for-profit publisher tools impede the development of the OER, often using the term "open" to convince instructors that these tools are inherently good or valuable.

Strategies for Librarians and Other OER Advocates

- Utilize overviews of publisher products that incorporate OER. For example, Open Access and Scholarly Communication Librarian Abbey Elder (2018) has created a spreadsheet that catalogs commercial tools that integrate OER into their platforms, which may be a good starting point for librarians considering a particular tool for their campus.
- Use the ALMS framework (Hilton et al. 2010) to assess how specific tools limit or further open. The ALMS framework assesses the technical decisions that impede or allow the 5R permissions, holding that if creators do not consider subsequent adaptations of the OER, other educators will not be able to enact the 5R permissions even if they are legally allowed to do so.
- Develop litmus tests similar to the ALMS framework that can be used to evaluate tools and publishers. One example of an existing litmus test is the CARE Framework, created by Petrides, Levin, and Watson (2018). The CARE Framework holds that thoughtful OER stewards should ensure that the content they create or adapt can be released widely and intentionally and explicitly empower minority voices in OER creation and

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adoption. This framework could be used to evaluate publisher platforms. Librarians should also consider developing other checklists or frameworks to analyze how platforms license the content they create, their business/ sustainability model, and how they encourage or inhibit adaptations.

- Avoid using “open” as a proxy for “good” or “ethical” and instead clearly define open so that instructors understand differences between open and affordable course materials. Librarians might also advise instructors to license their OER under a CC BY-NC license in order to avoid co-optation.

Inclusive Access

OER offers several benefits that affordable course material does not. For example, OER are completely free to students, students can access them after graduation, and there are no digital rights management (DRM) barriers (see Figure 1 for additional details). Still, instructors will likely need to use a variety of strategies, including utilizing affordable content solutions or library-licensed resources, in order to move away from traditional course materials. This is particularly true for specialized courses where OER have not yet been developed.

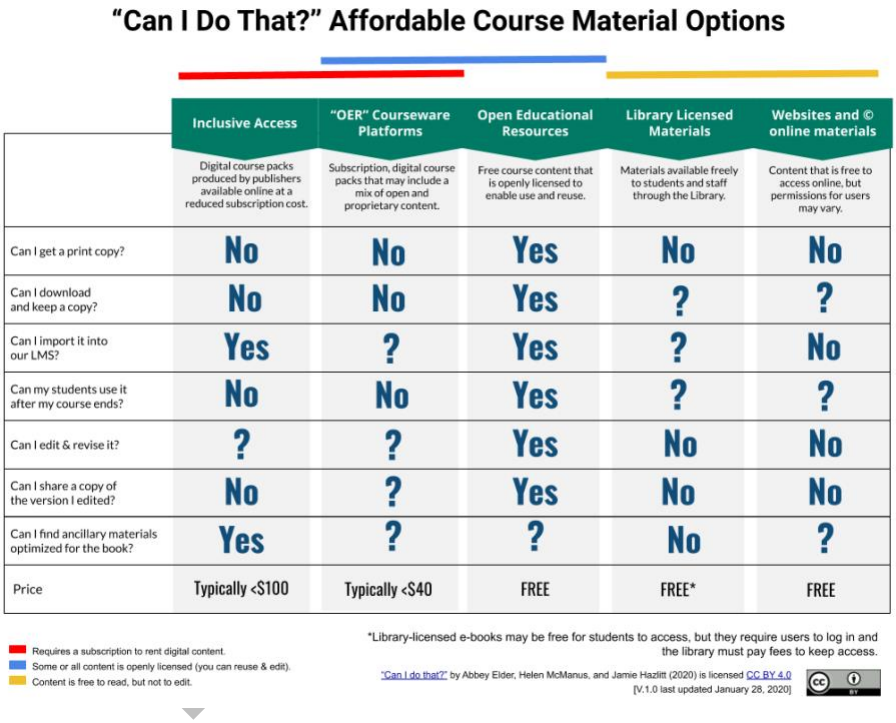

Figure 1: “Can I Do That?” Affordable Course Material Options by Abbey Elder used under a CC BY 4.0 License

