Faculty Members' Lived Experiences with Choosing Open Educational Resources

Troy Martin [iD]
BYU Pathway Worldwide (USA)
tmartin@byupathway.lds.org

Royce Kimmons [iD]
Brigham Young University (BYU) (USA)
roycekimmons@gmail.com

Abstract

The cost of textbooks has continued to increase with significant financial effects on students in higher education. Although many faculty express a desire and willingness to adopt and create open textbooks (and OER generally), few actually do. To better understand this gap between attitudes and practices, this phenomenological study builds upon the findings of a survey of faculty members at a large, nationally-ranked, high-research-activity university in the U.S. and uses in-depth interviews to understand faculty members' lived experiences with OER adoption and creation. Results indicated that though faculty might be motivated to use and create OER to reduce cost and improve pedagogy, they are regularly stymied by quality considerations, copyright fears, technical difficulties, and sustainability concerns. We explore each of these issues in some depth and provide discussion and suggestions on how similar institutions (e.g., high-research-activity) should respond to help support OER adoption and creation.

Keywords: OER, textbooks, faculty, open educational resources, phenomenology

Academic performance increases when students use textbooks to prepare for class (Skinner & Howes, 2013), and educators have long been interested in providing the highest quality textbook to their students (Brandt, 1964). To select a textbook, educators face several challenges including ensuring that the textbook is of high quality (Oakes & Saunders, 2002) and that "it aligns with their pedagogical approaches" (Williams, 1983, p. 251). Recent studies show that a college student in the U.S. now spends over $900 per year on textbooks (Allen, 2010), and these prices have drastically increased in recent years (Senack & Donoghue, 2016), thereby making a college education prohibitively expensive for many students (Kingkade, 2011).

Open textbooks and open educational resources (OER) can significantly decrease costs for students, and faculty who have used them have expressed positive perceptions of their quality (Bliss, Hilton, Wiley, & Thanos, 2013; Petrides, Jimes, Middleton-Detzner, Walling, & Weiss, 2011), albeit many remain unaware of them (Allen & Seaman, 2014; Seaman & Seaman, 2018). Studies have shown that student learning is not negatively impacted by their use (Hilton, 2016) and that faculty who use these resources report them to be as good or better than their commercial counterparts (Bliss et al., 2013; Kimmons, 2015). Seaman and Seaman (2018) report that 39% of faculty believe that more than 10% of their students do not have access to the required textbook, that the main reason for this is cost, and that department chairpersons believe that the most important thing that textbook companies can do to improve their textbooks is to make them less expensive for students.

Despite a clear need for open textbooks, a recent regional survey in the U.S. found that although 91% of faculty would be willing to use such OER in their classrooms, less than 5% actually did (Martin, Belikov, Hilton, Wiley, & Fischer, 2017); this mimics national survey data, which shows that only 13% of faculty currently use free resources of any kind and that only 6% of non-adopters plan to use OER in the future (Seaman & Seaman, 2018). Why does such a disparity exist? If open textbooks are financially better for students, have similar quality to their commercial counterparts, and provide greater freedoms to instructors (e.g., sharing, printing), then why are they adopted at such a low rate?

Ehlers (2011), quoting a study (OPAL, 2011), argued "that there is a gap between the concept of giving knowledge for free … and the actual use of free and open resources for teaching and learning". The OPAL (2011) study revealed that individuals are faced with five main barriers when they want to use OER: lack of institutional support; lack of technological tools for sharing and adapting resources; lack of user skills and time; lack of quality or fitness of the resources; and personal issues such as lack of trust and time. These results mimic those found with K-12 teachers (Kimmons, 2016) and suggest that we need to better "understand the personal, organizational, and environmental factors that hinder or enable creation, sharing, use, and reuse of OER" (Ehlers, 2011, p. 1) and how to better support open education literacies and practices among instructors (Kimmons, 2014; Mason & Kimmons, 2018).

