Getting to Openness at a Closed Institution: A Case Study of Evolving and Sustaining Open Education Practices

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Abstract: This study examined a Canadian post-secondary institution in the period between 2010 and 2014, with a follow-up assessment in 2018 in order to understand its evolution with open educational resources (OER) and open educational practices (OEP). In the first timeline, the study looked at drivers that contributed to the uptake of OER in relation to the type of OER and factors contributing to the diffusion of OER. In the second timeline, the study looked at whether OEPs are being sustained and how they evolved at the institution. Results show that within the institution there are both benefits and tensions to being open, and an institutional approach that considers openness on a case-by-case basis is appropriate. In looking at these two time periods, the study fills a gap in OER research by providing a more longitudinal view of an institutional shift towards initiating and sustaining openness.

Keywords: open education practices, open education resources, sustainability.

Introduction

There is no shortage of open initiatives centred around the idea of sharing of open educational resources (OER), defined by the William and Flora Hewlett Foundation (2015) as "teaching, learning and research materials in any medium – digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no or limited restrictions". In the last ten years, a growing body of research has investigated faculty and student perceptions of OER (e.g., Bliss et al., 2013), faculty use of OER (e.g., Jhangiani et al., 2016) learning outcomes of OER (e.g., Delimont et al., 2016; Hilton, 2016), open education practices (e.g., Ehlers, 2011; Cronin, 2017), OER in the Global South (Hodgkinson-Williams & Arinto, 2017) and alignment with social justice frameworks (Hodgkinson-Williams & Trotter, 2017; Lambert, 2018), among other topics. In an analysis of 970 publications on open, Bozkurt et al. (2018) point to three dominant themes: OER barriers; OER as a vision for higher education; and the relationship between OER and OEPs (p. 90). They conclude that: "new strategies and policies need to be developed to eliminate barriers in OER and OEPs, which is crucial for fully benefiting from openness in education and reaching wider populations. This issue is also important for sustainability and adoption of openness at different levels (e.g., individual, institutional or international)" (p. 91).

This study was initiated in 2014 following an observation that at my institution (Justice Institute of British Columbia [JIBC]) there were a wide range of OER types — curriculum, courses, textbooks, learning resources — being created and adapted. However, it was observed that the motivations or drivers for this acceptance of OER in the absence of a formal institutional OER initiative varied depending on the type of OER, the programme area, and how the OER activity was being funded. I also observed a gap in the research in recognising the range of stakeholders within an institution

(beyond faculty and students) and the convergence of drivers, programme business models, and stakeholders in facilitating or inhibiting OER uptake. I therefore conducted institutional case-study research that sought to answer two questions: 1) How did JIBC evolve towards openness between 2010 and 2014?; 2) How did JIBC sustain openness between 2014 and 2018?

Research questions pertaining to how JIBC evolved towards openness were:

1. Globally, what are the key drivers at JIBC for OER?

2. Are the drivers different depending on type of OER?

3. What has contributed to the diffusion of OER at JIBC?

In 2018 I compared some of the 2014 data to current data in order to answer two questions about how JIBC is sustaining openness:

4. Are open education practices (OEPs) being sustained at JIBC?

5. How have OEPs evolved between 2014 and 2018?

This article presents some of the results and key findings of the 2014 study and provides a 2018 assessment on how the institution has continued to evolve with open. In looking at these two time periods, the article fills a gap in OER research by providing a more longitudinal view of an institutional shift towards initiating and sustaining openness.