Inclusive access programs, sometimes called “automatic textbook billing,” are one affordable course material solution. In exchange for every student in a particular course paying for access to a digital-only textbook (usually as part of their fees for the course) publishing companies discount course materials for all students. Institutions with these programs are usually directly

involved in negotiating with publishers, liaising with them to troubleshoot issues, promoting the program to instructors, and processing student payments. While it may appear that inclusive access programs provide a vehicle both for institutions to intervene in the rising cost of course materials and for students to save money, there are several issues with this model. Rajiv Jhangiani (2017), Associate Vice Provost of Open Education at Kwantlen Polytechnic University, notes that students are essentially leasing content, as they will not have perpetual access to the course materials provided through inclusive access programs. Students will also often experience DRM restrictions that limit how they can view and/or print the text. Additionally, the e-books in inclusive access packages are still essentially traditionally copyrighted textbooks, with no mechanism for instructors to revise or re-mix content based on audience or learning objectives.

Perhaps most concerningly, the process for students to opt out of inclusive access programs is notoriously difficult, raising questions about student agency and autonomy. While an opt out mechanism is required by U.S federal regulations under 34 C.F.R Sec. 668.164(c) (SPARC 2019), Jhangiani (2017, par. 3) notes that publishers have a "vested interest" in reducing the number of opt outs. This often means that opt out processes are not visible to students, the deadline for opting out is unattainable, and opting out can be attached to punitive measures for institutions or students. Citing an example at Trident Technical College, SPARC (2019) notes that this "pits the financial interests of the institution against the financial interests of the students" because the institution might lose money if they do not reach a quota or if too many students opt out (40). A recent report from the U.S. Public Interest Research Group (PIRG) found that more than a third (68%) of the 52 inclusive access contracts they analyzed required institutions to meet a quota for the number of students automatically billed in order to secure discounts (Vitez, 2020).

Publishers' endeavors to emphasize affordable, digital-only course material programs are to be understood as diversifying revenue streams rather than altruism. SPARC (2019) notes that a digital-only strategy allows publishers to "lower their wholesale prices to reflect lower costs such as the savings on printing, binding, shipping and warehousing costs" (36). Inclusive access programs also allow publishers to eliminate print books that feed the used book market and cut out the mark-up generated by bookstores that sell print books to students, making discounted rates still profitable. Inclusive access programs' emphasis on publisher profit, as well as the constraints students face when using them, are considerations that librarians can introduce to instructors in order to complicate the narrative around inclusive access programs. Indeed, librarians may find that inclusive access models are presented as *the* answer to the problem of course material costs on their campus. An important response to this sentiment is to help instructors untangle the stakeholders involved in inclusive access models (including publishers and institutions themselves) and both the risks and benefits students face.

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Strategies for Librarians and Other OER Advocates

- Attempt to strike a balance between being open to other affordable course material solutions, giving voice to student concerns, and articulating the ethical concerns inherent in some models.
- Incorporate clear explanations of the differences between open and affordable course material solutions into all outreach.
- Prioritize the creation of OER where there is a lack of developed materials in order to ensure that there are OER options for every course, resulting in less need for affordable course material solutions. This might look like prioritizing more specialized or niche courses when reviewing OER creation stipend applications or deciding where to devote library staff time and expertise.
- Stay current with conversations on publishing company models and digital learning tools in order to dispel myths about specific products or approaches. Michael Feldstein's (2020) eLiterate blog often provides in-depth analyses of educational technology tools and is a useful resource for LIS students and librarians alike.
- Take a historical approach to outreach in order to help instructors understand that there is "no mechanism preventing publishers from resuming their historical rate of price increases once [the inclusive access model] becomes widespread" (SPARC 2019, 40). The Student PIRG report (Vitez 2020) found that most contracts do not specify restrictions on price increases, for example. Comparing inclusive access deals to journal big deals may be an effective approach for illustrating that this model makes controlling long-term prices close to impossible.

Privacy

Both of these trends have created a host of related issues that are important to librarians. Perhaps the most important trend is related to student privacy, as inclusive access programs and commercial platforms that incorporate OER both generally collect and sometimes even sell student data back to the institution for decision making purposes. This data may include students' physical location when using course materials, study and reading habits, and overall performance (SPARC 2019). The data may also be connected to the student information system (SIS), which includes demographic information about students including their name, birth date, grades, and registration status (Meinke 2019). Understanding privacy implications is complex and requires an awareness of how data is collected, stored, and shared between systems. Understanding how federal policies like the Family Educational Rights and Privacy Act (FERPA) interact with local agreements like End User License Agreements is also a challenge.

