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# Leveraging OER and Open Pedagogy to Promote EDI in the Classroom

Sam Cheng

Sheridan College, [am.cheng@sheridancollege.ca](mailto:am.cheng@sheridancollege.ca)

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# CAPSTONE PROJECT

OPEN EDUCATION LEADERSHIP PROGRAM



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## Leveraging OER and Open Pedagogy to Promote EDI in the Classroom

Sam Cheng  
Sheridan College

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Land acknowledgement:
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I (Sam Cheng, the author of this work) am an immigrant settler currently residing in the unceded territory of the Mississaugas of the Credit First Nations, Anishinaabe Nation, Huron-Wendat, and the Haudenosaunee Confederacy (Oakville, Ontario in Canada). I am grateful for the opportunity to be working on this land.

**Positionality statement:**

I am a heterosexual, cis-gender woman of Chinese ethnicity. I grew up in a low-income immigrant family, and I am the first person from my family to obtain a master's degree. My positionality likely influenced this work to some extent. I appreciate feedback that can help me improve upon this paper ([sam.cheng@sheridancollege.ca](mailto:sam.cheng@sheridancollege.ca)).

## Introduction and key points

This research paper explores how open educational resources (OER) and open pedagogy can help promote equity, diversity, and inclusion (EDI) in the classroom. The author is in the 2022-2023 SPARC Open Education Leadership Program, and this paper is her capstone project for the program.

The author reviewed scholarly articles, grey literature, reports, OER and recorded presentations to identify key themes on the topic (see [10. Appendix](#) for the search strategies). Also, the author was interested in identifying examples of how educators address EDI in OER and open pedagogy. Most of these sources are written or presented by North American authors in the English language, and some of the statistics included are Canadian based. The research paper assumes that readers are familiar with OER<sup>1</sup> and addresses the following questions:

1. [Who can benefit from OER?](#)
2. [Why should educators consider adapting or creating OER through an EDI lens?](#)
3. [How can OER and open pedagogy improve EDI for equity deserving students and support learning for all students?](#)
4. [When does open not serve students or a community?](#)
5. [What is decolonizing and Indigenizing education in the context of open?](#)

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<sup>1</sup> To learn more about OER, visit the "[Understanding OER](#)" online module by State University of New York.

This paper offers a general overview given the broad range of the topics covered. To help readers understand the issues included, this paper highlights selected examples where faculty members improved their OER through an EDI lens and implemented open pedagogy in their classrooms.

To encourage readers to explore OER and open pedagogy in their own contexts, this paper ends with:

6. [Considerations for faculty and academic leaders](#)
7. [Concluding thoughts related to outstanding questions for further exploration](#)
8. [Additional resources](#)
9. [References of sources cited](#)

Here are the key points identified from the sources reviewed:

- OER are openly licensed teaching, learning and research resources that are free of cost for students to access. Studies have shown that OER have a positive impact on the ability of disadvantaged students to enroll and persist in their courses at post-secondary institutions.
- In recent discussions, the emphasis on using OER to promote equity has shifted from just cost savings to addressing the larger issue of decolonizing education and promoting social justice for marginalized students.
- Unexamined or unchallenged perspectives in the dominant discourse,<sup>2</sup> which are prevalent in both commercial textbooks and OER, “pose the risk of continuing to uplift the privileged and silence the oppressed” ([Lapum et al., 2022](#)).
- OER allow educators to make an authentic difference for their students – the open licensing, an integral characteristic of OER, allows educators to adapt, remix and create content that is responsive and more aligned with the learning needs, cultural backgrounds, and prior experiences of their students.
- Research articles suggest that when students can relate to course materials and see themselves represented in them, their engagement and learning in the classroom increase. For example, [Nusbaum \(2020\)](#) used an online crowd-sourcing method to make a psychology open textbook more diverse and found that first-generation students who used the modified material reported a better sense of belonging to their campus.

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<sup>2</sup> In the context of EDI, the dominant discourse generally refers to the prevailing perspectives, values and attitudes that are based on Eurocentric or colonial ideologies.

- Open pedagogy is an approach to teaching and learning that enables students to collaborate with their peers, create OER and share their own perspectives on the course topics. This approach can help create a more diverse and inclusive curriculum that reflects the perspectives and experiences of a wider range of students.
- OER and open pedagogy provide opportunities for students to explore materials by authors from underrepresented communities, thereby helping students learn from perspectives that they may not have encountered otherwise.
- Educators should be aware of situations where open practices are not appropriate for their students or when to refrain from using information about a marginalized community.

## 1. Who can benefit from OER?

Data demonstrate that students from disadvantaged backgrounds, such as those who come from low-income families, racial or ethnic minorities, or those who have disabilities, tend to have less access to post-secondary education compared to their more privileged peers. Cataldi et al. mentioned that first-generation students are more than twice as likely to drop out of college compared to their peers with college-educated parents (as cited in [Nusbaum, 2020](#)). A 2012-2017 longitudinal study in the US showed that only 23% of students who reported a disability completed their degrees (as cited in [Postsecondary National Policy Institute, 2022](#)). The [2021 Census from Statistics Canada \(2023\)](#) showed that racialized people, particularly individuals of Chinese, South Asian and West Asian backgrounds, have high educational attainment. However, statistics demonstrate that equitable access to higher education varies across different visible minority groups. For example, 15.8% of Black children of Canadian-born parent had a bachelor's degree or higher, compared with 46.3% of Black children of African immigrants ([Statistics Canada, 2023](#)). One study showed that Black students in Toronto high schools were more often streamed into applied instead of academic programs, in comparison to white and other racialized students, which negatively affect their ability to enter post-secondary education ([James & Turner, 2017](#)). Only 53% of the Indigenous population in Ontario has some form of post-secondary education ([Canadian Federation of Students-Ontario, 2021](#)).