Literature Review

As early as 2007, participants in the OER movement had begun outlining the arguments for why higher education institutions would want to be involved in OER while recognising that there were significant barriers (OECD, 2007; Caswell et al., 2007). In 2019, this enthusiasm for the benefits is still very much present, while tempered somewhat by the growing realities of invisible labour in open education (Watters, 2018) and in academia more broadly (SSFN-RIG, 2017) as well as the ongoing concern for the sustainability of openness (Wiley, 2007; Friesen, 2009; Rolfe, 2012). Naidu (2019) reminds us that openness is more than just free access to open resources, and includes the open educational opportunity of "being able to engage in formal learning arrangements despite barriers such as lack of entry qualifications and inability to pay" (p. 1) as well as open learning teaching and learning strategies that can enable flexibility for the learner in terms of time and pace (p. 2). A shift from a focus on OER to OEP extends this discourse further while acknowledging that, "The use of OEP by educators is complex, personal, and contextual; it is also continually negotiated" (Cronin, 2017, p. 15). Finally, applications of social justice frameworks to discussions about the open movement (Hodgkinson-Williams & Trotter, 2018; Lambert 2018) draw attention to a need for critical discourse around who— in addition to where, and under what conditions — benefits from openness.

While OEP – whose participants include faculty, educational developers, students, librarians, and administrators—are located in higher education institutions, to date there have been very few case institutional case studies on organisational change to openness. Specifically, there is little case-study research that examines openness from the perspective of the whole institution and from a range of stakeholders within the institution. How do institutions get to openness if it's not part of their mandate? What are the drivers and barriers to uptake?

Drivers and Barriers

Drivers and barriers with respect to OER uptake is a fairly well researched topic and are examined together or separately. As Rolfe (2012) has suggested, "It is vital to understand the drivers and motivational forces behind adopting OER and to identify barriers and challenges" (p. 10). In her study, Rolfe looked at OER sharing and borrowing and noted the strongest drivers for participating were "a belief in open education, as a reputation enhancer both for the institution and the individual, and economic factors" (p. 10), while barriers included "copyright confusion and a lack of IT support" (p. 10). Nikoi and Armellini (2012) turn their attention to the drivers and barriers of different staff at different levels of the organisation, noting they may have different views on drivers for OER development (p. 170). In a study of educators in the British Columbian (Canada) post-secondary sector, Jhangiani et al. (2016) noted barriers to using OER were primarily discoverability, time, and a lack of support. Finally, Cox and Trotter (2017) compare OER variables for not adopting OER between Global North and Global South contexts, noting differences in technical capacity and infrastructure as a variable and barrier in addition to other social and pedagogical challenges (p. 152). This comparison is useful in underlining that drivers and barriers may be context dependent depending on geopolitical location and institutional culture, among other things. In the context of this study, a driver can be a facilitator or a barrier depending on how it is acted on in the institutional context.

Sustainability

Sustainability has been signaled as both a concern and a barrier. The concern lies in how OER initiatives are funded, and whether OER advocates have a good strategy for sustaining them. At an OER stakeholder meeting in 2007, the sustainability of OER projects was identified as one of the most important priorities for the open movement to take action on, specifically for higher education institutions, international organisations, national governments and academics (d'Antoni, 2007). More recently, Murphy (2013), citing the OPAL report (Andrade et al., 2011) comments: "The barriers to open practices have moved beyond accessibility and availability and are now more related to the lack of supporting components, particularly the commitment of resources (p. 215)." The commitment of resources — as tied to the sustainability of OER initiatives and the underlying 'business' models required to support these initiatives — is described in various ways. For example, Caswell et al. (2007) outline the costs of open courseware development (software, hardware, hosting, and human resources) and note the sustainability of efforts were relying primarily on a sponsorship model from government agencies and donors. For Farisi (2013), Asian mega universities engage in various sustainability models for OER, which include institutional, governmental, workflow, user-centred community model, wiki-model, and a social software model. Although not directly tied to sustainability, Farisi also underlines the importance of cooperation and partnerships at regional and international levels as a key enabler of OER creation and publication. McGowan (2019) claims institutional sponsorship in the US is coming largely from teaching and learning centres and libraries. There is also some suggestion that OER adoption benefits the institution and institutional financial sustainability through increased student retention (Wiley, Williams, DeMarte, & Hilton, 2017).

As the OER movement evolves, research on sustainability does not provide a clear picture at an institutional level as to how OER efforts are being sustained as they become part of institutional strategy and practices. Longitudinal case studies may provide some insight into how institutions evolve with open practices, how they are sustained over time, and how the benefits are considered

and measured against the costs or efforts. For example, Kezar and Eckel (2002) conducted case study research of six institutions undertaking institutional transformation over a period of five years, and this approach may translate well to institutions who adopt openness as a means of academic or institutional transformation.