A common retort to concerns about student privacy is that students are fine with data collection. Librarians should refute this erroneous assertion strongly and regularly, bringing data into the conversation as necessary. For example, research done as part of the data doubles project illustrated that students "looked negatively upon" providing data to entities outside of their institution.

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While legislation like the Family Educational Rights and Privacy Act (FERPA) should protect students, SPARC (2019) notes that it has not been updated in decades and does not cover all use cases. Meinke (2018) reinforces this, stating that data collected by these platforms is often exempt from FERPA protections for students, as many companies are defined as actors with an educational purpose. This means that librarians should rely on other frameworks for understanding data collection practices and advocating for students. While their discussion is focused on library data collection, Assessment Librarian Andrew Asher (2017) presents one framework that could be of value for privacy advocates. The framework uses Institutional Research Board's (IRB) three guiding principles: "respect for persons, which establishes the requirements of disclosure of the data being collected and informed consent, beneficence, which asserts the research should first do no harm... and justice, which states that the selection of research subjects should be equitable" (45). While the data collection inherent in many educational technology tools and course material platforms is not required to be approved by IRB, this sort of framework may help librarians ask the right questions of companies and push back on unethical practices. For example, student consent to data collection is often inherent in the use of the Learning Management System (LMS)—which is embedded in many universities' core processes, including grading—and thus students' ability to opt-out is often non-existent. Asher's framework advocates for informed consent as well as student education on the types of data being collected.

Labor

Although for-profit publishers make explicit their contributions to the open and affordable course content ecosystem by marketing additional features, robust metadata, and other "value-added" services, a nuanced understanding of the labor that goes into OER and OE-related efforts is still not widely understood. Many of these issues—sustainable funding models, academic status, reward and recognition, workload—are made infinitely more complex by the fact that they are largely structural and require the attention and intervention of administrators.

While open education work should be not solely in the purview of the library**,** libraries often provide the bulk of the resources to make this work a reality. While Open Education Librarian positions are established and gaining prominence in academic libraries (Larson 2019), support is also being provided in the form of OER incentive programs. For example, the University of Massachusetts Amherst offers instructors $2,000 to replace traditional course materials with OER. Other incentive programs might offer a smaller stipend in order to encourage instructors to simply review an OER. While these programs may provide a wide range of professional development experiences and technical or instructional support structures, instructors likely pursue them because they offer some sort of financial grant or award for using or creating OER (SPARC 2019a).

Though incentive programs are not without merit, offering a tacit acknowledgement of labor, visibility to boost nascent OE efforts, and a stipend that may offset lost revenue for textbook authoring royalties, they should only be undertaken after substantial reflection. Many libraries

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have yet to successfully address the myriad of challenges posed by incentive programs, such as lack of clarity around maintenance of materials, long-term preservation, and how to sustainably scale-up resource-intensive adaptations or creations. Sustainability concerns are often most acute in nascent incentive programs, where funding is often tied to grants, special use, one-time-only funds, or other short-term funding mechanisms.

Incentive programs can be increasingly challenging when considering the material conditions that are characteristic of adjunct faculty, namely overwork, lack of office space or professional development funds, and precarity[1] (Foster and Birdsell Bauer 2019). As more complex OER adaptations or creations are more time-consuming and require various levels of project management, facilitating a course buy-out[2] may be desirable. However, as these buy-outs are often made possible by hiring a sessional instructor, the structures that facilitate this release time further reinforces the adjunctification of the post-secondary education system. Even if release time or financial compensation is made possible through an incentive program, it is often only provided to the instructor, regardless of how much time or support the project requires from colleagues within the library and teaching support unit. Lastly and perhaps most importantly, if the use or creation of OER is not formally encouraged in tenure and promotion guidelines, it risks being an endeavor that only faculty who have tenure or institutional status will opt into, missing out on voices from a larger, potentially more diverse junior faculty population.

