

Submission for Alberta 2030: Building Skills for Jobs Consultation

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¹ These comments are made in our capacities as individuals and our affiliations have only been provided for transparency.

Executive Summary:

The following submission responds to many of the questions from the [Alberta 2030: Building Skills for Jobs - Stakeholder Discussion Workbook](#) and proposes that an important part of a modern, innovative, competitive and cost effective provincial post-secondary education system is a comprehensive strategy that incorporates the proven benefits of Open Education and Open Educational Resources (herein OE/OER). An OE/OER strategy that includes funding of a provincial, cross-institutional open education coordinating and funding body - which for the purposes of discussion will be called Open Education Alberta (herein OEAB) - will result in numerous benefits:

- Diminishing barriers to post-secondary education by reducing the cost of educational materials and delivering proven cost savings to Albertan students and their families
- Eliminating the competitive gap with other major provinces (specifically Ontario and British Columbia) which already have their own provincial OE/OER offices
- Recognizing the role OE/OER can play in facilitating knowledge mobilizing and sharing not only across post-secondary institutions in the province, but also knowledge to Alberta's businesses, not for profits, and individuals across the province
- Providing opportunities for Alberta students to develop crucial skills related to a variety of 21st century skills and competencies including digital literacy, multimedia creation, copyright and licensings along with disciplinary skills and knowledges, and
- Enhancing the quality of post-secondary education across the province
- A significant return on investment for every dollar spent

As discussed herein, investing in OE/OER with a coordinated, strategic approach via OEAB can result in tangible benefits to the post secondary sector and entire province. Furthermore, it is crucial that Alberta consider such an approach to stay competitive with other jurisdictions. While some direct cost is involved in establishing OEAB, as demonstrated, there is the potential for considerable cost savings to Alberta's students and their families. This submission also includes an Appendix (*Appendix I - BCcampus Governance Project: Discussion Paper on BCcampus Governance Framework*) which provides further guidance on how an implementation and governance model for a provincial strategy and body could be developed.

Response to Questions:

1. Impressions of Alberta's advanced education system

a. What do you believe are the current strengths and weaknesses of the system?

While Alberta has developed a strong advanced education system as evinced by the quality of post-secondary institutions in the province, a notable weakness is the lack of a comprehensive strategy that incorporates the proven benefits of Open Education and Open Educational Resources (herein OE/OER). Over the past 20 years individual institutions and increasingly national and subnational jurisdictions have recognized the important role OE/OER can play in enhancing post-secondary education.

Internationally, globally leading educational authorities have launched OE/OER programs. For example:

- The United States Department of Education runs an open education program which has provided millions of dollars in national funding over the past three years²
- In 2013, The European Commission launched the “Open Education Europa” to support open education across the European Union³ and the OpenEdu framework serves as part of the E.U.’s overall science and research sharing strategy⁴
- The Chinese Ministry of Culture, the Ministry of Education and the Ministry of Science and Technology all support Chinese OER initiatives⁵

Because of the division of powers in Canada's *Constitution*, Canada, unlike its global peers, does not have a central education department or national approach to OE/OER. However, several provinces, including most notably British Columbia and Ontario, have their own OE/OER approaches

- In British Columbia, BCcampus⁶ has operated for over a decade with OE/OER a key focus over the past 10 years. In this short period of time BCcampus/the province of British Columbia has developed an international reputation as a global leader in OE/OER.⁷
- eCampus Ontario is a provincially funded consortium of 45 post-secondary institutions in Ontario⁸

² United States Department of Education. 2020. “Open Textbooks Pilot Program.” <https://www2.ed.gov/programs/otp/index.html>

³ Open Education Europa. 2015. “Open Education Europa.” <http://www.european-net.org/2015/06/open-education-europa/>

⁴ European Commission. 2019. “Open Education: OpenEdu Framework.” *E.U. Joint Research Centre*. <https://ec.europa.eu/jrc/en/open-education>

⁵ UNESCO/Chunyan Wang and Guodong Zhao. 2011. *Open Educational Resources in the People's Republic of China: Achievements, Challenges and Prospects for Development*. UNESCO. <http://iite.unesco.org/pics/publications/en/files/3214700.pdf>

⁶ BCcampus. N.d. “BCcampus.” <https://bccampus.ca/>

⁷ BCcampus. N.d. “What We Do.” <https://bccampus.ca/what-we-do/>

⁸ eCampus Ontario. N.d. “About.” <https://www.ecampusontario.ca/about/>

- In addition several U.S. states have their own state level OE/OER funding bodies,⁹ including jurisdictions such as Washington, Oregon and California - states that compete with Alberta for both domestic and international students

Although the **lack of a coordinated approach to OE/OER puts Alberta at competitive disadvantage** with respect to other leading provinces and U.S. states, **an Alberta based solution is readily achievable**. What is required is an OE/OER strategy that includes funding of a provincial, cross-institutional open education coordinating and funding body - which for the purposes of discussion will be called Open Education Alberta (herein OEAB). OEAB has a historical precedent.