Research Design

I adopted a qualitative case-study research design (Yin, 2002) to undertake a case of openness at JIBC, a public post-secondary institution located in Vancouver, Canada. The first timeline that was examined was the period between 2010 and 2014. The follow up timeline looked at what had changed between September 2014 and September 2018.

Procedures

JIBC's mandate is to provide justice and public safety education to the province of BC. Unlike most public post-secondaries in BC, the majority of JIBC students are older than 25, constituting an adult learner population that comes to JIBC for highly specialised continuing education. Approximately 50% of JIBC graduates return to the JIBC for further education at some point in their careers, and JIBC programmes maintain strong connections with the communities that they serve.

At the time of this study, JIBC programme areas were clustered under three Schools. The different Schools and their programme areas traditionally operated quite independently, in conjunction with their respective business or funding models. In other words, programme areas operated with one or more combinations of funding streams:

1. Funding from the Ministry of Advanced Education

2. Core client funding – funding that is earmarked for JIBC by other BC Ministries (e.g., Justice; Health; Children and Families)

3. Contract and fee for service – funding that results from responding to requests for proposals or direct awarded contracts for JIBC course and programme development

4. Tuition from cost recovery programmes

5. Research or grant funding.

The attention of this study towards the funding/business model emerged from the observation that JIBC had traditionally viewed content as something that needed to be guarded and protected or the institution would suffer financially. However, by 2014 this had shifted considerably, and led to us to conduct an inventory of known OER projects as of August 2014. I compiled the projects into a matrix and identified and confirmed the key leads on these projects. A purposive sample of key leads – based on whether they were a leader on a project that resulted in the creation, adoption, or adaption of an OER – was selected for a questionnaire and follow-up interview. This sample included every known OER project at JIBC in 2014 and their key leads.

Once consent to participate was confirmed, I distributed a short online questionnaire to the identified leads (19 stakeholders). The main purpose of the questionnaire was to gather information on what were the important drivers for the OER project they were leading. The questionnaire listed 16 drivers and asked them to select on 4-point Likert scale of *Not at all important*, *Somewhat important*, *important*

and *extremely important*. The drivers were identified from previous research as well as contextual knowledge of JIBC.

Upon completion of the questionnaire, 30-60 minute structured interviews with the same 19 JIBC stakeholders were scheduled. These stakeholders included: a Director (1), Associate Directors (3), a Programme Director (1), Programme Managers (3), a Programme Coordinator (1), Librarians (3), Instructors (4), Researchers (2), and an Instructional Designer (1).

Audio-recorded interviews were conducted by the Director of the Teaching and Learning Centre (myself) and a colleague in September 2014. Responses to interview questions were collected into a data matrix organised by respondent and were analysed in conjunction with the questionnaire (Miles, Huberman & Saldana, 2013). Notes and memos that were created as part of the research process were also used in building out the data matrix. Data analysis was both inductive and deductive (Patton, 2001). Data analysis involved theme analysis for each of the interviews in conjunction with individual questionnaire data. It also involved clustering of data by roles and type of OER project.

Questionnaire data was tabulated numerically, with *Not at all important* assigned a 1 and *Extremely important assigned* a 4. The numerical data was used to calculate which drivers were the most important overall and by type of OER. The two questions pertaining to knowledge of OER before and after the project were also treated in this way. The open-ended question was analysed along with the interviews as part of the theme analysis.

For the period between 2014 and 2018, data included institutional document analysis, an updated inventory of OER projects, and an analysis of the evolution of the OER projects from 2014-2018 that looked at growth, funding, infrastructure, and number of institutional champions. The data collected was used to inform research questions number 4 and 5.

Definitions

For the purposes of this study I used the following definitions:

- **Drivers**: Project drivers are defined as key influences in the decision to undertake or participate in an OER project. They can be facilitators or barriers to openness.
- **OER**: Free or Creative Commons licensed textbooks, curriculum, courses, resources, apps, and simulations. While it is acknowledged that free and open are not synonymous, I included free resources such as apps whose license selection is constrained by the distribution platform (e.g., Apple App Store).
- **Business model:** Funding streams that support the programme.