Complicating these discussions around OER incentive programs is the history of academic libraries providing open access funds. Originally envisioned as an incentive for faculty to select open access publishing venues, these funds often covered the article processing charges (APC) associated with high-impact journals. This model has not worked out as anticipated. Rather than hastening a move to open access publishing, these funds have allowed commercial publishers to pursue a new and fruitful income stream to supplement their more traditional subscription-based model. While these funds were created with the best of intentions, they have now resulted in an unsustainable "library as bank" model, where the costs of covering open access publication are coming exclusively from the library, rather than other campus units, individual departments, or the institution as a whole. Thus, it should come as no surprise that some of these funds are currently paused, phased out, or terminated completely by many academic libraries (SPARC 2019b).

While incentive programs for the use or creation of OER offer a valuable transitionary model to foster faculty and institutional support, if they live solely within the library, they risk duplicating the same issues as OA funds before them. It would be more advantageous to consider support for OE initiatives as a holistic enterprise that draws on expertise both within and outside of the library. This would require not only the re-allocation of funding away from a grant program toward the hiring of full or part-time staff, but also rescoping job responsibilities to note an

[1] Precarity in this context refers to "informal, temporary, or contingent work being a predominant mode of livelihood" (Kasmir 2018). While precarity is not exclusive to the academy, it is certainly well-established within it: a report from 2016 shows that the majority (70%) of academic positions are both non-tenured and part-time (American Association of University Professors 2016).

[2] Whereby a faculty member is offered a break from teaching a regularly scheduled course.

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increased emphasis on OER and its situation within existing workflows and services. If done thoughtfully, this will make the adaptation and creation processes as lightweight and frictionless as possible for faculty, offering greater sustainability and scalability for future efforts.

Indeed, institutional support for OE-related activities is crucial. However, OER work resides in a liminal space: it is not service, not teaching, not scholarship. One well-known example of OER-related language in tenure and promotion guidelines is at the University of British Columbia (UBC), where candidates are evaluated on "activity taken at UBC and elsewhere to advance innovation in teaching and learning with impact beyond one's classroom," of which the creation of OER is one such listed example (University of British Columbia 2019, p.18). While the inclusion of OER into institutional tenure and promotion guidelines is an accomplishment to aspire to, it is worth noting this language only exists in the "educational leadership" stream (a position which sees its distribution of effort [DOE] centered on teaching), not the "professoriate" stream (a position which has a more traditional DOE that is equally centered on research and teaching). While UBC is merely one example, its positioning of OER reveals how tenuous their position in the academy really is: it is important for teaching-focused faculty, but not for traditional faculty (despite the fact that a typical distribution of effort often weighs teaching and scholarship equally). Indeed, having teaching-stream and more traditional faculty appointments coexist within the academy has created a two-tiered system, whereby "those that focus solely on teaching are considered less worthy or valuable" (Vajoczki et al. 2011, p. 6). This, when coupled with institutional misunderstandings around the definition of "open"(Alperen et al. 2019), may result in junior faculty—who may potentially already feel less respected or valued based on their positionality within a particular appointment type or within the academy more generally—proceeding through a tenure and promotion structure that largely does not understand or appreciate their open-related efforts. This elicits some of the more uncomfortable tensions around OER and faculty labor: **while the academy values it on principle, it does not in practice.**

Issues around OER and labor are not limited tofaculty members. The multifaceted nature of OER—which, depending on the project, may require expertise in copyright, accessibility, publishing, instructional design, and educational technology—means that compensation[3] and attribution of labor on these projects remains challenging and complex. Academic librarians and instructional designers can be classified as either staff or faculty, depending on how an institution has historically valued their skill sets and training. Both have specialized expertise acquired through terminal degrees but often do not possess a Ph.D, meaning that they are often denied the respect, prestige, and authority that accompanies "true" or "real" academics. Thus, even though they are crucial collaborators on open education-based projects, both librarians and instructional designers are often doing so in a limited capacity, in addition to several other responsibilities.

[3] When we refer to compensation here, it should be noted that we are not strictly referring to monetary compensation, but also other types of compensation as well: grades, honoraria, authorship, and the myriad forms of acknowledgement of labor.