From 2014-2017 the Government of Alberta funded the Campus Alberta Open Educational Resources (ABOER) Initiative, which was subsequently defunded by the provincial NDP government.¹⁰ The ABOER project **generated over \$480,000 savings in Fall of 2016 alone**, and was projected to create savings over five years of \$5.5 million for Albertan students and their families.¹¹ Because the program was defunded, current statistics are no longer available.

ABOER was a good idea in 2014 when it was launched, and now in 2020, and thinking of what is needed for Alberta's post secondary sector to regain competitiveness, the creation of a provincial OE/OER strategy and coordinating and funding body, OEAB, is a crucial idea.

c. What are some of the changes that Alberta's advanced education system needs in order to remain competitive nationally and globally in the next 5-10 years? (What should start/stop/continue?)

Historically, higher levels of government funded have given Alberta's post secondary system an advantage,¹² but with declining per capita levels of investment, Alberta will need to consider new ways to remain competitive. In this regard eliminating barriers to education, so that Alberta's post-secondary students can succeed, will be a crucial part of a successful overall approach and OE/OER have a key role to play in this regard.

OE/OER can offer improved accessibility of learning materials. By having Alberta specific OE/OER funded through OEAB, OEAB can mandate that such materials are developed

⁹ Scholarly Publishing Academic Resources Coalition (SPARC). 2020. "List of North American OER Policies and Projects." <https://sparcopen.org/our-work/list-of-oer-policies-projects/>

¹⁰ ABOER. N.d. "Provincial Initiative." <https://web.archive.org/web/20200218195126/http://albertaoer.com/content/aboer-projects> [Note Web Archive links have been provided for ABOER URLs as the site is no longer maintained].

¹¹ ABOER. N.d. "Alberta OER - Home." <https://web.archive.org/web/20200423034208/http://albertaoer.com/>

¹² Robson Fletcher. 2020. "In the 2000s, Alberta invested heavily in its universities. In the 2020s, that's about to change." *CBC News*. <https://www.cbc.ca/news/canada/calgary/alberta-university-spending-revenue-analysis-1.5436236>

to the highest standards to openness including both accessibility and other factors that influence openness.¹³ **Greater accessibility and openness will reduce barriers to education.**

Openly licensed resources also allow for **greater flexibility and relevance in teaching in learning**. Open licensing ensures all users can access and copy materials, and most licenses allow adaptation. This can allow for a **better ability to address equity, diversity and inclusion**. Another benefit of the flexibility of open licensing is that it allows materials to be **more readily adapted to the Alberta context**.

d. Do you believe the business model for Alberta advanced education is changing, and if so, how and why?

The global education market is continuing the trend towards greater competition. A key piece of that competition is the ability of Alberta's post-secondary institutions to retain the brightest students in Alberta and attract brilliant young minds from across Canada and internationally. Historically, an important factor in this regard is the global rankings of the province's two large research institutions, the University of Alberta and University of Calgary. According to post-secondary consultant Alex Usher Alberta's ability to have two institutions in the top 200 globally is "something very few jurisdictions of [Alberta's] size can say (on a per-capita basis, only Massachusetts, Switzerland and the Netherlands can top it)."¹⁴ While direct investments from government via operating grants have been a key factor in this historic success, the move toward diminished per capita funding for the post secondary sector in Alberta will require developing new approaches.

Research from the University of Alberta Students' Union showcases that students are expected to **pay an average of \$1750 per year in textbook costs**, an average of **15.4% of a student's educational costs**. Textbook costs have grown at 290% of the rate of inflation since 1995 and continue to rise. There is a strong possibility that the disproportionate textbook costs for first year students may impact retention rates due to unanticipated costs.

Because **cost, including cost of instructional materials such as textbooks, remains a barrier to student participation and success**, the Government of Alberta must consider how OE/OER and OEAB could help mitigate the losses from declining provincial investments.

Furthermore, for economic diversification to be achieved in Alberta, greater post-secondary participation will be essential. With tuition rising across the province, it is imperative that other cost related barriers to education be mitigated or eliminated. A coordinated and strategic approach to OE/OER can benefit all post secondary institutions in Alberta and contribute to the push for diversification.

¹³ McNally, Michael B., and Erik Christiansen. 2019. "Open Enough? Eight Factors to Consider when Transitioning from Closed to Open Resources and Courses: A Conceptual Framework." *First Monday*, 24(6): <https://firstmonday.org/ojs/index.php/fm/article/view/9180>

¹⁴ Alex Usher, as quoted in, Robson Fletcher. 2020. "In the 2000s, Alberta invested heavily in its universities. In the 2020s, that's about to change." *CBC News*. <https://www.cbc.ca/news/canada/calgary/alberta-university-spending-revenue-analysis-1.5436236>

2. Producing highly skilled and globally competitive graduates for the future

b. What steps should our post-secondary system be taking to ensure students are learning skills for the future?