Method

The aim of this phenomenological study (Moustakas, 1994) was to capture and understand faculty members' lived experiences in seeking and adopting new content, and especially open content, for the courses they teach. In this study, we conducted over 16 hours of interviews with 8 different faculty members at a large, nationally-ranked, private university in the western U.S. to answer the following three research questions:

1. What influenced faculty to adopt new teaching materials like textbooks?
2. What influenced them to choose textbooks from a publisher vs. using alternatives like OER?
3. If they did select OER, how did they find them, did they modify them and with what tools, and did they take the effort to share them?

A previous (2016) Utah Academic Library Consortium (UALC) survey was conducted at the target institution to gather information about faculty and student perceptions toward OER. One of the questions asked of the participants in that survey was if the individual would like assistance in seeking open resources and if so, if they would share their personal contact information. Over 38% of respondents expressed interest in receiving help and shared their contact information so that they could learn more about where to find and adapt open resources for their courses. Operating from this list, we sent email requests to faculty members to request their participation.

Participant Selection

Patton (2002) argues that in order to conduct effective qualitative research the researcher does not need to "interview a large number of participants" (p. 245). Rather, the researcher can gather an appropriate amount of information when he/she focuses on intentional, purposeful sampling that captures the participants' "rich descriptions" (p. 240). He further suggests an approach in which "researchers estimate the minimum number of samples required to cover the topic at the outset and make adjustments as needed if it becomes clear that more participants will be beneficial" (p. 246).

With this in mind, we interviewed 8 participants: 4 women and 4 men faculty with different departmental backgrounds, university status, and levels of involvement and interaction with OER (cf. Table 1). With regard to appropriate sample size, research suggests that the guiding principle should be the concept of saturation (Mason, 2010); in our study, 8 participants provided enough detail and rich description to reach saturation and to sufficiently answer the research questions.

Table 1: Information on Study Participants

Faculty Member Pseudonym	Gender	Academic Rank & Status	OER Awareness
Julie	Female	Adjunct	New
Michelle	Female	Adjunct	Aware
Angela	Female	Tenure-track	New
Kate	Female	Tenure-track	Aware
Don	Male	Adjunct	New
Matt	Male	Adjunct	Aware
Phil	Male	Tenure-track	New
Colby	Male	Tenure-track	Aware

Delimitations

Because this is a phenomenological study of instructors' experiences seeking and adopting OER, we intentionally delimited our participants to those who expressed some interest in these materials. This allowed us to focus on the rich experiences of these participants as key informants, but it also means that results will not reflect the experiences of those who did not express such interest and that (as with any qualitative study) results may not be generalizable to all instructors. Future survey and quantitative designs may utilize these results to create instruments for controlled analysis and determine how widespread and representative any qualitative findings might be.

Data Collection

We used a semi-structured interview protocol (Moustakas, 1994) and planned questions that encouraged the interviewee to share as much first-hand information as possible and also attempted to bracket our own assumptions. The three guiding questions for the interviews were:

1. What influences you to adopt new teaching materials?
2. What influences your decisions to select published content vs. open/free materials?
3. If you have searched for and selected open/free materials, how did you attempt to use them (e.g., adopted, adapted, or revised)?

We allowed the topic of OER to be raised naturally by participants in the course of the conversation and then asked follow-up questions focused around what they knew about OER and if OER was a consideration in the overall textbook selection process. All of the interviews took place in the participants' respective offices so that they could show us how they searched for curricular materials, if desired. On several occasions they would show us books, policy statement, websites, and personal documentation on different subjects. Each interview was digitally recorded and then transcribed.

Analyzing Data

We used Strauss and Corbin's (1990) approach of using three levels of codes including open, axial, and selective/thematic. This approach has proven to be an effective analytical method that guides the researcher past mere descriptions and into conceptualization and theorizing about the data obtained (Kendall, 1999). Open codes represented the main thought of the participant, using their own words. The open statements were then compared to create the axial and selective, or thematic codes. In the Results section, we will discuss themes at the thematic and axial levels and will also provide many thick, rich direct quotes to help ensure trustworthiness.

Results

Analysis of the open codes resulted in the development of various axial codes organized by 4 overarching themes: (1) Knowledge and Motivations; (2) Content Selection, (3) Technical Issues, and (4) Sustainability. The following sections will discuss each of these four thematic areas in more detail.