Results

Due to article length restrictions, this section does not include quotes from interviews with participants.

Creation and Adoption of OER at JIBC

The analysis of the inventory of OER in 2014 demonstrates that JIBC was creating and adopting a range of types of OER that extended beyond open textbooks. Research on OER use in BC post-secondaries suggests that OER creation is occurring less frequently than OER adoption and adaption

at institutes (Jhangiani et al., 2016). The inventory data confirms that in the case of Open Textbooks, JIBC was adopting more than creating, but with respect to Open Courseware and learning resources, it was the reverse. Therefore, examining OER by type in terms of creation and adoption may provide different insights into OER activities.

Table 1: Number of OER in 2014 by Type and Creation or Adoption

Type of OER	Number Creations*	Number Adoptions**	Total by type of OER
Learning Resource	9	3	12
Open Courseware	4	3	7
Open Curriculum	2	0	2
Open Textbook	1	2	3
Total by Type of Use	15	9	24

*creation also includes projects where existing (closed) JIBC materials were repurposed and rebundled for open release as a new bundle

**adoption includes remixing and reusing

Research Question 1: Globally, what are the key drivers at JIBC for OER?

We looked at both the questionnaire data and the interview data to understand this question.

The questionnaire listed 16 drivers, five of which were classified as external, and the remainder internal.

Questions about the external drivers included:

1. How important was the *Ministry of Advanced Education (AVED)* as a driver for your project?

2. How important were the *Funding Opportunities* as a driver for your project?

3. How important were *Government Policies or Guidelines* as a driver for your project?

4. How important were *Funding Requirements* as a driver for your project?

5. How important were *External Stakeholder/s* as a driver for your project? This may include core clients.

These questions acknowledged that the context for OER at JIBC was both externally and internally driven and emerged from an observation that the reasons for engaging with OER extended beyond any particular institutional champion.

To begin with, the questionnaire data shows that the top four drivers for OER identified by JIBC stakeholders for all types of OER are internal. These drivers pertained to the following questions:

1. How important were *students* as a driver for your project?

2. How important was the *belief that OER are the right thing to do* as a driver for your project?

3. How important was the *technology available to support your project* as a driver for your project?

4. How important was the fact that there were *supportive people at JIBC* as a driver for your project?

As Table 2 shows, having the technology available to support the project was the top driver across all OER projects, followed by having supportive people at the institution to help with the project. This is followed by the consideration of students and a belief that using OER is the right thing to do.

Table 2: Top Four Drivers Across all Categories of OER

Driver	Total
Technology	68
Supportive people	64
Students	61
Belief	60

Research Question 2: Are the drivers different depending on type of OER?

When separated by type of OER there is slightly more variability in the top two drivers, and in some cases, multiple drivers occupy the top spots:

Table 3: Drivers by Type of Resource

Type of Resource	Driver 1	Driver 2
Open Textbooks	Students	Technology Support OER belief
Learning Resources	Technology OER belief	External Stakeholders
Open Courses/Courseware	Technology	Support
Open Curriculum	AVED Funding Requirements Funding Availability	Librarian support
Library Resources	Librarian support Technology	Students

For the most part the drivers that influenced the uptake of the OER were similar across all categories of OER with the exception of curriculum. In the case of the curriculum, the most important drivers

were externally driven — funding requirements, funding availability, and a directive from the Ministry of Advanced Education, who were providing the money to develop the curriculum under the condition that it be released under a Creative Commons license, created the context for the development of open curriculum.

It is also important to examine how both internal and external drivers are important in the uptake of OER. In addition to the curriculum OER, three of the learning resources were produced as a deliverable for a federally funded research project. In fact, the very first OER produced fell into this category and was seen as an opportunity to do something different and open up content under the guise of it being a funding requirement. In this sense, external drivers and funding can serve as a catalyst for helping an institution shift its culture but, as noted in the next section, it can also serve as a barrier or a challenge.