Although cost savings and competitiveness are important arguments for OE/OER, there are **also many proven pedagogical benefits to open education**, and OE/OER funding can help ensure students **learning materials are current and contextual**, which will produce better learning outcomes.

OER including open textbooks can have **faster publication and revision cycles** than traditional textbook publication cycles. This can help ensure learning materials are kept **up to date with the latest developments from research**. Technologies and networks needed to support this rapid publication cycle are already present in the province through the Open Education Alberta collaborative textbook service.¹⁵ Faster publication cycles, along with the affordances for customization provided by open educational materials means that students can have **learning materials tailored to their learning context**. For example a course on geography can replace discussions of Denver or Dahka with reference to Edson or Edmonton. Greater customization in learning resources will allow Alberta's students to better relate to learning materials and should improve the overall learning experience. This ability to directly link the Alberta context to course content will mean that graduates from Alberta institutions will be **more able to transition to the Alberta economy** and may increase graduate retention rates.

There is a small, but emergent body of literature demonstrating the quality of OER and open textbooks in particular. The benefits of open textbooks on learning are perceived by both students and faculty.¹⁶ A Canadian study found 96% of student respondents felt that open textbooks were equal to or superior in quality to traditional commercial textbooks.¹⁷ In a comprehensive review of several empirical studies on OER use, Hilton III concludes:

In total 46,149 students have participated in studies relating to the influence of OER on learning outcomes. Only one of the nine studies on OER efficacy showed that the use of OER was connected with lower learning outcomes in more instances than it was with

¹⁵ Open Education Alberta. N.d. "Library Publishing for Open Textbooks." <https://openeducationalberta.ca/>

¹⁶ Hilton III, John. 2016. "Open Educational Resources and College Textbook Choices: A Review of Research on Efficacy and Perceptions." *Educational Technology Research and Development*, 64: 573-590.

Jhangiani, Rajiv S., Rebecca Pitt, Christina Hendricks, Jessie Key and Clint Lalonde. 2016. *Explore Faculty Use of Open Educational Resources at British Columbia Post Secondary Institutions*.

https://bccampus.ca/files/2016/01/BCFacultyUseOfOER_final.pdf

de los Arcos, Beatriz, Gary Elliot Cirigottis, Natalie Egglestone, Robert Farrow, Patrick McAndrew, Leigh-Anne Perryman, Rebecca Pitt, and Martin Weller. 2015. OER Data Report 2013-2015: Building Understanding of Open Education.

<http://oerhub.net/wp-content/uploads/2015/11/20151117-OER-Hub-Data-Report.pdf>

¹⁷ Jhangiani, Rajiv, and Surita Jhangiani. 2017. "Investigating Perceptions, Use, and Impact of Open Textbooks: A Survey of Post-Secondary Students in British Columbia." *International Review of Research in Open and Distributed Learning*, 18(4): 172-192.

positive outcomes, and even this study showed that the majority of classes were non-significant differences. Three had results that significantly favoured OER... an emerging finding is that utilizing OER does not appear to decrease student learning.¹⁸

Instructors also see several benefits to using open educational resources. OER can improve pedagogy by acting as a **source for new ideas in teaching and pedagogical innovation**. Multiple studies have found that the primary benefit for instructors using OER is that they are a source of ideas and inspiration¹⁹ and can broaden teaching methods.²⁰ A study of OER use by faculty members at Athabasca University found that academic quality was the most significant factor in both use and creation of OER.²¹

In addition to the benefits of OER for improving learning and instruction, OER materials, specifically open textbooks, also help **ensure students actually obtain required materials**. A major 2014 study from the United States involving over 2000 students found that nearly two-thirds of students (**65%**) **avoided textbook purchases because of cost**, and nearly half the respondents indicated that textbook costs impacted the number of courses taken.²² Textbook avoidance is prominent at Alberta institutions with survey data showing 94% of students have used strategies to avoid purchasing textbooks. Similar findings are evinced in a recent Canadian study involving 320 post-secondary students in British Columbia. Over half (54%) noted that they had avoided purchasing a required textbook at least once in the past 12 months.²³ Furthermore, 27% of respondents from the study noted that they took fewer courses because of textbook costs. Specifically at the University of Alberta, **15.7% of students selected their courses based on textbook costs**, meaning students under financial pressures will have a different education experience. Importantly, it has been noted that the negative impacts of

¹⁸ Hilton III, John. 2016. "Open Educational Resources and College Textbook Choices: A Review of Research on Efficacy and Perceptions." *Educational Technology Research and Development*, 64: 573-590, p. 586.