Knowledge and Motivations

In general, participants felt a need to move away from traditional textbooks, because "*Textbooks, by definition, are not on the cutting edge in science. There's no way they can be"* (Julie). This is because the moment the textbook is printed, it is already out of date in areas like software development, engineering, or areas where there are constant discoveries being made and the content is in a constant state of change. Each instructor we interviewed stated that they were willing to use OER in the place of published/purchased textbooks. When asked why this was true, the usual response was to reduce the financial burden placed on students. They all knew that OER were available at no cost to the students, but while "free" was good, the quality of such resources was also important, and most participants equated "free" and "OER" textbooks to being "digital." Two of the participants asked if OER material could be printed out, and many believed that OER only existed in digital formats.

Many participants misunderstood what "OER" meant. Don, for example, made the comment that, *"...some students don't care for digital content and would be very much against OER."* Angela stated that she was using an open textbook that was free but that *"the only costs to the students were for gaining access to the [required] homework exercises and practice quizzes."* And Michelle explained that there is some *"moral hazard"* involved in using OER, because *"you worry that [students] will share it with a roommate who is taking the same class"* (Michelle). There were also many comments expressing concern that if *"...we create an open textbook, other universities might get a copy of it and use it free of charge in their own classes"* (Julie). We took such comments to mean that though faculty were sensitive to the financial burdens of their students, a number of lingering concerns related to monetization of content and academic integrity outweighed such concerns and that some of the perceived conflicts in their minds between openness and academic work rested on misunderstandings of what open means (e.g., digital) and strict assumptions on how classes should be taught (e.g., no sharing of content between students).

Julie went on to explain that many internal discussions in her department about OER heavily revolved around monetization:

> [Department leads] considered building a website that students could use free of charge, but required them to log in and sign out for copies of our textbooks. ... One of the department chairs

proposed--and I think we may actually do this--selling ancillary materials. Teacher packet, testing, learning activities, things like that. So they were all about monetizing it, and that's their job. (Julie)

Such comments seemed to reflect a willingness to redirect costs from a printed textbook to an online medium but that such shifts may be heavily influenced by concerns about funding, credit, and security. A common sentiment among interviewees regarding sharing with colleagues at other institutions was one of dismay that someone else might take what they developed for a specific course and use it in a similar setting without providing financial or other benefits to them as the original author. From these conversations, there seemed to either be little understanding of the 5R activities (Wiley, 2017), a low recognition of their value, or unwillingness to learn the skills or engage in the practices necessary to share (such as packaging up a textbook and hosting it on a website).

Despite these sentiments, some faculty persisted in OER creation and use for two guiding reasons — Reducing Cost and Improving Learning — which we will now explore in greater depth.

Reducing Cost. Faculty participants generally expressed willingness to reduce financial burdens upon their students as long as quality was not sacrificed in the process:

We like the idea of OER from the point of our students--you know, saving money, etc. However you need to make sure that you [don't] sacrifice quality. (Matt)

Realizing that OER materials equalled the quality of purchased textbooks helped us a lot when we made the decision. ... It was also important to know that the students could keep the books forever and build their personal libraries. (Don)

Thus, participants were motivated to use OER to save students money, but this motivation was secondary to using quality resources.

Additionally, temporarily disregarding some of the aforementioned complexities, there was a prevailing attitude that access to knowledge *"has got to be free"* (Phil). From a moral perspective, OER seemed to make sense to faculty members in that it is simply a way to package and distribute knowledge that they believe should be free, but ambiguities in morality vs. realism arose when participants were asked if it was reasonable to charge someone for the time and effort required to write OER. Morally, faculty believed that we should not charge students for access to knowledge, but realistically, they considered developing a textbook to be a service that takes a lot of time and that those who create textbooks should be compensated for. This line of reasoning seemed to consistently come full circle to the point that no real decision or stance on OER could be justified, and interviews at this stage generally involved an awkward pause followed by a statement like *"...well, it's probably easier to just keep doing what we have been doing."*

We took this to mean that though reducing cost may generally be viewed as a moral good, faculty had difficulty justifying this good against effort-based monetary considerations for creators, presenting an intractable problem in their actual lives and suggesting that the moral imperative to reduce cost or increase access for students is not sufficient as an isolated motivation.