There are systemic factors that impact the ability of disadvantaged individuals to enter post-secondary education. These issues are complex, and many are outside the ability of post-secondary institutions to address in a significant way. For marginalized students who are already in colleges or universities, reducing the cost barrier to education can make a positive difference in their ability to persist in and complete their academic programs.

Several studies suggest that the costs of textbooks and course materials have impacted students' academic success. It is estimated that the average price of commercial textbooks is between \$80 USD and \$150 USD, with some textbooks costing as much as \$400 USD ([Hansen, 2022](#)). According to a [2016 survey](#) conducted by the University of Guelph, a majority of students surveyed reported not buying a required textbook at some point of their program due to cost ([Versluis et al., 2017](#)). In another study, 42.8% of students surveyed reported that they took fewer courses due to textbook cost, and 35.6% commented that their grades suffered due to not purchasing the required textbook ([Florida Virtual Campus, 2018](#)). These extra financial stressors and their impact on education make cost free material appealing to students and educators.

OER are teaching, learning and research resources that are free of cost for anyone to access, use and share. Also, these resources are openly licensed, allowing the content to be adapted, modified, and remixed in many cases. One of the key benefits of OER is cost savings for students. One large-scale study indicates that OER can make a positive difference on students who are receiving financial aid, enabling them to enroll in and complete their courses ([Colvard et al., 2018](#)). The study also indicates that OER can significantly improve the academic performance and course completion rate of students from visible minority backgrounds. [Stanberry \(2022\)](#) proposes that the use of OER can be a tangible way for faculty to improve equity for their students.

While cost savings remain important, recent OER discussions have shifted to how educators can create content and activities that focus on the learning interests and cultural backgrounds of marginalized students. [Okuno \(2018\)](#) stated that "equity isn't for all. Equity is for those farthest from justice." Reducing education cost via OER is a starting point to level the playing field for marginalized students. However, free access alone is insufficient to help students get interested in the course topics and successfully complete a course ([West, 2018](#)).

## 2. Why should educators consider adapting or creating OER through an EDI lens?

### 2.1 Lack of inclusiveness and diverse perspectives in existing educational materials

Currently, the lack of diversity in representation and authorship is a problem in both commercial textbooks and OER. Based on a recent study by [Thiede \(2019\)](#), only 4% of commercial textbook authors are of a visible minority background. OER perform somewhat better in terms of racial

diversity – 10% of OER authors are of a visible minority background ([Thiede, 2019](#)). [Nusbaum \(2020\)](#) highlighted several studies that suggest a lack of inclusiveness and diversity in commercial sources:

- Ceglie and Olivares (2012) found that BIPOC individuals tend not to be depicted as scientists
- Höhne and Heerdegen (2018) noticed LGBTQ2S+ issues are frequently omitted in history text
- [Myerson et al. \(2007\)](#) noted that queer people are ‘othered’ in human sexuality books
- [Louie and Wilkes \(2018\)](#) observed that images of light-skinned individuals are overrepresented in medical books.

Looking at business textbooks in particular, Crumpton pointed out that examples of Black individuals in entertainment are included while Black entrepreneurs are omitted (as mentioned in [Bradshaw et al., 2021](#)).

While there appears to be less research on the inclusivity of existing OER, literature suggests that more work needs to be done to improve OER from an EDI lens. Educational materials tend to portray perspectives and experiences as universal while omitting those of Indigenous people and marginalized groups. [Weeks \(2022\)](#) described how two open textbooks that cover LGBTQ2S+ issues rely on traditional schemes to present the content and miss the opportunity to redesign “knowledge organization and legitimization structures.” Weeks provided an OER example to contrast: “[Mapping the Gay Guides](#)” project uses an interactive map and vignettes for users to explore how queer life has changed in the context of political, economic, and cultural landscapes. Also, [Biddle et al. \(2022\)](#) found that commercial textbooks in psychology perform slightly better on equitable gender representation in comparison to OER in the same subject.

Possibly due to sociopolitical and economic factors, commercial textbooks used in secondary and post-secondary education may be unable to decolonize the Eurocentric canon of knowledge and include more culturally responsive and diverse perspectives. A New York Times analysis discovered that history textbooks in California and Texas differ in their treatment of topics such as immigration, LGBTQ2S+, and the experiences of African Americans, despite the textbooks having the same publishers ([Goldstein, 2020](#)). Also, [Jacob \(2022\)](#) stated that the economics of publishing necessitates a “one-size-fits-all” model that can cater to a broader audience, making it unfeasible to produce materials that are tailored towards specific

demographics such as local communities, minority groups or those with unique experiences. “Why risk a discussion of queer issues in sexual education if you know that fundamentalist instructors will cease to use your book and cost you money” ([Nusbaum, 2020](#)). Also, the model of inclusive or equitable access to textbooks that publishers are offering institutions still requires students to pay a top-up fee in their tuition. This type of commercial package lowers textbook prices for students partly due to economy of scale for publishers but is not related to promoting equity and diverse perspectives in education.