¹⁹ Jhangiani, Rajiv S., Rebecca Pitt, Christina Hendricks, Jessie Key and Clint Lalonde. 2016. *Explore Faculty Use of Open Educational Resources at British Columbia Post Secondary Institutions*. https://bccampus.ca/files/2016/01/BCFacultyUseOfOER_final.pdf

de los Arcos, Beatriz, Gary Elliot Cirigottis, Natalie Egglestone, Robert Farrow, Patrick McAndrew, Leigh-Anne Perryman, Rebecca Pitt, and Martin Weller. 2015. OER Data Report 2013-2015: Building Understanding of Open Education.

<http://oerhub.net/wp-content/uploads/2015/11/20151117-OER-Hub-Data-Report.pdf>

²⁰ Weller, Martin, Beatriz de los Arcos, Rob Farrow, Rebecca Pitt and Patrick McAndrew. 2017. "What Can OER Do For Me? Evaluating the Claims for OER." In *Open: The Philosophy and Practices that are Revolutionizing Education and Science*. Jhangiani, R. S., and Biswas-Diener, R. (Eds.). P. 67-77. London: Ubiquity Press.

²¹ McKerlich, Ross, Cindy Ives and Rory McGreal. 2013. "Measuring Use and Creation of Open Educational Resources in Higher Education." *International Review of Research in Open and Distance Learning*, 14(4): 91-102.

²² Senack, Ethan/The Student Public Interest Research Groups. 2014. *Fixing the Broken Textbook Market: How Students Respond to High Textbook Costs and Demand Alternatives*. <http://www.uspirg.org/sites/pirg/files/reports/NATIONAL%20Fixing%20Broken%20Textbooks%20Report1.pdf>

²³ Jhangiani, Rajiv, and Surita Jhangiani. 2017. "Investigating Perceptions, Use, and Impact of Open Textbooks: A Survey of Post-Secondary Students in British Columbia." *International Review of Research in Open and Distributed Learning*, 18(4): 172-192.

textbook costs – students working more hours and/or taking on more student debt – are disproportionately felt by students who are already economically disadvantaged.²⁴

As indicated by several recent studies adopting OER including open textbooks can improve learning and teaching while also ensuring that students do not avoid courses or textbooks required for their studies.

Finally, provincial funding of OE/OER through OEAB could **create additional skill development and knowledge creation opportunities for students**. For example, the University of Alberta previously²⁵ offered small OER grants/awards to faculty for creating OER, but this money in turn went to hiring student developers (e.g. as undergraduate or graduate Research Assistants).²⁶ Having students involved in OE/OER creation has many benefits. First, working in conjunction with experts such as faculty members in developing or adapting materials requires increasing degrees of subject knowledge, so **participating students would gain increased disciplinary knowledge**. Second, developing and adapting OER fosters **skills related to multimedia creation, digital literacy** and copyright and licensing which are key 21st century skills.²⁷ In addition to these competencies, when engaging in research and publishing at an undergraduate level, students learn a variety of **soft skills that are vital for success outside the classroom**.

3. Creating a more cost-efficient system

a. *What would a cost-efficient system mean to you? Please define cost-efficient as part of your answer.*

Funding of OE/OER and OEAB is cost efficient. In this regard we consider cost-efficiency to include not only direct government expenditures, but a consideration of education spending overall, including expenditures by students and their families, and also consideration of the flow of dollars out of Alberta. Even though it would involve some direct cost

²⁴ Jhangiani, Rajiv, and Surita Jhangiani. 2017. "Investigating Perceptions, Use, and Impact of Open Textbooks: A Survey of Post-Secondary Students in British Columbia." *International Review of Research in Open and Distributed Learning*, 18(4): 172-192.

²⁵ While the University of ALberta had funding dedicated to this program in 2018/19 and 2019/20, the program was not renewed. The diminished capacity of institutions to offer OE/OER funding underscores the need for a coordinated provincial approach.

²⁶ University of Alberta. 2020. "University of Alberta Open Educational Resources (OER) Grants." <https://www.ualberta.ca/centre-for-teaching-and-learning/grants/oer/index.html>

²⁷ Burkell, Jacquelyn, A., Alexandre Fortier, Lisa Di Valentino, and Sarah T. Roberts. 2015. "Enhancing Key Digital Literacy Skills: Information Privacy, Information Security, and Copyright/Intellectual Property." *SSHRC Knowledge Synthesis Report*. <https://ir.lib.uwo.ca/fimspub/35/>

King, Thomas. 2017. "Postgraduate Students as OER Capacitors." *Open Praxis*, 9(2): <https://www.learnlib.org/p/181417/>

Joseph, Kris, Julia Guy, Amanda Wakaruk, Adrian Sheppard, and Michael B. McNally. 2020. "Know Your Audience(s): Collaborating for Copyright Education." *International Journal of Open -Educational Resources*, 2(1): 79-98.

to the province, OEAB would be a **net benefit to the province by reducing education costs**, and thus freeing up that money to **generate other economic activity**.