Improving Learning. Other quotes revealed pedagogical advantages that faculty perceived from shifting to open textbooks that they had created:

[W]e wanted a standardized textbook for all the professors teaching [the course]. … There were standard homework assignments, and there was a standardized approach to teaching that supported how I like to teach and how my students like to learn. (Phil)

> *[The students] discovered that the way I teach in the class matched the study material outside of class.* (Julie)

> *As a [faculty] group, we were able to create a decent textbook that matched our teaching approach.* (Don)

> *Pedagogically speaking, we were able to incorporate digital content such as video. We polled students and asked "what other tools do you use to learn?" "Videos" was a resounding 'yes'.* (Phil)

> *We chose to develop our own open textbook because the topic I teach is changing pretty quickly. No one knows our field like the instructors that teach it, so it was a no-brainer to invest the time needed to create our own textbook.* (Matt)

By creating their own content, faculty were better able to align it to their classroom practices, expectations, and norms. This included having the ability to rearrange chapters as well as to modify content for accuracy and relevance. This also provided a speed benefit to faculty when designing their courses, due to better alignment and freedom to repurpose materials. Such alignment added another layer of motivation to choose OER, because it allowed faculty to feel like their pedagogical practices were improving because of the shift and to have more control over the learning experience for their students.

Content Selection

In almost every interview, discussions arose on how to identify good textbooks and the process by which participants learned to do this. Don explained that this was a tacit expectation of faculty:

> *To some degree, we assume that [new faculty] already know what is and isn't a "good textbook." I was a department chair for three years and I assumed [my faculty] already had some criteria to use in selecting textbooks.* (Don)

In all cases, though participants mentioned criteria or processes of selection, these tended to be assumed, informal (e.g., modeling), and nondescript.

When pushed on how they ensured that the textbooks they selected were actually good, many faculty talked about the need for having a sense of empowerment or confidence by being active in departmental settings and participating in public conferences. Instructors also seemed to interpret quality very narrowly — solely in terms of content accuracy — as follows:

> *If the textbook is technically accurate, chances are that it will be considered "good" by other faculty.* (Phil)

> *If new instructors have been taught how to interact in faculty meetings about textbooks that have correct content and if they know what's being used nationally, or in other countries, you can be relatively confident that the textbooks are high quality.* (Matt)

Such a narrow interpretation of quality means that faculty may have limited conceptualizations of what makes a textbook effective and that they may be unduly biased toward resources that are "technically accurate" but that are deficient in other ways (e.g., written poorly, structured illogically).

In addition, one of the recurring axial codes around integrating content was concern of complying with copyright restrictions on material. Though copyright concerns are not unique to OER, a shift to OER requires faculty to navigate copyright in new ways that are more complex than previous

approaches, wherein they could simply rely upon a publisher to make copyright determinations for them. The following quotes represent some common feelings around copyrighted material:

> *Copyright is a big pain. I don't know how to make sure what I'm using is 'legal'.* (Julie)

> *[I]n many ways [copyright is] the bane of my existence because I use huge quantities of images in my professional presentations, because I am a cherry picker, or an eclectic instructor, when it comes to the kinds of texts I want my students to be exposed to. I really wish there was a department on campus where I could go for help.* (Kate)

> *Dr [X] retired a couple years ago … and knew the process for checking outside material that may, or may not be copyrighted. I don't know how to do that. … I haven't really interacted with the copyright office enough to be able to say quote-unquote 'whose side they're on'. When I have interacted with them in the past, I left feeling overwhelmed with the amount of work required to include copyrighted content. I remember thinking 'this is just not worth the time and effort'.* (Michelle)

The target university has a copyright office and other offices that can help faculty navigate these issues, but though faculty expressed a verbal desire to comply with copyright law and university policies, this was coupled with frustration, fear, and lack of understanding that such offices existed. Several instructors stated that they would be willing to generate more content, or even adapt content that they found online, but they feared being "caught" or reprimanded for possibly violating copyright. Every instructor expressed awareness of copyright rules and had a desire to be compliant, but very few had the desire to take the time to reach out to the copyright office and go through the steps necessary to have content reviewed and approved. This also made commercial textbooks more appealing to them, because they felt it was easier to use something that was already commercially published and not bother with materials that might require some copyright know-how to adapt, remix, etc.