## 2.2 What faculty can do to improve OER with an EDI focus

OER are not inherently inclusive, so educators need to make intentional efforts to critique current viewpoints presented in their disciplines and to make their OER more inclusive for marginalized students. OER development that neglects to examine dominant narratives and consider social justice implications poses a risk of perpetuating inequities ([Hollich, 2022](#); [Lapum et al., 2022](#)). Building on the previous works of other scholars including Fraser, [Lambert \(2018\)](#) suggested reframing open education to centre on the benefit and empowerment of non-privileged learners. Lambert provided examples of open education practices that support the three principles of social justice coined by Fraser:

1. Redistributive Justice – Free educational resources for learners who cannot afford them and could be excluded from education due to the lack of learning materials.
2. Recognitive Justice - Inclusion of diversity in curriculum. For example, images, case studies, and knowledge of marginalized individuals or underrepresented groups.
3. Representational Justice – Self-determination for marginalised people and groups to speak for themselves. For example, content about queer experiences by queer identifying people.

To bring underrepresented perspectives to the surface in higher education for different disciplines, there is a need to create more OER that are based on recognitive and representational justice principles. For example, there are free and paid queer-inclusive educator resources but most of them are copyright protected; in contrast, there are openly licensed resources are generally not queer-inclusive ([Prescott, 2019](#)). Only 19.8% of LGBTQ2s+ students surveyed reported that they were taught positive representations of LGBTQ2s+ people, history and events ([Kosciw et al., 2018](#)). When an OER is adapted or created, an educator should ask themselves “whose voice is missing” ([Robertson, 2020](#)) and “whose knowledge is being foregrounded and whose view of reality is being entrenched” ([Adam](#)



[et al., 2019](#)) in the material? Whether educators are using OER or commercial materials, it is helpful to ask and reflect on these questions to avoid perpetuating biased or hegemonic perspectives for students in the classroom and to create space for students to see their experiences reflected in the curricula and the fields of their study.

Furthermore, developers of OER need to consider creating an accessible learning experience in a more holistic way for students with disabilities. In their systematic review of literature related to accessibility in OER and open educational practices (OEP), [Zhang et al. \(2020\)](#) suggested that accessibility is still in its infancy within OER. The authors recommended that these resources should focus on four accessibility principles – perceivable, operable, understandable and robust. While it is more common for OER to be readily shared in formats that can be adapted for accessibility, in comparison to commercial sources ([Thomas, 2018](#)), there appears to be a limited number of fully accessible OER ([Zhang et al., 2020](#)). Literature related to OER development focuses on system design to increase accessibility and usability for students with disabilities while some authors describe personalised learning experiences based on the ‘type of disability’ ([Zhang et al., 2020](#)).

For example, [Navarrete & Luján-Mora \(2018\)](#) developed an OER website that aims to develop an experience that “matches the user’s profile with regard to their sensory abilities, cognitive faculties and their requirements of functionality control, display layout and language.” This makes their website more inclusive for students of different abilities. Additionally, OER designers should check that their resources are compatible across different assistive technologies ([Santiago, 2021](#)). Educators who are adapting or creating OER should consider consulting with accessibility experts at their institutions for guidance on different ways to accommodate and enrich the learning experiences for students with disabilities.

Applying an intersectional lens is a consideration that many educators overlook when integrating inclusivity and diversity in their OER. Intersectionality recognizes that individuals have multiple and diverse identities (e.g., race, gender, sexual orientation, socio-economic status, dis/ability, beliefs, and worldview) that combine in unique ways to shape their distinct perspectives as well as their experiences with oppression and privilege ([Ontario Human Rights Commission, 2001](#)). In a study where nursing students reviewed multiple OER, students noted that the materials often concentrate on a single element of diversity ([Lapum et al., 2022](#)). A student in the study remarked “being of mixed race, ethnicity, and having a disability. I didn't see that, representing it always seemed like it was either, you were one or another” ([Lapum et al., 2022](#)). Hollie mentioned that white students from disadvantaged socio-economic backgrounds

can also benefit from a culturally responsive approach to education (as cited in [Will & Najarro, 2022](#)). An intersectional lens may also help avoid portraying individuals in a one-dimensional, stereotypical way based on their race, gender, background, etc. By taking an intersectional approach, educators can identify and address the unique needs and experiences of each student and create a curriculum and classroom culture that is more responsive and inclusive.

To avoid biases and identify missing viewpoints when adapting or creating OER, educators can consult with different colleagues and a campus or external group that has EDI expertise. In a faculty panel hosted by [Salmi & Caratini \(2021\)](#), Grewal said that they wanted to improve inclusivity in an open textbook used in their human biology course. As a faculty of colour, they had some ideas but not enough information about the LGBTQ2S+ community. With guidance from their college's Gender and Sexual Equity Task Force, Grewal created a survey with questions such as: How inclusive the OER is? How well do the images included reflect their student population? The survey also asked participants for suggestions on where in the book should LGBTQ2S+ identities and perspectives be more clearly added. Grewal received suggestions to add information on intersex representation, sex chromosomes, assistive reproductive technology, etc., as well as changing gendered pronouns to "they/them/theirs" and replacing the term "breastfeeding" with "nursing." Grewal replaced certain images with more inclusive and empowering ones in their OER. The faculty member also incorporated their own culture by adding an example of Indian spices in the section on phytochemicals.

### 3. How can OER and open pedagogy improve EDI for equity deserving students and support learning for all students?

#### 3.1 Open licensing as a tool to Support EDI

OER are shared with users under an open licence, such as a Creative Commons licence, that allows anyone to copy, use and share the material. In many cases, depending on the licence type, an OER can be modified, adapted, or remixed with content from another OER. Jacob mentioned that "openly licensed resources can be one way that educators, who are already putting a lot of effort into creating individualized resources, can work within this ecosystem to create resources that are broadly shareable and enable collaboration" (as cited in [Chung, 2022](#)). OER are one of the tools for educators to improve diverse representations, accessibility, and equity in their teaching.