Research Question 3: What has contributed to the diffusion of OER at JIBC?

The study assumed that knowledge of OER was a pre-requisite for diffusion. Therefore, one of the questionnaire questions asked participants to rank their knowledge of OER before and after the project. Of the 19 participants, eight identified that they had the same knowledge as when they started the project, and 11 indicated that their knowledge has increased. This suggests that being involved in an OER project may be a good way to increase OER knowledge at the institution, which is important to consider if an institutional cultural shift towards openness is a goal.

As the drivers indicate, available technology and support was a major factor in contributing to the diffusion of OER at JIBC. Available technology in this case was enabled by institutionally hosted Wordpress, as well as a Pressbooks service provided by BCcampus. Both technologies allowed for content to be more easily created and shared openly. This suggests that enabling a culture of open is dependent upon the availability of a technological infrastructure that facilitates the creation and sharing of OER.

We also looked to the interviews to get a better understanding of what contributed to the diffusion of OER between 2010 and 2014. Specifically, how did participants describe the challenges and benefits of their respective OER projects, and how did it "fit" or not fit into their programmes. Since our research questions emerged from an observation that the type of funding model of a particular programme or project that resulted in an OER would be important to investigate, it's unsurprising that thematic analysis pointed to several factors tied to the question of business models or funding.

Fit in Relation to Business Model of the Programme

OER uptake was considered a good "fit" with existing programme business models when:

1. Creating or adopting OER saved on development costs
2. Creating or adopting OER presented an easier solution (technologically or administratively)
3. The business model (e.g., core client funded training) had a goal of a broader reach for the same amount of resources. In other words, if the OER reached a larger audience through openness, it was seen as a win-win-win for the institution, the client, and the student.
4. The funder required the deliverable to be open.

However, it in at least one case (curriculum), OER presented a direct challenge to the business model. The Ministry of Advanced Education funded a curriculum renewal in two health programmes for which the only other institutions to offer the programmes were private sector providers. Creating curriculum that could potentially be used by the private providers created two notable problems. First, unlike the public institutions, private institutions have flexibility in the fees that they can charge students, and there was a concern that the private institutions would take away students if they were given the competitive advantage of not having development costs. Secondly, using public resources to fund curriculum for a private institution contradicted the perceived ethos of open of keeping public funds in the public system for the benefit of students.

The tension with respect to business model can be summarised as one in which new models or new ways of doing things may be in conflict with current ways of doing. In the case of the early OER projects, the participants noted the considerable negotiation with supervisors, leadership, the finance department in carving out a new way of doing. One early adopter said "it felt rogue" and battled questions from superiors about potential loss of revenue if content was made open.

Another tension emerged with respect to the initial workload required with OER. Two of the three librarians that were interviewed and two instructors underlined workload in creating resources as an important consideration. However, it is important to note that while the librarians were creating and assembling OER as part of their existing workload, the instructors were given a course release to develop their open textbooks. In both cases, the workload exceeded the time given, suggesting that how OER labour is absorbed into the activities of the institution needs to be calculated and managed carefully.

The Importance of (Open) Technology

One of the important findings to emerge was the extent to which the stakeholder participants perceived the availability of technology to support their project as an important driver. In the period between 2010 and 2014, JIBC had introduced Wordpress into the institutional educational technology ecosystem, where previously there was only a learning management system (LMS – Blackboard). The majority of the learning resources and open courses were created in Wordpress which, by default, resulted in open resources. Building in Wordpress provided a less resource intensive and easier-to-maintain environment than the LMS. The open textbooks were created using a BCcampus hosted Pressbooks service for creating and hosting textbooks, which was a recognised benefit to getting open textbooks off the ground at JIBC.

Openness as a Means to Increase Visibility and Access, and, Therefore, Enrollments

Four programme areas observed that being open with content increased the visibility of the programme and this visibility had several positive outcomes. First, there was a perception that putting JIBC content into the open conveyed a message about the quality of JIBC work and communicated that JIBC was the desired quality standard for that topic. In this way, it also made JIBC standards more visible and transparent. Secondly, there was a recognition that there were adult learners who didn't necessarily want to go through a student registration process to take a course, and our open courses allowed them to learn without having to do that. Interestingly, three programme areas reported having an increase in enrollments of as much as 30% that they attributed to the increased visibility that the open courses brought by this new model.