When asked if OER were considered in the textbook selection process most said that they were not, and they generally cited lack of motivation or encouragement, as Matt explained:

> *Inertia to use OER, or any other type of eTextbook, is non-existent. … We are very selective about choosing the textbook we're going to use. We aren't going to use OER just to use OER. … Multiple programs and departments [are] relying on [our] classes to provide predictable content and predictable learning objectives.* (Matt)

To summarize this section, faculty relied on implicit criteria for determining material quality that revolved around content accuracy, predictability, etc., and OER were often not considered out of copyright fears and other uncertainties. Among departments, then, sticking to the previous practice of using non-open materials was seen as a safe (and quick) choice, and though everyone claimed to be familiar with and supportive of OER, concerns about quality and copyright often prevented their consideration.

Technical Issues

Most OER, including textbooks, are found on the Internet and stored in a digital format. It may seem obvious, but in order to use OER faculty need to know how to search for and download digital content. Searching for and downloading content from the Internet are fairly basic skills that we can assume most faculty know how to do in a general way, but we were interested to learn how instructors used these skills in order to find and download digital OER content. After beginning the interviews and talking about how they select content in general, we asked participants to show how they would find OER. In addition to searching for and downloading an open textbook, we wanted to know how

they would modify the content for use in their class. The following quote is indicative of nearly every response we received to the question:

> *Well, I would probably start with Google, quite honestly. I'd probably just type in something into Google like, "[subject] OER textbook," and see what comes up. From there I would just go [to] those websites and look for textbooks that had good reviews--you know, like shopping on Amazon.* (Julie)

Many of the searches like the one described return sites such as uen.com and openstax.org for general categories such as biology, math, etc. But, for more specific subjects there are relatively few options, and among those that exist, faculty noted that it is often easier to find information on how to donate to the provider than it is to find actual content and reviews.

Another common follow-up response within this category was exemplified by this statement from Michelle:

> *I know that there are portals of open educational resources, but quite honestly, I have no idea where to find them. There are OER experts on campus that I would probably call.* (Michelle)

Most participants expressed interest in speaking to an OER expert and ask questions and seek guidance, but though Michelle knew one, she had not reached out. Such experts included faculty in other departments who either were known for creating OER or conducted research on topics of openness.

Furthermore, the ability to find and access textbooks was a major barrier. Even in the course of our interviews, we witnessed the frustration and confusion in going through the search process. On a few occasions, faculty were able to find and download an open textbook but then struggled with what to do next. One appealing feature of OER is the ability to modify and adapt the content to meet one's needs; however, if the process for searching for OER was difficult, then the process for modifying the content was even more so. In part, this was because most OER were only available as large, book-length PDF files and were not editable with common word processing applications:

> *I don't know how to do that. I don't know what tools are there to edit this book. It appears that most of the content is in digital format and we would probably need to hire a student with computer science skills in order to modify this file.* (Don)

> *Maybe there are videos online that show techniques for how to edit this file.* (Kate)

> *I have no idea [how to modify this file]. None of the ones I've found are modifiable. I wish that the website would include tools, or at least instructions on how to open and modify this textbook. There is nothing posted on their website for how to do this. I'm stumped.* (Don)

One instructor, Angela, was determined to figure OER out and went through the process of finding, downloading, and modifying a textbook she discovered online. She reported the following:

> *I wish I would have known how difficult this process was going to be. I'm not sure I would have gone through it if I knew. It requires a lot of time and people with special skills. It was hard, and the process required us to use at least three different software programs. One that we used to 'unlock' the file and then another that we used to make changes. Before we could print it, we needed to use another software program … I can't remember the specifics to give you the details.* (Angela)

Angela did, eventually, find a suitable textbook, but the next step of figuring out how to change it was even more difficult. Again, she took the time to push through this process, but most participants did not. She had to search, find, and learn how to use three separate applications that were needed

in order to modify the textbook, and most participants simply were not willing to go through this process.