As mentioned earlier, OER are not inherently better than commercial materials in terms of promoting EDI. However, the open licences of OER allow educators the flexibility to modify and improve the content and develop a broader network of likeminded educators that they can exchange ideas and collaborate with. “OER do present a good opportunity for diversification, due to the relatively simple nature of updating the content” ([Nusbaum, 2020](#)). For instance, an open textbook on Spanish can be modified to use or include “ellx,” which is a gender-neutral pronoun in Spanish ([Kosciw et al., 2018](#)). Another example provided by Bunag is students rewriting questions in a chemistry OER in a way that relates to their daily lives (e.g., calculating grams of nutrients in a child’s favorite fruit) (as mentioned in [Bradshaw et al., 2021](#)). Weller stated that educators do not always know where to start, so OER can provide a starting point for them to enhance the content and make it fit with their students (as mentioned in [Jacob et al., 2022](#)). If an instructor is uncertain about how or where to add examples relevant to other perspectives in their OER, that does not mean their work will never include these perspectives. The open licensing approach of OER allows instructors from other countries, cultures, and socioeconomic backgrounds to remix the content for their course’s needs ([Elder, 2019](#)). An educator can also update the content on the fly or over time to make it fit for their students after they have some experience using an OER with their class to understand what works, what does not work and what can be improved.

Educators who adapt or create OER should also be aware of fair use or fair dealing in copyright law so that they are able to make content choices that best meet their pedagogical needs and their students’ interests. Openly licensed and public domain materials are not always available for some topics. For instance, resources related to current events are often copyright protected. An OER might incorporate a mix of openly licensed, public domain and copyrighted materials. The [Code of Best Practices in Fair Use for Open Educational Resources](#), developed by several copyright experts at the American University Washington College of Law and NC State University, is a great resource to help educators understand and apply fair use when they want to use copyrighted material in their own OER. While there are some differences between US fair use doctrine and Canada’ fair dealing doctrine, the general principles and best practices outlined in the report are applicable to evaluating whether a use falls under fair dealing in Canada ([Craig, 2022](#)).

### 3.2 “Mirrors and windows” for student engagement

While student retention in post-secondary institutions is a multi-faceted issue, research points to students' sense of belonging to their campus community as an influential factor in their ability to persist and succeed in their academic programs. O’Keeffe and Davis et al. suggested that having a sense of belonging to the campus community is a key factor in student retention (as cited in [Nusbaum, 2020](#)). Murphy and Zirkel also found that a sense of belonging is predictive of achievement for students from a visible minority background (as cited in [Nusbaum, 2020](#)).

Several research articles suggest that being able to relate to the content and to see themselves reflected in the course materials may increase student learning and engagement in the classroom. [Rudine Sims Bishop \(1990\)](#) originated the concept of mirrors and windows to explain how readers see themselves in books. Bishop suggested that “curricula should offer students a window to lives and experiences different from theirs and hold up a mirror so they can see themselves reflected in the material” ([Prescott, 2019](#)). Fleming et al. showed that texts that help students use their existing cultural knowledge and that mirror their social contexts can reduce cognitive load as students learn information and can improve reading comprehension (as cited in [Armstrong, 2022](#)).

OER and open pedagogy, which will be explored in the next section of this paper, offer opportunities for instructors to create windows and mirrors for students to enhance their sense of connection in their courses and their understanding of different perspectives in their fields of study. One study demonstrated that students preferred the diverse reading list of Indigenous, Black and female writers in a cultural studies unit in comparison to the readings in their other units without diversified readings ([Lambert & Fadel, 2022](#)). Also, these students said that they could see that the points of view presented would assist them to be better teachers, nurses and counsellors ([Lambert & Fadel, 2022](#)). [Nusbaum \(2020\)](#) took an online crowd-sourcing approach to diversify a psychology open textbook and found that first-generation students who used the modified material reported a better sense of belonging in comparison to first-generation students who used the unedited material. In a study by [Lapum et al. \(2022\)](#) that examined students' perceptions of multiple nursing OER, some participants reported that the resources' integration of diversity promoted their engagement and learning. Some students remarked that it was the first time they saw diversity or certain parts of their identities reflected in a text. Moreover, students using diversified OER were encouraged to reflect on their own biases, which may affect their communication and interactions with different patients.

Inclusion of content that reflects students' backgrounds and experiences can help them feel recognized and validated, as these are often overlooked or marginalized in commercial sources. Representation allows students to visualize their potential for academic and professional success.

### 3.3 Promoting learner engagement through open pedagogy

Open education asks not just ‘what you teach with but how you teach’ ([Elder, 2019](#)). To encourage diverse perspectives and acknowledge cultural differences in the classroom, assessing "who gets to determine what knowledge is valuable" can be a valuable exercise ([Hodgkinson-Williams & Trotter, 2020](#)). Encouraging students to share their own unique backgrounds and viewpoints can be helpful, especially when they offer perspectives that differ from the ones presented in the traditional educational materials they encounter. “Faculty don’t [always] represent the diversity that our students do so the more we can put those questions on the students, rather than the faculty presenting it and asking them if it applies, the better our conversations will be” ([Ceciliano et al., 2021](#)). Giving students agency in their own learning process can be an effective strategy for learner engagement. This approach can be especially impactful for students from marginalized or underrepresented communities who may feel like their opinions are disregarded or overlooked.