The Value of Remixing and Adapting

Contributing to the diffusion of OER were the remixing and adaptation advantages of OER in a context where many JIBC programmes were highly specialised (and therefore content options were sometimes scarce) and required a Canadian focus. For example, in three of our programmes, the practice standards and terminology were different than the American materials, yet the available textbooks or materials were US-based. In these cases, creating OER for the Canadian context positioned JIBC as the first to offer a Canadian version, which brought some positive attention to our programmes.

New Models

Interestingly, one of the lowest ranking drivers was the desire for a better business model, yet the interview data revealed that this is what resulted in some cases. Specifically, new learning designs have provided new ways of attracting and retaining students. These new models can be summarised as follows:

1. Two programme areas introduced open, introductory courses that were freely accessible without going through the student registration process. The programme areas attributed an increase in students paying for additional courses in the programme to the increased visibility provided by opening up the introductory courses.

2. One programme area retired its paid, online course and redesigned it as a free app and a free iBook. Students wanting to get credit for the course could pay for an exam at a rate that was much cheaper than the online course would have been. Despite the lower cost, the increase in students taking the exam resulted in a revenue increase for that course and brought attention to the programme as a provider of that training.

3. Two programme areas opened up resource sites that were previously invisible to the broader community. The programmes reported that this step seemed to bring attention to the programme itself, communicated the programme as a leader of quality education, and provided a way of ensuring that learners would not only have excellent resources available to them while they were JIBC students, but they could also take these tools with them into their workplaces upon graduation and be tools in those environments.

Research Question 4: Are open education practices being sustained at JIBC?

To observe whether open education practices were being sustained at JIBC the analysis assessed the growth or reduction in open activities and the evolution of open education practices since 2014. Open education practices have continued to grow in several areas and there is evidence to suggest that they are being sustained.

From Open Textbooks to Zed Creds

In 2014, there were three open textbooks in use across two JIBC programmes; there are now eight. In the Law Enforcement Studies programme, the initial open textbook kicked off a goal of having the entire two-year diploma programme become a Zero Cost Textbook programme, or ZTC. This declaration constituted BC's first ZTC (alternatively referred to as Zed Cred), and in 2017 JIBC received support to complete the development of this ZTC programme.

Openness as Part of Learning Design and an 'Open First' Development Process

In 2014, JIBC saw the emergence of new models that resulted in a shift in business model. In other words, openness has opened up new types of learning designs. JIBC has continued to experiment with openness as part of a learning design process led by the teaching and learning centre that considers open first as the default in the course design process. Adopting an open first guideline was also identified by McKerlich et al. (2014) as a recommended mechanism for getting beyond an overreliance on intrinsic motivation in enabling OER use and reuse. In 2014 JIBC had three open courses across two programme areas, and now we have more than ten across a range of disciplines. All of these courses were developed in Wordpress, which has continued to be a key technology in enabling a shift towards openness, since developing and maintaining OER in Wordpress is easier, less resource intensive, and results in more appealing course sites.

Funding Openness

As early as 2008, Caswell et al. (2008) pointed to the funding and sustainability considerations of OER and noted that they included: "sponsorship model, support from governmental agencies, donations, endowments, and other potential models" and that "ensuring the sustainability of these projects moving forward is of critical importance" (p. 9). In 2014, JIBC's funding for OER were largely through government and research funding, core client funding, and through existing funds set aside for curriculum development. In the period between 2014 and 2018 open development funds had been mainstreamed into the Teaching and Learning Centre budget. The diversity of funding sources has ensured that openness can continue to happen at JIBC in the event that one source ceases to exist. In this respect, JIBC's approach responds to the questions that Olcott (2012) noted: "Does the educational value of OER justify university investment of reoccurring budget allocations to the development and management of OER? Will faculty members, department chairpersons, and senior leadership support this (p. 287)?" In JIBC's case, the answer is yes but there are two instances where this has required some reflection.