Textbook costs also act as a significant financial barrier to students outside of tuition. Often direct costs of education above the cost of tuition are not factored in while budgeting for an education leaving students blindsided with unexpected costs. These costs can also vary wildly through an individual's degree making it quite hard to consistently budget. Due to the wildly variable cost of textbooks **students often seek emergency funding to deal with budget shortfalls**. While textbook costs vary among programs, *Macleans* in 2017²⁸ studied the issue reporting average yearly textbook costs for Alberta post secondaries as follows:

- University of Lethbridge - \$915.67 (3rd highest nationally)
- University of Alberta - \$875.44 (13th highest nationally)
- University of Calgary - \$773.46

Eliminating or **minimizing these costs could help reduce stress on emergency funding** sources from the government.

OE/OER can generate savings for university libraries. Across the province libraries at post-secondary institutions purchase copies of course textbooks to loan to students who cannot afford textbooks. For example, a common first year textbook in an introductory course may need to be purchased at a dozen or more institutions with some institutions purchasing multiple copies. Having a provincial OE/OER strategy with funding through OEAB could target development of **open alternatives for these courses can produce significant savings**, not only for students but also for libraries.

Finally, funding OE/OER and OEAB would **prevent the capital flight that occurs under the existing model** where commercial textbooks are used. While university bookstores generate some funds from the sale of textbooks, textbooks can also be purchased through foreign retailers such as Amazon, which generate little benefit to the province. More importantly, the textbook market is dominated by five companies: Pearson, Scholastic, McGraw-Hill, Cengage and Houghton Mifflin Harcourt. The profits on these textbooks, which can range from 20-25%,²⁹ are captured by foreign publishers with no presence in Alberta. If we conservatively estimate that 100,000 post-secondary students in province are buying \$750 worth of textbooks each year (as not all students purchase all their textbooks because of the cost), then **foreign publishers would be extracting at least \$15 million in textbook profits from the province each year**.

When considered holistically, it is clear that an OE/OER strategy that includes funding from **OEAB has the opportunity to be a net economic benefit to the province**.

²⁸ Mark Brown. 2017. "What Canadian University Students can Expect to Pay for Books." *Macleans*. 4 Dec. 2017. <https://www.macleans.ca/education/most-expensive-books/>

²⁹ Jonathan Helliwell, as quote in, David Kestenbaum. 2016. "Why Textbook Prices Keep Climbing." *Planet Money: NPR Radio*. <https://www.npr.org/transcripts/494266135>

c. What are the opportunities for the system to decrease costs?

The ability of a provincial OE/OER strategy with a funding and coordinating body (OEAB) has a documented ability to produce cost savings. Previous experience with ABOER in Alberta demonstrates this fact.³⁰ The entire cost of ABOER was a \$1.76 million expenditure over three years;³¹ however, it was **projected to result in savings of \$5.5 million over five years.**³² While we do not have complete data because the initiative was wound down, even using existing information it would suggest a three to one return on investment.

Information from other jurisdictions also highlights the ability of OE/OER to generate savings. BCcampus, Canada's longest running and most developed OE/OER initiative has generated estimated **savings for BC students and families in excess of \$20 million in eight years.**³³ Furthermore, this data is based on only known adoptions, and thus unreported adoptions may be generating additional savings. It is also important to highlight that these savings do not only benefit larger institutions in the province. For example, the top five adopting institutions for number of adoptions are: Douglas College, Kwantlen Polytechnic University (KPU), Langara College, University of British Columbia (UBC) and Thompson Rivers University (TRU). The top five adopting institutions by student savings are: UBC, Douglas College, TRU, Langara College and Simon Fraser University.³⁴ This underscores that a **provincial strategy and approach can benefit all institutions across the province.** Coordination and funding for OE/OER offers benefits to both large institutions such as the University of Alberta, but also to mid sized and smaller institutions such as Mount Royal University or Kings University, and even colleges such as Red Deer College.

Ontario also documents similar benefits of cost savings. eCampus Ontario notes **total student savings in the province are over \$10 million.**³⁵ Furthermore it notes that OER savings have benefitted over 100,000 learners with average **savings of over \$100 per learner.** For each educator using provincial OER funding, the average **savings per educator are over \$53,000.**³⁶ Other jurisdictions also highlight the benefits of investing in OE/OER. Open Oregon, Oregon's OE/OER state body estimates that for **each dollar spent students save \$14.**³⁷ When

³⁰ ABOER. N.d. "Alberta OER - Home."

<https://web.archive.org/web/20200423034208/http://albertaoer.com/>

³¹ ABOER. N.d. "Provincial Initiative."

<https://web.archive.org/web/20200218195126/http://albertaoer.com/content/aboer-projects>

³² ABOER. N.d. "Alberta OER - Home."