Open pedagogy is a teaching practice that empowers students to actively construct knowledge instead of passively receiving it from their instructor or textbook ([DeRosa & Jhangiani, 2017](#)). Under this approach, students are encouraged to collaborate with their peers and share their work under an open license. Although open pedagogy shares similarities with other teaching theories like constructivism and transformative teaching, its unique feature is the open licensing of student work.<sup>3</sup> According to [Wiley \(2016\)](#), openly licensed student work may provide value not only to the students involved but also to their wider community. Scholarly literature and presentations have recognized open pedagogy as a valuable tool for promoting EDI in the classroom. Here are some examples of open pedagogy identified in the literature and presentations reviewed:

- In four courses related to environmental and social justice issues, [Bakermans et al. \(2022\)](#) used a social annotation tool called Perusall. Students were instructed to read

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<sup>3</sup> Post-secondary students generally own the copyright to their own work. However, if they wish, they can assign an open licence such as a Creative Commons licence to their work.

and annotate course materials, such as readings and videos, and to provide comments or questions on their peers' annotations. In a survey with these students about their experience with the tool, female identifying students reported that social annotations increased their knowledge and engagement with the content and their peers. Students of colour also appreciated being able to see how other students of colour approached the same concepts. The study found that social annotation tools encouraged participation from students who may not typically speak up in class and allowed them to share their perspectives. Additionally, the researchers suggested that social annotation tools can serve as an "entry point" for faculty who are new to open pedagogy and are looking for ways to implement changes in the classroom.

- In a social psychology course, [Jhangiani \(2017\)](#) created an assignment that required students to write multiple-choice questions based on the concepts covered each week. Throughout the semester, students incrementally wrote distractors and the correct answer for each question as well as peer-reviewing each other's work. Jhangiani reported that students steadily improved their questions and answers. They were "buoyed and motivated" when some of their questions were used in the course's three exams. This assignment scaffolded process-oriented and student-centered learning. Carroll mentioned that the way questions are written in textbooks can be confusing for some students who are minorities or from a different background than the textbook author (as cited in [Jacob et al., 2022](#)). Carroll also suggested that "if you can put the student in the scenario, they're going to understand it on a deeper level and they're going to get to the task of learning and working through the problem faster" (as cited in [Jacob et al., 2022](#)).
- In a statistics course, Kjeseth collaborated with their students to begin creating an antiracist curriculum that centered on Black voices (as mentioned in [Williams et al., 2021](#)). The curriculum will include revised assessments and rubrics as well as anti-racist principles for the ethical practice of statistics. Kjeseth mentioned that statistics by its very nature and its design carry racist biases and therefore, it is crucial to address and mitigate these biases. To guide the redesign of the curriculum for future learners, students consulted with sources such as Ivory Toldson's "Bad Statistics" and W.E.B. Du Bois's work. The faculty member also stated that it will be helpful to develop anti-racist principles for statistics practice, as there are currently no such guidelines available.

- For a global art history course, Professor Cash and psychology student Vrisha Sookraj collaborated on creating renewable assignments that aim to help students appreciate Caribbean art, which is an underrepresented culture in art history education ([Cash et al., 2022](#)). One of the assignments, based on the 54321 grounding technique for anxiety, asks students to observe an image for 30 seconds and comment on what they can see, touch, hear, smell, and taste. According to Sookraj, the assignment provides an immersive, sensory experience that helps students engage with Caribbean artwork, which is new to most of them. Professor Cash also noted that the assignment was sustainable and adaptable, as they reused it in a different course on African art and asked students to connect their sensory experiences with the theories they learned.
- In a cultural anthropology course, Bautista found that many of their Asian American students were not engaged with their textbook (as mentioned in [McCullough & Sebastian, 2021](#)). To address this, Bautista developed an assignment for their students to create ethnographies of Boston's historic Chinatown neighborhood. Students conducted interviews, made observations, took photographs, and created e-portfolios of their work, which were openly licensed. The resulting OER were used as course material for the next semester, and the assignment is repeated each semester to continue building a diverse collection of cultural perspectives.
- In an advanced seminar in criminal justice, students co-authored an OER titled "[Decolonization and Justice: An Introductory Overview](#)" ([Asadullah, 2022](#)). With the guidance of their professor, each student wrote a chapter exploring the concept of decolonization in various areas, such as law, policing, prison, court, mental health, transitional justice, and restorative justice. The OER highlights Indigenous legal traditions, courts, and approaches in many of these areas.

Open pedagogy requires a shift from being "a sage on the stage" to being "a guide on the side" ([Gumb et al., 2021](#)). [Maultsaid \(2022\)](#) shared their perspective on open pedagogy:

"The whole responsibility for inclusion does not rest with teachers. Although I am powerful, I can move away from being THE TEACHER, gathering students into a circle of belonging. Instead, I can be responsive to students. To me, being responsive means checking my biases, and (trying very hard to) accept the dynamic, imperfect, uncomfortable, ambiguous,

reciprocal situation that is teaching-and-learning. The students also have to be responsive to each other and to me so that we can learn together.”

OER and open pedagogy offer an opportunity to shift the power dynamics in the classroom and epistemic authority of knowledge in different fields, benefitting both students and educators. This shift can happen when students have opportunities to do the following: Critique existing knowledge; collaborate with peers who may be from diverse cultures and backgrounds; contribute their perspectives or amplify underrepresented voices; and invite others to continue their work.

#### 4. When does open not serve students or a community?

Open education practices can be uncomfortable and disorienting for teachers and students. [Singh \(2015\)](#) mentioned that “open is vulnerable, open to possibilities, to excitement. Open is also scary because... anyone can walk in.” [Pearce \(2022\)](#) found that students in her open pedagogy class engaged in deep learning but many experienced discomfort and anxiety. A few students said that they encountered conflicts with their preconceived notions and family members as they became more aware of structural discrimination and their roles within it. This learning format also caused some students to relive past traumatic experiences. Also, students who excel in traditional, structured classrooms struggled with the fluid, self-directed approach of open pedagogy ([Pearce, 2022](#)). Open pedagogy can be particularly challenging to students in their first or second year of post-secondary education who may not be ready for the cognitive and emotional demands with this form of course work.