These two instances are examples where externally funded OER projects have been both a blessing and a curse. In one case, a considerable amount of money was provided to develop a pan-Canadian guide and tool as part of an extensive research project. This resource requires additional resources to maintain beyond the project, a cost which JIBC absorbs, but the institution is reluctant to cease support due to the positive impact that it appears to be having on communities that are using it. In another case, JIBC received funding to develop an open resource to address a local public health and safety crisis that has since extended across North America. The CC-BY license has allowed it to be picked up and re-used across the continent and has resulted in very positive publicity for the institution. However, no additional money has been provided to continue to support it. As others have identified (e.g., Olcott, 2012) OER may be free to use but there is a cost to the organisations that create and maintain them. JIBC has responded to this situation by identifying these kinds of projects as "open for the public good" and at this point in time continues to support them.

Research Question 5: How have open education practices evolved between 2014 and 2018?

There are two notable areas where open education practices have evolved since 2014.

Institutional Integration

One of the more significant signals of a shift towards greater institutional acceptance of openness at JIBC is that the 2016-2020 Academic Plan includes two references to open education resources (JIBC 2016-2020 Education Plan, 2016).

1. Accessible through technology-enabled learning and teaching environments: "Greater access to our programming is made possible through the thoughtful application of technology-enabled learning and teaching environments, which include online simulations, open digital resources, and online courses and programmes." (p. 15)

2. Strategies for Success: "Explore and support the use of innovative educational technologies and open resources that meet student and client needs." (p. 10)

Additionally, in 2018 a cross-institutional Open Working Group was formed to distribute open education leadership beyond the teaching and learning centre, suggesting that while there are no institutional policies pertaining to openness, there is a recognition that continued coordination and growth of openness is desired.

Engaging in the Broader Community of Openness

JIBC's activities in openness have resulted in opportunities and engagement in the broader, international community of open education. Three members of the teaching and learning centre have had separate secondments or fellowships to BCcampus for their work in open education. In 2017 JIBC was also the recipient of an Open Education Consortium award for open faculty development for a co-developed project with the University of Guadalajara and a subsequent programme on Innovation and Open Education was created and delivered in 2018.

Lastly, the number of JIBC staff who continue to regularly present at conferences and conduct research on open education has grown from one to five. This suggests that there is more than one institutional champion, while underlining that there is still more effort needed to grow this number. From an institutional perspective, JIBC's involvement and recognition by the broader community has provided legitimacy and a certain amount of leverage with internal skeptics.

Discussion

The story of openness at JIBC is one that has evolved considerably from its beginnings in 2010. Prior to 2010 the institution relied on a closed course, closed materials model and the conventional understanding was that content needed to be protected. By 2014 the OER landscape at JIBC included more than 20 learning resources, open courses and open textbooks and included two programme curricula that were openly licensed. In the period between 2014 and 2018 the number of open courses, learning resources and open textbooks continued to grow. Importantly, JIBC has had sustained success with openness because it has helped us solve some fairly practical problems (pertaining to a scarcity or specificity of content; visibility; course development processes; and resources for course development), it's good for students and there is the belief that it's the right thing to do. Additionally, JIBC has also witnessed some of the benefits of OER projects outlined by Friesen (2009) "student

recruitment, the potential for improving teaching and for better supporting learning, and a kind of viral marketing of the quality of teaching and learning in areas of strategic institutional interest" (p. 9).

Of course, JIBC does not exist in a vacuum and the larger sector-wide ecosystem of momentum and support is important to consider in looking at how JIBC continued to evolve between 2014 and 2018. In 2010, the University of British Columbia (UBC) was leading the sector in opening up OER and JIBC was an early adopter of some of their resources. Importantly, as BC's largest university, UBC's efforts provided useful leverage and modeled a practice that institutions such as JIBC could follow. Since 2013, BCcampus has generated considerable momentum and influence in the sector through its government supported Open Textbook Initiative. More recently, BCcampus launched a Zed Cred funding initiative of which JIBC was one of three recipients. E-campus Ontario was formed and launched its own sector-wide OER funding and professional development activities, from which BC can also benefit. Additionally, a body of BC research on openness has emerged, government support for open textbooks continues to grow as do the number of institutions in the BC sector who are doing open education.