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These contributions may be further marginalized within the structures of the contemporary university. Librarians and instructional designers are largely contributing service-based labor (providing guidance on tools, resources, and technology), while faculty are contributing scholarship-based labor (writing, editing, utilizing subject expertise to evaluate resources), perpetuating a hierarchical system of labor within open education projects. Librarian or instructional designer contributions to open education projects may not be formally acknowledged through funding, scholarship opportunities, or even attribution on the final resource or outputs itself. Even if these collaborators are given credit, it is often provided through an acknowledgement rather than a byline, signaling that this work is less important than subject expertise. Moreover, this labor is not formally accounted for in the grant programs described above, with librarians and instructional designers being expected to take potentially laborious adaptation and creation work without additional compensation or a relief in their other duties. Despite the absence of their labor being reflected, both instructional designers and librarians are asked to continuously contribute to OER projects because the work is important and admirable—ultimately harkening to professional or institutional values around access and equity—even if the material working conditions in which that work happens are challenging or problematic. This mirrors increased expectations of faculty to undertake OER work because they love it, regardless of whether their formalized evaluation structures support that work or not.

The issue of attribution or compensation is not exclusive to staff members. Open education work that involves students—whether they are sourcing materials for the creation of an OER or providing authorship to a book chapter in an open pedagogy class experience—is an even more challenging concept to explore. This is due to the inherent imbalance of power relations of the classroom and the transitory nature of the student experience: their participation in that classroom or on that project is contingent upon enrollment or employment (if they are undertaking such work as a research assistant or work study student). Since students are only involved for a finite period of time, a shared understanding of rights and responsibilities must be fostered between them and their instructor/employer. While open pedagogy is by and large considered a worthwhile endeavor, giving students agency over their learning (Miceli 2020) and providing them with opportunities to exercise their creativity (Bates 2015), if assignments or final projects require the sharing of student-generated materials in a digital, public (or “open”) manner, conversations about attribution and intellectual property are crucial. Moreover, as Tara Robertson (2016), Diversity and Inclusion Lead at Mozilla, points out, not everyone is comfortable with being open by default, with their names or identities being digitally accessible. In situations where a final grade is the “compensation” in exchange for student labor, the potential for coercion is great. Students must have an option for anonymization or to opt out of the public-facing component of the assignment completely.

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Strategies for Librarians and Other OER Advocates

- Take stock of your institutional context. Investigate tenure and promotion, collective agreements, and job description documentation to develop a more fulsome understanding of how labor operates and is valued within different roles.
- Seek out opportunities to highlight the contributions of others. Invite students, staff, early career professionals, and precarious workers to collaborate on conference presentations, papers, projects, and grants. Acknowledge their name and expertise in annual reviews, reports, and workflows.
- Advocate for permanent staffing to support OER work on campus. Use statistics and concrete examples to demonstrate this multifaceted, complex work so that decision makers understand why additional resources and expertise are required.
- Understand the implications of incentive or grant programs before you begin one. Talk to others who have been involved in similar initiatives at different institutions to get context around logistics, resources, and sustainability. Make sure you understand the politics and values of your own institution so that you can be sure you are creating a program with support structures and objectives that resonate with your community.
- Reflect on your positionality. What does your role look like in terms of autonomy, responsibility, power, and privilege? Now reflect on the positionality of others. Is their positionality different? How so? How will this affect how you collaborate and support each other?

Technocracy

At least part of the reason OER work is prioritized, even when adequate resources are not available, is that the "open" aspect of OER carries with it many positive preconceived assumptions about accessibility, usability, and inclusivity. However, several scholars, such as Jeremy Knox (2012) and Jess Mitchell (2019), caution that openness does not necessarily increase access and inclusion. Nora Almeida (2017) notes that the popularity of "openness" in recent educational and pedagogical discourse renders the term "dangerously at risk of being appropriated, misused, and emptied" (2). They warn in particular of the conflation between the terms "open," "access," and "ethics." Openness, Almeida argues, does not automatically equate to access, which does not consequently increase inclusion and equality. While openness and OER certainly have the potential to alleviate barriers to education, OER users and advocates can risk overestimating their efficacy (Crissinger 2015). The larger structures within which OER operate often render them less accessible than how they are originally marketed.