There are benefits and drawbacks to the discomfort of open pedagogy’s transformative learning process, as mentioned by several educational experts. While this “liminal space” of discomfort can lead to positive change in one’s self-reflection and awareness of others’ perspectives ([Taylor & Baker, 2019](#)), it can also become a roadblock for learning or even cause harm to students from marginalized communities ([Pearce, 2022](#)). [Singh \(2015\)](#) and [Zheng \(2016\)](#) both mentioned that open or “brave space” tends to benefit those who are privileged. Zheng (2016) also criticized when marginalized students are put in a position to educate privileged students about injustice. To mitigate potential harms, it is important for students to be able to make content decisions based on their preference and comfort level; they should never be pressured to share their personal experiences ([Maultsaid, 2022](#); [Pearce, 2022](#)). Additionally, students should have the option of opting out of sharing their work openly ([Hare, 2015](#)). It is the



instructor's responsibility to closely monitor how students are responding in the classroom and make adjustment as needed to mitigate problems.

Providing equitable access to and support on using educational technology is crucial as it ensures that everyone can benefit from open educational practices. Students in disadvantaged communities still face the challenge of inadequate Internet and technology access ([Cullinan et al., 2021](#)). To help alleviate this problem, educators can consider providing physical copies and off-line access to the OER they are using. Also, infrastructure support and professional development opportunities are necessary for faculty to effectively use open or collaborative tools.

Indigenous scholars have mentioned that Indigenous knowledge and cultural expressions should not be approached with the same norms as for Western knowledge. Simpson mentioned that in Indigenous worldviews, "knowledge is holistic, cyclical, and dependent upon relationships and connections to living and non-living beings and entities" ([Lar-Son, 2022](#)). Indigenous knowledge and cultural expressions range from stories, folklore and songs, to dances, rituals, symbols, protocols and practices ([Oquamanam, 2017](#)). Copyright law does not protect Indigenous knowledge ([Canadian Federation of Library Association, 2018](#)). Also, Indigenous knowledge is intergenerational and governed by knowledge sharing protocols that differ from community to community ([Lar-Son, 2022](#)). Some knowledge cannot be shared outside of an Indigenous community ([Lar-Son, 2022](#)). It is imperative that Indigenous people have sovereignty over their "ways of being, knowing, and living" ([McCracken & Hogan, 2020](#); [Funk & Guthadjaka, 2020](#)).

If an educator is interested in integrating Indigenous knowledge in their OER, they should consult and work with the Indigenous community in which the knowledge is from and follow the community's protocols. [McCracken & Hogan \(2020\)](#) provided some recommendations in their report titled "Community First: Open Practices and Indigenous Knowledge." Western models of open licensing are not appropriate for Indigenous knowledge. When working with Indigenous communities, teachers could consider consulting Local Context's [Traditional Knowledge \(TK\) and Biocultural \(BC\) labels](#) to select an intellectual property label to use with a material. Much of what has been written about Indigenous peoples has been written by non-Indigenous authors, which is problematic. Educational institutions need to prioritize facilitating and supporting Indigenous authors and communities to tell their stories in their own way ([Funk & Guthadjaka, 2020](#)).

## 5. What is decolonizing and Indigenizing education in the context of open?

The Truth and Reconciliation Commission (TRC) of Canada stated that decolonizing education is an important part of reconciliation for Indigenous communities. “Decolonization refers to the process of deconstructing colonial ideologies of the superiority and privilege of Western thought and approaches” ([Antoine et al., 2018](#)). [Allan et al. \(2018\)](#) stated that the Western system of education prioritizes and rewards “knowing the right answer and being the expert.” In contrast, Indigenous knowledge recognizes that “there are multiple truths and no single clear answer, so as educators, we need to trust the unlearning and relearning process and be humble while engaging in the process.” ([Allan et al., 2018](#)).

To decolonize higher education is to:

- Rethink knowledge, production, application, and use
- Rethink, reframe and reconstruct curriculum
- Create space and resources for a dialogue
- Think about how students experience the university differently ([Salmi & Caratini, 2021](#))

While there are differences between decolonization and Indigenization, they are part and parcel to the journey of reconciliation. Decolonization “deconstructs the superiority associated with colonial ideologies to help create space for Indigenization,” whereas Indigenization “involves incorporating Indigenous sciences, maths, arts and other knowledge systems into our classrooms” ([Wolf et al., 2022](#)). Decolonizing course materials and pedagogy requires educators and students to question “whose voice is missing” ([Robertson, 2020](#)); the process encourages the inclusion of diverse perspectives in the curriculum. Indigenizing education, on the other hand, requires educators to work with Indigenous educators and communities to incorporate Indigenous knowledge into the curricula. Indigenization can be understood “as the act of braiding two distinct knowledge systems so that learners can come to understand and appreciate both” ([Antoine et al, 2018](#)). [Wolf et al. \(2022\)](#) described an example: Indigenous business practices, which prioritize personal communication and relationship building, are equally valid as Western norms, such as email correspondence. Such insights can be integrated into educational materials as relevant to the course subject matter.