Nikoi and Armellini (2012) remind us that "OER are not simply learning content; they are also software tools and implementation resources (OECD, 2007, p. 30)." The extent to which participants indicated the importance of appropriate technology as a driver for their projects in 2014, and the extent to which Wordpress continues to be used for OER in 2018 suggests that technology is an important enabler to consider in OER. As Yuan et al. (2008) have stated: "It is important to provide flexible, extendable platforms and easily adaptable open tools to access, use, reuse, create and post content to the Web. For that reason, much of the OER motive is about evolving infrastructure for enhanced content creation and use of infrastructure for accessing digital content" (p. 21). Interestingly, there is relatively little research on OER technology infrastructure beyond repositories, suggesting the need for further investigation.

Limitations of the Study

There are several limitations to consider. First, the study is a careful, albeit limited investigation of one public post-secondary institution. Second, the 2014 phase of the research was conducted by two JIBC colleagues, and some of the participants may have been reluctant to share all of their challenges or may have been compelled to exaggerate their successes. However, it is proposed that the longitudinal nature of the study and the multiple sources of data, as well as the deep knowledge of the institutional context by the author adds to the trustworthiness of the study.

Recommendations

Despite the limitations of the study, there are some recommendations. First, as Friesen (2009) noted in examining the sustainability performance of several well-known OER initiatives, "cultures, policy, and procedure are not designed and implemented; they evolve — often with excruciating slowness." (p. 9). A longitudinal view of an institutional OER initiative provides a way of examining this evolution over time and could provide insights into indicators of sustainability. It also constitutes one area where further studies are needed and will be increasingly important as the open movement matures.

Second, this study showed that different institutional stakeholders have different views of the benefits of OER and reasons to participate in open. Similar to Nikoi and Armellini (2012), JIBC stakeholders see the benefits of OER in relation to their particular context or problem they are trying to solve. There may be some value in taking this into consideration in both research and advocacy.

Third, having the (open) technology infrastructure to engage in open education practices was a major driver for getting to openness at JIBC. It is therefore recommended that institutions consider this as part of an OER initiative.

Our study also illuminated several tension points that may be worth considering in institutional open learning initiatives. First, and unsurprisingly, early adopters face several challenges and may be confronted with institutional gaps in process and roadblocks that result from those gaps, while also feeling 'rogue' in their activities. Our study demonstrated that having an area of the institution (in this case the teaching and learning centre) or key people to support early adopters was a key driver for our success. Second, in the case of JIBC, not all types of OER were equal in their fit and value to the institution. This may be an important consideration in designing an OER initiative relevant to a particular institution.

Finally, there may be value in looking to the body of literature on institutional blended learning initiatives (Taylor & Newton, 2013; Garrison & Vaughan, 2013; Lim & Wang, 2017) and institutional transformation (Kezar & Eckel, 2002) as a way of identifying success factors for institutional open initiatives. For example, could an institutional self-assessment framework for blended learning (Lim & Wang, 2017), be adapted for open initiatives as way of measuring success and impact? This is an area for further exploration.

Conclusion

Within JIBC, there are both benefits and tensions to openness, and an institutional approach that considers openness on a case-by-case basis is appropriate. The significance of an institutional case study lies in its ability to provide a more nuanced discussion of when and where open is beneficial within a particular context. As this paper has underlined, while most of JIBC's open efforts have resulted in benefits to the institution, open curriculum presents some challenges. As Jones (2015) has stated: "Openness is an outcome afforded by the interaction of a variety of contending factors organised into a dynamic assemblage" (p. 342), and this assemblage in JIBC's case is social, political, technological, and economic. However, despite the tensions, openness continued to grow as part of the fabric of JIBC between 2014-2018, suggesting that an institutional shift has occurred and is being sustained.

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