One significant barrier to the discoverability, accessibility, and efficacy of OER is the way in which technocracy has been embedded in open education discourse. Technocracy refers to "a system of governance in which technically trained experts rule by virtue of their specialized knowledge and position in dominant political and economic institutions" (Fischer 1990, 17). Technocratic societies assert technical expertise as the highest form of knowledge, often viewing technology as a panacea for inequality. Justin Cruickshank and Ross Abbinnett (2019) argue that technocracy coincides with and perpetuates a global socio-cultural shift that

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emphasizes constant individual improvement, which can best be achieved through technological developments. In higher education, these technocratic ideals are reinforced through the widespread use of data and uncritical acceptance of assessment culture, both of which are undertaken with the purpose of finding presumed efficiencies.

OER are often characterized as low-cost, easily accessible alternatives to traditional course materials, yet are intertwined within technocratic higher education systems in many ways. Similar to the economic ideology technocracy imposes on higher education systems, OER are embedded in consumerist discourses. The language surrounding OER and its respective literature, Knox argues, exists "distinctly in terms of the marketisation and commodification of higher education and its subjects" (2013, 828). In addition to the ways in which OER have been presented and discussed in consumerist terms, their very creation and dissemination is intertwined with technocracy.

Those with technical expertise are the most likely creators and disseminators of OER, which creates a cyclical process of creation and dissemination by and among a privileged, homogeneous demographic. These creators are most often from well-funded Western institutions, which perpetuates their control over education standards (Crissinger 2015). OER and technocracy often assume a single type of user: an able-bodied and digitally competent individual with regular access to high-speed internet. The assumption that all current college students are digitally literate and prefer to access digital learning tools often oversimplifies the problems that OER attempt to alleviate, as this relies on the archetypical college student and overlooks those from marginalized communities, especially those with learning disabilities or students without regular access to the internet. As Hylen (2006) and dos Santos (2018) argue, the tendency for OER and technocracy to assume a single type of user further perpetuates biases and does little to actually decrease educational barriers. Technocracy informs not only the creation and dissemination but also the use and adaptation of OER as learning tools. This relationship in turn hinders users not traditionally valued in technocratic higher education systems from discovering, accessing, and benefiting from OER.

Discoverability and Access

Discovering and accessing OER are recursive processes that largely depend on one another. Educators have the potential to either choose from already made OER, edit existing OER, or create new OER. In theory (and at their best) OER are more readily discovered and accessed than traditional educational resources. Tools such as the Mason OER Metafinder (MOM), a search engine for open textbooks and other educational resources, facilitate the discoverability of OER. Moreover, OER can be accessed anywhere as long as users have internet access and a device with a broadband connection. However, despite this positive potential, the dynamic nature of OER and assumptions about user identity can create barriers to both discoverability and access.

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Despite the many ways in which instructors and other users can find pertinent OER, the format of the resources themselves can hinder their discoverability. The average lifespan of an OER repository is less than three years (Friesen 2009). Most explanations for this brevity can be linked to the pedagogical structures of higher education. Friesen (2009) explains that paucity of funding for projects has hindered both the creation and maintenance of OER, and Crissinger (2015) notes that the tenure system's failure to reward or recognize OER discourages many instructors from incorporating them into their pedagogy.

Even if an OER has a longer lifespan than average, Kortemeyer (2013) claims that current metadata standards are unsuited for OER and their discoverability. Not only is the metadata for OER often incomplete or incorrect, Kortemeyer argues, but the static nature of many metadata schemas (such as Dublin Core) are not suited to the dynamic nature of OER. As contributors and content regularly change, metadata elements are frequently either not updated or are left blank entirely, in turn rendering the OER less discoverable than resources with static metadata, such as a traditional textbook. In higher education, systems of evaluation that equate quantifiable metrics (such as a scholar's h-index) with success and promotion often deter potential users from both creating and maintaining OER, which inhibits discoverability. These constraints, combined with the technological nature of OER, do not just create barriers to discoverability, but also to access.