From this, we concluded that a general lack of usable search and editing tools is a major barrier for many instructors, and only the most committed seem likely to stick with finding an open textbook, and among those, only a select few will go through the technical process of learning to adapt it, because doing so would require a great deal of time and effort, and most felt that they have neither the time nor incentive to do so.

Sustainability

And finally, as faculty discussed reasons why they did not use OER as much as they might like, conversations commonly pivoted back to resource availability for sustainability — specifically in terms of time and funding. Simply put, it takes time to find, download, and edit open textbooks, and many instructors do not feel like they have sufficient time to spare, and due to the technological and other issues mentioned above, faculty also felt that they needed funding to be successful with OER.

To illustrate, two faculty members, Julie and Michelle, received grants that provided time (away from their normal teaching load) and additional funding to create new textbooks. The funding was used to hire students, purchase software, and take additional courses to acquire new skills. This process, on average required over $10,000 per textbook and 12-18 months to produce.

A few departments that had supported the creation of OER for students still encouraged their faculty members to charge students in order to recuperate the invested development costs. Several departments received grants in order to develop the open textbooks but not funds necessary to cover ongoing maintenance to keep the content up-to-date. Because the target university typically prevents departments from charging course resource fees, some even took the surprising step of encouraging faculty teaching courses with OER to ask students for departmental donations to provide necessary resources.

To better unpack this theme, we will now explore Time and Funding as separate constructs.

Time. The lack of time to create or modify an open textbook was mentioned in each interview. Even the simple task of finding and downloading a new textbook takes time and due to the lack of useful search tools, many simply do not try. Some example quotes include the following:

> *I do think that the lack of time and money are two of the main reasons a lot of instructors just pick a textbook and go with it, because … it's easier in terms of 'everything is all in one place'.* (Phil)

> *I think when the publisher gives [faculty] a new edition of the textbook, they don't want to go out and surf the web and find a new online textbook. I think that seems like too much of a daunting task for them.* (Colby)

> *That process of looking for a textbook took about 6 months. We did an extensive search--there was no way we could take an additional 6 months to modify it.* (Angela)

> *[The barrier is] time. The amount of time it takes and money. To adapt and change and to hire a TA to do the grunt work.* (Kate)

> *The amount of time that it takes [to] look for a new textbook is greater than the reward or the incentive to do so on its own.* (Don)

Such feelings are not surprising given the earlier discussion of technology issues, but the problem of perceived lack of time as a resource seems to be exacerbated by faculty perceptions of tenure,

promotion, and contract requirements. Classified as a Doctoral University with High Research Activity by the Carnegie Classification, the target university has a heavy emphasis on research in addition to teaching, which means that tenure-track faculty will organize their time in ways that prioritize elements of their jobs that they will be evaluated for (e.g., publications in scholarly outlets), which means that if the creation or adaptation of OER is not perceived as being valued for tenure and promotion, then faculty will never feel that they have time for it. Multiple participants expressed these feelings as follows:

> *Most professors are involved in their research ... they are involved in contributing to various projects and there simply is not enough time to stop any of those and to look for additional textbooks that might play an important role in the classroom.* (Michelle)

> *If you're really gunning for publications, you just don't have so much time to think about [OER].* (Julie)

> *For me, it's [tenure] first. Nothing else matters for me at this point until I achieve [tenure].* (Kate)

A clear takeaway from this realization is that faculty concerns about time to work with OER may merely be manifestations of a deeper issue: that such efforts are not valued by their institutions. For instance, faculty at such institutions likely would not say "I don't have time to do research," because research is viewed as part of their jobs that they will be evaluated for. This means that institutional considerations are made to make time available to engage in research (e.g., course releases), and faculty are evaluated on their success in this regard. So, although faculty across the world may echo our participants' concerns about not having time for OER, such statements actually seem to mean that our institutions lack systems that value and encourage such activities.