Intentional implementation of open education practices, such as critically examining existing discourse, inviting underrepresented perspectives, fostering collaborations, and building community, can enhance cognitive and representational justice and offer opportunities for

decolonizing and Indigenizing higher education. However, a more nuanced approach is required for the inclusion of Indigenous voices and knowledge, one that operates within a framework of reciprocity, care, and humility ([McCracken & Hogan, 2020](#)). To learn more, refer to the section on [Additional Resources, Indigenous Knowledge](#) in this paper.

## 6. Considerations for faculty and academic leaders

The following section highlights various strategies and considerations identified in the aforementioned literature to help educators generate ideas and foster discussions on promoting EDI through OER and open pedagogy:

- Learn about anti-racist pedagogy and trauma-informed practice. Be aware of ethnocentrism and how this may impact your own biases in the classroom ([Andersen, 2022](#)).
- Review an OER you're interested in adopting through an EDI lens (refer to the [Additional Resources section](#)). Consider adapting the content to improve accessibility, remove biases, and align with your students' interests, backgrounds, and cultures.
- Be transparent about your [positionality](#) as well as the perspectives that are included and those that are not in your content, if you are adapting or creating an OER.
- Consult or collaborate with colleagues within and/or outside of your institution to enhance a diversity of perspectives in your course material
- Avoid “othering” your students. [Elder \(2019\)](#) suggested:
  - Never assume your audience’s gender and/or gender identity, ability, or sexual orientation.
  - Avoid calling the most commonly seen traits in your context “normal.”
  - Make materials accessible for all students at all times.
- Foster a safe classroom environment by:
  - Letting students make their own content decisions including whether or not to share their work outside of the classroom.
  - Validating student contributions that bring to the surface historically underrepresented viewpoints without tokenization ([Brown & Croft, 2020](#)).
  - Monitoring how students interact with each other to watch for any microaggressions and harmful statements. Practice “[calling in](#)” when appropriate ([Pearce, 2022](#)).

- Encouraging self-care for your students and practicing it for yourself ([Pearce, 2022](#)).
- Provide flexibility for students to demonstrate their knowledge and skills in ways that are more aligned with their individual learning styles and interests.
- Use Universal Design for Learning (UDL) principles and accessibility standards to develop educational materials that are accessible to different students
- Start small in your course redesign if you are new to open pedagogy and want to promote inclusivity and diverse perspectives in the classroom. Course design can be incremental or scaffolded. Here are some ideas to help you get started:
  - Replace certain images with more inclusive ones in an OER.
  - Try a social annotation tool like Perusall or Hypothesis with your course readings
  - Assign students to write Wikipedia articles on topics related to underrepresented individuals or communities
- Scaffold an open pedagogy assignment so that students will complete just one aspect of the project at a time, therefore increasing their skills and confidence over the course.

Academic leaders can play a crucial role in in OER and open pedagogy by supporting interested faculty through funding, resources, and commitment for open education initiatives. While OER are free for students to access, they require faculty labour and institutional commitment to develop and maintain these resources. One of the criticisms of OER and open pedagogy is the significant amount of invisible labour for faculty members that take on this work ([Hare, 2015](#)). To begin addressing this, academic leaders at universities can consider recognizing OER contributions in faculty promotion and tenure reviews. At colleges, faculty will benefit from supports such as course release time to curate and adapt/create OER. Many institutions offer an OER or open pedagogy grant program that provides faculty funding or course release time in addition to professional development and wrap-around support for their initiatives. For example, [Montgomery College](#) and [Kwantlen Polytechnic University](#) have an UN Sustainable Development Goals (SDG) open pedagogy fellowship program that promotes open educational practices that advance social justice.

## 7. Concluding thoughts

The open education movement has evolved from merely providing cost savings for students to promoting inclusion of diverse perspectives in the curricula and fostering students' active engagement in the classroom and their disciplinary communities. While educators cannot

address larger systemic issues related to inequity, they can positively impact their students by creating learning experiences that recognize and appreciate their diverse abilities, perspectives, and backgrounds. Open pedagogy emphasizes student agency, collaboration, and knowledge-sharing, providing opportunities for students to work on topics that affect them and their communities. Such work can help prepare students to become community-minded individuals who can address EDI concerns in their respective contexts.

Based on the author's survey of sources, there are more examples of open pedagogy with an EDI focus in general education and lower-level courses. Further exploration is necessary to examine how open pedagogy can be implemented across different disciplines, particularly in arts and STEM programs, where project-based learning is common. Approaches to open pedagogy may vary depending on the discipline. Researchers can also investigate how industry or disciplinary norms may influence open education practices.

Although there is a considerable amount of literature related to open pedagogy and culturally responsive teaching, the practice of adapting and creating OER through an EDI lens is still an emerging field for educators. Additional case studies of faculty and student experiences in this area will be helpful. OER advocates can consider how to encourage and facilitate opportunities for educators to share information and learn from each other's experiences in making OER more inclusive for their students. In Canada, BCcampus recently developed a document called "[Guiding Questions: Creating Equitable OER with Intention](#)," and they are working with educators to understand and apply the guiding principles in their OER development. In the US, organizations such as the Community College Consortium for OER (CCOER) and the Institute for the Study of Knowledge Management in Education (ISKME) have developed rubrics and programs to support educators and academic leaders interested in promoting EDI through open education practices at their institutions. Some of their resources are included in the [next section](#). Ongoing education and support will be essential to help faculty explore OER and open pedagogy to promote EDI for their students. More programs like the [Open for Antiracism Program](#) are needed to bring faculty from different institutions together so that they can learn and exchange ideas on how to apply anti-racism pedagogy in their classrooms.

## 8. Additional resources

These selected resources are intended to encourage readers to explore OER and open pedagogy in their own contexts.