<https://web.archive.org/web/20200423034208/http://albertaoer.com/>

³³ BCcampus. 2020. "Open Textbook Stats."

<https://open.bccampus.ca/advocate-for-open-education/open-textbook-stats/>

³⁴ BCcampus. 2020. "Open Textbook Stats."

<https://open.bccampus.ca/advocate-for-open-education/open-textbook-stats/>

³⁵ eCampus Ontario. N.d. "Impact." <https://openlibrary.ecampusontario.ca/impact/>

³⁶ eCampus Ontario. N.d. "Impact." <https://openlibrary.ecampusontario.ca/impact/>

³⁷ Open Oregon. 2019. "Continuing Savings from Past OER Grants."

<https://openoregon.org/continuing-savings-from-past-oer-grants/>

considering cost savings and the future of post secondary education in Alberta, it **is unclear how many other types of investment can generate a 1400% return on investment.**

d. What are the opportunities to remove red tape for post-secondary institutions, students and researchers?

A strategic plan for increasing OE/OER development and use across the province, which includes funding and coordination from OEAB, will help **reduce red-tape and potential duplication for both students and universities.** Greater availability of openly licensed learning materials will **enable students to easily acquire learning materials** whether on campus or remotely. OEAB can maintain a central repository, and professors can easily provide links or email copies of materials directly to students.

More importantly, having a central funding and coordinating body, OEAB, can ensure the best value for OE/OER efforts and **eliminate the potential for duplication** among various post-secondary institutions. Leaving institutions to develop their own initiatives is a poor model. While some Alberta post-secondary institutions have created OE/OER efforts since the defunding of ABOER, the sustainability of such approaches is unclear. For example, while the University of Alberta offered grants in 2018/19 and 2019/20, the program has since ended.³⁸ If the largest post-secondary in the province is unable to sustain an OER program, how can smaller institutions be expected to deliver their own programs?

Central funding also offers the benefit of coordination. By having a provincial entity, it can be ensured that work is not duplicated. For example, it would make no sense to have faculty and students at the University of Lethbridge develop an introductory textbook for physics with relevant Alberta examples, while the University of Calgary spent limited resources developing the same materials. Furthermore, having a **central coordinating body would allow development of targeted resources which would have the highest impact** (courses with the largest number of students and/or courses with the most expensive materials).

4. Strengthening post-secondary participation rates and accommodating growing enrolment

a. Why do you think post-secondary participation in Alberta is lower than other provinces, despite lower tuition costs?

The cost of educational materials including **textbooks represent a hidden cost of education.** While tuition costs may be lower, if ancillary costs such as textbooks are not factored into the overall cost calculation than the total cost is underestimated.

³⁸ University of Alberta. 2020. "University of Alberta Open Educational Resources (OER) Grant." <https://www.ualberta.ca/centre-for-teaching-and-learning/grants/oer/index.html>

In contrast, British Columbia, with a well established provincial OER program and ongoing leadership from BCcampus is able to highlight the cost effectiveness of its post-secondary programs. KPU notes that it has **over 800 courses without textbook costs**. More importantly, it has developed several degrees, diplomas and certificates that are branded as “ZTC” (Zero Textbook Cost) programs.³⁹ In a competitive post-secondary environment these **ZTC programs offer a distinct advantage**, particularly for smaller and traditionally lower profile institutions. As noted previously KPU is a major adopter of BCcampus materials, highlighting the importance of having a central body, such as OEAB, to coordinate and fund across the province. Indeed, KPU is not alone as the on post-secondary offering ZTC programs in BC with both TRU and the Justice Institute of British Columbia also having at least one ZTC program.⁴⁰

b. What are some of the unique needs that are faced by Indigenous students? Please outline strategies that could be used to increase post-secondary participation among this group.

Open Educational Resources provide a unique opportunity to tailor information directly to the contexts of the course and students. With the majority of major publishers being situated in the United States much of the information is centered on the American context. Through a transition to OERs professors are able to **centre the Alberta context**, included in that is the Indigenous context. Many of the traditional textbooks do not contain any information on Indigenous histories, contexts, or knowledge, leading to a feeling that Indigenous students and Indigeneity is not valued in the post secondary landscape. By providing the **ability to insert Indigenous contexts or critiques into the education material** more Indigenous students will see themselves reflected in the knowledge being taught, possibly leading to increased participation.

c. What are some of the unique needs that are faced by rural students? Please outline strategies that could be used to increase post-secondary participation among this group.