Funding. Due in large part to lack of time and expertise mentioned above, money is needed to augment existing staff, to reformat content, to create new content, and to maintain existing content. Money is also needed to license software used in editing and formatting content. Faculty reported that both types of money were needed:

> *[Developing OER is] still a thing we're thinking through, … and we thought we had enough [funding] in the beginning, [but] ... we didn't have enough. Thanks to the library, we were able to acquire additional funds to complete the project.* (Kate)

> *Once we created our textbook we were asked, "how do you plan to maintain this?" There has to be some source of revenue.* (Angela)

> *I don't know what, if any, resources exist on campus who know about and are willing to help us create OER. I received an email once from the library and was invited to go to an OER seminar. ... Aside from that one seminar, I'm unaware of other resources.* (Matt)

These quotes highlight that although some initial financial *impeti* may have been provided to faculty and departments to move toward OER, they perceive that sustaining such efforts requires some ongoing funding. The comment on donations is also noteworthy, because it entails that though departments may initially move toward OER to drive down costs for students, they may end up merely reassigning costs to students in different forms via either voluntary means (e.g., donations) or involuntary means (e.g., course fees).

Such approaches reflect perhaps a potential difference in mindset between personnel wherein some assume that students should directly share in the ongoing cost of OER maintenance,

essentially replicating commercial course-packet-type practices with OER, while others may not. Similarly, some may believe that such support should be garnered coercively (e.g., required course fees) while others prefer a non-coercive approach (e.g., donations). Furthermore, even if faculty are not seeking remuneration themselves for time spent creating and curating OER, there seemed to be an implicit assumption among our interviewees that they should not be expected to perpetually be involved in OER creation and that those who continued these efforts within their departments merited remuneration. In any case, though OER is often touted as a "free solution," faculty who have tried OER seem to recognize that free comes at a price that must be sustained, and because OER creation and maintenance are not accepted as common faculty expectations for tenure and promotion, there seems to be confusion and uncertainty among faculty regarding (1) who should pay for these resources and (2) how they should do it.

Discussion and Conclusion

To summarize, our findings revealed four main themes. First, though our participants had limited and sometimes inaccurate understandings of OER, they expressed at least initial interest and motivation to adopt and create them to reduce student costs and to improve learning. Second, when selecting content for their classes, participants operated on non-explicit assumptions of quality (that seemed to focus on accuracy) and were influenced in their decision-making by fears associated with limited copyright knowledge. Third, when they actually engaged in the process of finding, remixing, and creating OER, they met with a variety of unexpected technical barriers that slowed, discouraged, or altogether stopped them. And fourth, participants seemed to struggle with how to sustain OER in their classes and departments without resources they viewed to be necessary (namely, time and money). We will now unpack each of these themes a bit more to provide some suggestions for how OER can move forward in institutions similar to this one (e.g., that value both research and teaching).

First, various studies have shown that faculty generally support the ambition to shift to OER (e.g., Seaman & Seaman, 2018), but the two motivators that resonated most with our faculty focused on financial and learning benefits for students. Much of the current work progressing with OER synergizes with parallel research on cost impacts on students, and as faculty become more aware of how driving down costs for students can improve student well-being (such as by allowing them to overcome food insecurity, cf., Payne-Sturges, Tjaden, Caldeira, Vincent, & Arria, 2017) we can expect this to motivate faculty to move to OER. Beyond this, though, there seems to be clear power in moving the narrative surrounding OER away from mere cost savings to actual learning benefits, which again, current research in this realm is moving forward (cf., Hilton, 2016). Yet, for this to happen, it seems that some fundamental education of the meaning of OER is necessary for faculty generally. If, for instance, faculty are interpreting "open" as merely "digital" or "no cost," then the pedagogical benefits of these resources will not be apparent to them. That is, for the pedagogical argument to carry weight, it seems that faculty must understand the flexibility and potentials afforded by open licensing that are unique and different from other "digital" or even "no cost" solutions.