The tendency for OER to assume user homogeneity risks overlooking barriers to access. Many students, especially in developing countries, lack adequate technology resources and a reliable internet connection. The high cost of broadband limits internet access and, even if an instructor is able to find pertinent OER, many students are unable to access them. This not only perpetuates use by a homogeneous demographic, but also exacerbates the digital divide between the global north and the global south. Monika dos Santos, a psychology professor at the University of South Africa, argues that technocracy does more to enable the subjectification of the global south than alleviate inequalities (2018). This claim is reflected through patterns of OER use and access. When analysing access to MIT OpenCourseWare, Haßler and Jackson (2010) found that 41% of users were from North America, while only 5% of users were from South America and only 1% were from Sub-Saharan Africa. Despite their "openness," OER are not equally accessible.

Assumptions about user identity further perpetuate these inequalities. Even if students do have reliable internet access, a personal device with a broadband connection, or access to public devices, that does not mean that they can all equally access OER. As Reed and Turner (2018) argue, many OER are created for users without any physical or learning disabilities. The lack of accessibility considerations, such as screen reader and smartphone compatibility, often render OER accessible only to fully able-bodied students with regular access to a desktop or laptop computer. Commuter students, students with a visual or hearing impairment, and students without regular and reliable access to a device with an internet connection all face barriers to accessing OER. These barriers can be alleviated by more thoughtful creation and maintenance of OER.

In J. Bolick, W. Cross, & M. Bonn (Eds*.) Scholarly Communications Librarianship and Open Culture: Law, Economics, and Publishing*. Chicago, IL: Academic and Research Libraries (ACRL) Press.

Strategies for Librarians and Other OER Advocates

- At early stages, OER creators and content editors should maintain accurate and updated metadata to facilitate discovery. As metadata experts, librarians can suggest existing schema and provide creators with ideas for enhancing these schema to provide as much context as possible.
- Creators should also make sure that their OER adhere to web content accessibility guidelines as close as possible. The BCcampus Open Education Accessibility Toolkit provides resources for making an open textbook. It includes an overview of universal design as well as best practices for accessibility, such as clearly organizing content, adding alternative text, and including captions.
- Creators can also ensure that a variety of formats are available, such as a downloadable PDF and smartphone compatibility options.
- OER advocates should consider the variety of possible users and think through the different ways in which OER might be discovered and accessed. Assumptions about user identity hinder the discoverability and accessibility of OER and only once these preconceptions are eliminated can the resources be shared more conscientiously and equally.

Efficacy

Even if barriers to access are eliminated or reduced, that does not automatically render OER effective learning tools for all audiences. One reason for the ineffectiveness of OER is their tendency to perpetuate privilege among already privileged peoples. Jhangiani (2019a) addresses this issue, claiming that OER facilitate a kind of “digital redlining” which exacerbate, rather than alleviate, existing inequities. He addresses the creation of OER in particular, arguing that current creation practices perpetuate “an implicit form of creative redlining, one that reserves the capacity to create or adapt OER for those who already enjoy positions of privilege, such as the tenured or those who do not need the income” (5). As technocratic systems of higher education rarely reward adopting OER, their creation largely depends on voluntary labor from those who can afford, either financially or academically, to create them. This limits OER creators to the privileged academic elite, in turn creating a certain amount of homogeneity among the resources themselves. Although by nature OER can be regularly reworked and adapted, these changes are largely made by the same type of user, usually one from a wealthy Western institution (Jhangiani 2017). This type of creation often overlooks users who do not belong to these types of institutions or who have not been previously active in the creation of and contribution to OER and other educational tools. While OER are accessed and used by a wide array of institutions and users, traditions of homogeneous creation and subsequent dissemination hinder their efficacy as learning tools.

OER do not easily translate across socio-academic cultural contexts. This becomes particularly problematic as the differentiation across cultures increases. OER are inherently sharable

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resources, but sharing a resource does not grant it efficacy, and much is often lost in the dissemination of OER across cultures. Dos Santos (2018) notes that foreign knowledge and expertise is not impartial, and remnants of the original contexts are always present. Considering OER as neutral resources that can be adapted to any context inhibits their effectiveness. In fact, when OER are decontextualized from the community in which they were created, they are less effective educational tools (Almeida 2017). OER often fail to adapt to local contexts in general, a trend which is particularly prominent among non-Western peoples (Knox 2013). The inability for non-Western societies to access and effectively use OER to an equivalent extent as well-funded Western institutions perpetuates the homogeneous creation and use of OER.

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