Rural students often face additional barriers to accessing textbooks; these barriers have been exacerbated due to the Covid-19 pandemic. One major barrier has been the additional costs and time required to ship textbooks to rural students. In the Fall 2020 academic term there has been an impact on rural students especially as the added pressure on the post service has led to students not receiving their course materials until after their final exams in consolidated courses. **OERs are typically housed online and would not have been impacted by distribution times.**

It is also important to note that OE/OER is not limited to just textbooks. OER can be in any format - text, audio, image, video, interactive media, etc.. However, OER are almost always developed digitally. Because these resources are born digital they can be easily used in online education or made available to remote students via the internet. The greater accessibility and

³⁹ Kwantlen Polytechnic University. 2020. “ZTC: Zero Textbook Cost.” <https://www.kpu.ca/open/ztc>

⁴⁰ BCcampus. N.d. “Zero Textbook Cost (ZTC) Programs.” <https://bccampus.ca/projects/open-education/zed-cred-z-degrees/>

easier distribution of all openly licensed materials will ensure that remote/online students can have greater educational parity with face to face/on campus students.

d. How can technology and remote learning be leveraged to accommodate growing enrolment?

OE/OER are particularly **well suited for remote and distance learning**. Traditional textbooks, central to many undergraduate courses, may not be available in electronic formats. In advance of the Fall 2020 term at the University of Alberta, Collection Strategies Unit Librarian, Sarah Polkinhorne noted four barriers to providing books in online forms:

- Print books may not have been published as ebooks
- Books may be published as ebooks that cannot be collected by libraries
- Books may be available to some libraries, but not others
- Ebooks may only be available in large bundles, not as individual books⁴¹

None of these barriers are present in the case of OE/OER, which can always be copied and distributed because of their open licensing status. Furthermore, whether in online or traditional face to face environments, the use of OE/OER ensures that **every student, provided they have an internet connection, can access the material**. Furthermore, students can also copy, retain and modify OE/OER content, giving students the **ability to “co-create” academic materials and gain marketable skills**. This distinction with commercial materials is important, as new publishing models (“inclusive access”⁴²) provide students access to some materials for only limited terms. To have a knowledgeable workforce, **Alberta is poorly served by the evolving model of commercial textbooks** where students only purchase a license to access materials for a limited term. Furthermore, these “inclusive access” models raise potential privacy concerns.⁴³

As stated above, OERs are also not limited to a textbook format. OERs can take the form of audio materials, films, interactive media, and images. The flexibility of open licensing is vital when looking towards growing enrollment through remote learning. OERs are born digitally and are better equipped to meet the needs of remote learners than traditional textbooks.

e. If you are or were a student at an Albertan post-secondary institution, what are some of the challenges you faced that affected your ability to participate, complete your credential and/or thrive in the transition to the workforce?

Participation

⁴¹ Sarah Polkinhorne. 2020. “Library Remotely: Starting Points for eBooks and Teaching.” *University of Alberta Library News Blog*.

<https://news.library.ualberta.ca/blog/2020/07/20/library-remotely-starting-points-for-ebooks-and-teaching/>

⁴² SPARC. 2020. “Decoding ‘Inclusive Access.’”

<https://sparcopen.org/our-work/decoding-inclusive-access/>

⁴³ Doug Lederman. 2019. “The Publishers’ Move to Capture Campus Data.”

<https://www.insidehighered.com/digital-learning/article/2019/04/29/report-gauges-potential-risks-scholars-and-universities-if>

94% of students at the University of Alberta have said they have used alternative methods to access course materials. The immense cost barrier to traditionally published textbooks lead students to drop courses or in extreme cases go without food to recuperate costs. Similarly 88% of students say that the cost of materials has impacted their success. This direct impact on participation and success would be directly mitigated by the incorporation of OE/OERs as these **materials typically have a significantly reduced cost or no cost.**

Transition

A lack of marketable soft skills has been consistent criticism of recent graduates of Alberta post secondary institutions. Criticisms have also been levied about graduates lacking specific understanding of the Alberta context or not having direct experience with Albertan issues. Both of these criticisms can be dealt with through the incorporation of OER or other OE initiatives. OER provide the opportunity to better tailor course materials to the direct context which the course is being taught, allowing students to better translate their work in the classroom directly to their work post graduation. Similarly the co-creation of OER between students and staff facilitate the development of soft skills and an understanding of real world context, **allowing students to better transition into the workforce.**

5. Commercialization of research

e. What else could strengthen research excellence and accelerate the translation of knowledge into advancements in Alberta?

While traditional university technology transfer mechanisms such as patents have a role to play in knowledge translation, OE/OER should not be ignored as a means to **accelerate the flows of knowledge from post-secondaries to broader society.** At first glance giving knowledge away for free may seem the opposite of coherent innovation strategy, but consider that IBM, a global leader in innovation and patenting, also gives away (or more accurately does not assert its exclusionary rights) tens of thousands of patents in support of open innovation.⁴⁴ Funding OE/OER, particularly Alberta based materials, can **benefit business, not for profits and citizens across Alberta.** Unlike research outputs (e.g. journal articles) which are written for experts within a specific audience, OE/OER materials tend to cover teaching and learning materials, and thus are more accessible to a broader share of the population.