Second, though the persistence of the textbook as an academic artifact for the past few decades makes this point counter-intuitive, almost no research has been done to identify or systematize textbook quality indicators (cf. Woodward, Lloyd, & Kimmons, 2017). Though our faculty seemed to lack clear or robust understandings of what makes a textbook high-quality, this actually reflects the state of the literature, where *textbook quality* generally seems to be interpreted merely as *content accuracy*. Within such a situation, it is no surprise that faculty may often rely upon commercial publisher recommendations and perceived production value as proxies for quality and why open alternatives are viewed as being lesser. If we furthermore factor in the messiness of copyright

considerations, then it is not surprising that faculty choose commercial textbooks over OER, because it is easier to trust the publisher for establishing quality and following legal considerations than it is to navigate these uncertain spaces oneself. For OER to diffuse, then, we need to seriously rethink what constitutes quality in our resources (cf., Clements & Pawlowski, 2011) and train faculty to identify quality and more bravely navigate copyright on their own.

Third, shifts to open take work, and most faculty will struggle with the technical requirements of the shift. Technologies supporting these shifts are constantly evolving and improving, such as through the development of usage rights filtering in Google Image searches, the creation of ever more-robust OER repositories like OER Commons or the BC Campus Open Textbook Library, and the emergence of ever more user-friendly open publishing platforms like CK-12, PressBooks, LibreTexts, and EdTech Books, but this is still an area that needs improvement and upon which institutions can make an impact. In particular, the open community's over-reliance on PDFs has, on the one hand, helped to increase access to open resources (cf., Brandle et al., 2019) by making them more universally accessible (at least as long as users have a reasonably large screen), but it has simultaneously stymied the remixability and value proposition associated with reuse of these resources by making them virtually impossible for most faculty to edit and reorganize. Very little research exists on the usability and accessibility of OER, and there seems to be an unstated, faulty assumption that if educators just really cared enough about driving down costs for their students then they would be able to make OER work in their classes. For this reason, ongoing efforts should focus heavily upon improving user experience, remixability, and universal access (e.g., mobile-friendliness) of these resources. Continuous improvement processes via A/B testing and other procedures, like those used by CourseKata and EdTech Books, are especially promising in this vein, because they can leverage the perpetual updatability of these resources as a vehicle for constant, iterative improvement.

And fourth, it seems that sustaining OER in our institutions cannot occur by merely providing seed monies or other initiatives to promote faculty in their initial adoption or creation but that institutions must fundamentally rethink the roles that faculty play in their institutions and how their efforts are evaluated, particularly in the areas of tenure and promotion. In our current climate, a world-renowned expert might devote thousands of hours to creating the best educational resource available on a given subject, only to have the resource unused and the efforts interpreted as non-scholarly to a tenure committee. If faculty efforts toward creating and using OER are not interpreted as positive scholarly contributions, then faculty will never feel that they have time for these efforts, because "it's [tenure] first … nothing else matters … until [we] achieve [tenure]." On the other end of the spectrum, the increasing adjunctification of higher education, wherein instructors are given higher teaching loads with less pay and supports, may have similar stifling effects on OER by deprofessionalizing faculty and reducing resource access. Taken together, this means that institutions need to engage in serious rethinking of the impacts that they want their scholars to have on society and to calibrate their tenure and promotion procedures to reflect this.

As a closing anecdote, the lead author is currently a doctoral student, while the second author is a pre-tenure faculty member at a high-research-activity university who engages in both traditional research publishing activities and also the creation of open textbooks and free educational videos. To date, the second author's most-influential research article has been cited around 200 times and is estimated to have been read less than 300 times. In contrast, his most-read open textbook has been downloaded over 3,500 times, and his most-watched educational video has been viewed over 43,000 times, a rate that is 10-to-100-times higher than the research article. If sheer number of views or reads is any indicator of impact on the world, then current tenure and promotion practices will undoubtedly discourage such comparatively high-impact efforts of OER creation in favor

of comparatively lower-impact efforts of traditional publishing. This is not to say that traditional publishing has no place but merely to point out that we must find ways for our institutions to value and celebrate the role that OER play in driving down student costs, improving learning, and empowering faculty to emerge as positive change agents and recognized experts who are having real, tangible impacts on the world outside of the heavily cloistered publishing and communication venues that academics have historically frequented.

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