Several open license types allow for commercialization. As such if there was an open educational resource produced in Alberta that a faculty member/the college or university did not want to undertake potential commercial exploitation of, a business could commercialize this material (again provided the license did not restrict commercialization). Open licensing also ensures that materials can be used and adapted by community groups and not-for-profits. For

⁴⁴ IBM. 2020. "IBM Joins LOT Network in Major Step to Promote and Protect Open Innovation." <https://newsroom.ibm.com/2020-01-14-IBM-Joins-LOT-Network-in-Major-Step-to-Promote-and-Protect-Open-Innovation>

example OER funded by the University of Alberta's previously offered OER grant demonstrate such potential. One project funded a community developed educational package - thus enabling not only better learning in the dentistry program for students, but the four booklets and workshop materials are used in communities across Alberta. In another project funding for copyright resources to be used in a graduate classroom have been made available to anyone, and now other post secondary institutions are using these Alberta developed resources.⁴⁵

More broadly any resource produced by OEAB under an OE/OER strategy would be available to any Albertan. It is only logical that if we are encouraging Alberta's educators and post-secondary institutions to be leaders in teaching and learning, that the benefits and outcomes of this work be shared with all Albertans. This move would help break down potential barriers to accessing knowledge.

7. Post-secondary institutions' role in a world-class research and innovation ecosystem

a. When we say research and innovation ecosystem, what comes to mind when thinking of your experience with Alberta's post-secondary institutions?

Alberta is a relatively closed ecosystem in terms of research and innovation. This is not to say that there is a lack of research and innovation happening in Alberta, as the opposite is true. Alberta is a closed system as the research and innovation taking place in Alberta tends to work along separate axes. By opening up the ecosystem and facilitating a more direct interaction with research being produced at Albertan institutions than the cycles of innovation can become tighter and the reciprocal relationship between research and innovation can flourish.

d. How can Alberta's post-secondary institutions broaden their participation in the innovation ecosystem?

Innovation happens most effectively when new people, new ideas, and new structures are put in place to challenge the status quo. When research and knowledge isn't accessible to a broader population than new ideas are often lost before they can happen. In order to effectively leverage the research and innovation happening at post secondary institutions with the entrepreneurial spirit of Albertans, open access to knowledge is essential. Open research allows for tighter cycles of innovation, providing cutting edge ideas and research to the overall public allowing for Alberta to tie its state of the art research with the commercial or public sector. By opening up research and knowledge it also brings forward opportunities for more diverse voices and ideas to come to the table. Unprecedented cross sector and crossdemograpgich collaboration, opens up meaningful opportunities for innovation and strengthens the role of albertan universities in shaping the future of the province.

⁴⁵ University of Alberta. 2020. "OER Grant Projects."
<https://www.ualberta.ca/centre-for-teaching-and-learning/grants/oer/grants-projects.html>

e. What role should the government play in fostering post-secondary institution participation in the ecosystem?

The various post secondary institutions across Alberta have unique areas of research which they excel with. Building strong provincial infrastructure for research cross institutional collaboration can be facilitated. Organizations like BCcampus, eCampus Ontario, and Alberta's own Open Education Alberta help publish research in open formats allowing for better collaboration and access to knowledge produced by post secondary research. By facilitating the collaboration institutions are able to reduce duplication of labour and leverage the expertise they have in order to better achieve their mandate. By pursuing a centrally administered provincial Open Education organization, e.g. OEAB, the benefits of OE/OER can best be realized.

Conclusion and Appendix I (re Implementation)

As demonstrated in this submission, an OE/OER strategy with a coordinating and funding body provides numerous potential benefits and addresses many of the challenges facing Alberta's post secondary sector. While this approach, on its own, does not solve all of the issues, it must strongly be considered as part of the overall solution. While reducing inefficiencies in the current system appears to be a focus, excellence in post secondary education cannot be achieved by reductions alone and requires strategic investment. An OE/OER strategy and creation of OEAB is a forward looking, innovative, competitive and cost effective investment with demonstrable benefits for Alberta's students, their families, and the province as a whole.

We recognize that questions of implementation and governance of the strategy and OEAB have not been addressed in complete detail in this proposal. However, Alberta need not 'reinvent the wheel' in this regard. ABOER serves as a previous model, and there are also readily available provincial comparators (BCcampus and eCampus Ontario). In particular, the BCcampus model should be strongly considered, given that it is internationally recognized as a leader in this regard. Our colleagues at BCcampus have generously provided the 2010 document "*BCcampus Governance Project: Discussion Paper on BCcampus Governance Framework*" which is included as Appendix I.

Finally, if there is need for clarification of any of the points herein, or if McKinsey would like to further discuss this submission both of us would be happy to make ourselves available:

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