### Accessibility and Universal Design for Learning (UDL)

- [Accessibility Toolkit \(2<sup>nd</sup> edition\)](#) – This comprehensive guide from BCcampus covers UDL principles and best practices on issues such as organizing content, images, links, formulas and multimedia
- [Inclusive Learning Design Handbook](#) – An OER to assist in creating adaptable and personalizable educational resources to accommodate a diversity of learning preferences and individual needs.
- [It's an IDEA \(Inclusion, Diversity, Equity and Accessibility\): Learning to Foster Authentic Inclusion for Accessibility Through VR Simulations](#)

### Copyright

- [Copyright Crash Course](#) – Developed by the University of Texas Libraries, this guide helps people who work in academic institutions to understand US copyright law.
- [Copyright Open Educational Resource for University Instructors and Staff](#) – This series of modules provides a general overview of Canadian copyright through seven short, self-directed instructional modules.
- [Code of Best Practices in Fair Use for Open Educational Resources](#) – This report outlines principles and considerations for applying fair use to reproduce copyrighted works in OER. The general principles outlined are applicable to Canadian fair dealing.

### Guides on promoting EDI through OER initiatives

- [Diversity, Equity, and Inclusion in OER](#) – From University of Maryland Global Campus Library, this guide includes articles, sites for finding inclusive images, videos, etc.
- [Leveraging Open Educational Resources to Advance Diversity, Equity, and Inclusion \(DEI\): A Guide for Campus Change Agents](#) – This report provides key strategies on areas such as communication, faculty development, data collection, and course redesign based on best practices related to DEI-OER implementation.
- [Library Outreach for Inclusive Open Education](#) – This toolkit is by Hillary Miller, who participated in the 2018-2019 SPARC Open Education Leadership Program. It includes

resources that can help librarians learn more about inclusive teaching and open education as well as suggestions for preparing and having conversations with faculty. This resource is also useful for faculty members who need guidance on ways that inclusion can be incorporated into adapting or authoring OER

- [Using Open Educational Resources to Promote Social Justice](#) – An open access text that covers a wide range of topics including theoretical critiques of OER, multidisciplinary examples of OER development with a social justice focus, and examinations of institutional support for OER development.

#### Indigenous knowledge in higher education

- [Community First: Open Practices and Indigenous Knowledge](#) – This paper examines how OER intersect with concepts of community ownership, Indigenous intellectual property rights, and cultural protocols. It also provides best practices for working with an Indigenous community on OER.
- [Indigenous Open Educational Resources: Respectfully Uplifting Community Voices](#) – Recorded presentation by Kayla Lar-Son, who is the Indigenous Programs and Services Librarian at the Xwi7xwa Library, UBC
- [Pulling Together: A guide for Indigenization of Post-Secondary Institutions](#) – A six-part series co-created by BCcampus that offers guidelines and suggestions for decolonizing and Indigenizing higher education.

#### Open pedagogy and inclusive pedagogy

- [Assignments for Faculty - Centering Non-dominant Groups](#) – These research-based assignments were designed for faculty use in order to help students approach information more critically. Most of the assignments involve promoting the perspectives of marginalized groups, highlighting contributions by individuals from these groups, raising awareness of social injustice, etc.
- [Cultivating Trauma-Informed Spaces in Education: Promising Practices Manual](#) – Created by Nicole Johnson and Ida Gianvito at Sheridan College, the Manual is intended to support increased awareness of trauma and the importance of Trauma-Informed Education in post-secondary education. It includes a framework, including macro, mezzo, and micro level organizational recommendations and pedagogical practices.

- [Culturally Responsive Teaching & Open Education: Resources Collected and Curated by the Open Community](#) - Resources contributed include articles, videos, conference presentations, podcasts, library guides, etc.
- [Open for Antiracism Program](#) – The program is co-led by CCCOER and College of the Canyons to help faculty better understand anti-racist teaching and to leverage open education practices to implement changes in their classrooms. The website includes a self-paced curriculum of the program, presentations from past program participants and other learning resources.
- [Open Pedagogy Notebook](#) – A community-based website with more information on open pedagogy and examples of classroom-tested practices and budding ideas
- [Office Hours: Trauma-informed Pedagogy in Open Education](#) – Recorded discussion on how trauma responses affect learning and identify opportunities for trauma-informed practices in teaching, as well as explain connections between OER, equity and trauma-informed practices in higher education.

#### Rubrics and tools for improving EDI in OER

- [DOERS3 OER Equity Blueprint](#) – This resource includes 1) a theoretical framework based on research related to social justice and equity in higher education; and 2) a rubric organized by roles (students, educators, and academic leaders) to help individuals assess the OER efforts at their institutions and identify actions to advance or sustain these efforts.
- [Diversity & Inclusion in Images](#) – Suggestions and resources for selecting and using images
- [Enhancing Inclusion, Diversity, Equity and Accessibility \(IDEA\) in Open Educational Resources \(OER\)](#) – This practical guide provides a useful framework and offers tips on areas including: Diverse and inclusive imagery, inclusive language, diverse examples and balanced perspectives, as well as Indigenisation, decolonisation and cultural Inclusion. There is an [editable handout](#) that summarizes the framework and considerations.
- [Guiding Questions: Creating Equitable OER with Intention](#) – This BCcampus resource offers guiding questions to consider from start to end of an OER project. Categories covered include: Openness, pedagogy, accessibility, positionality, Indigenous perspectives as well as knowledge equity and social justice.



- [Making Ripples: A Guidebook to Challenge Status Quo in OER Creation](#) – This guidebook highlights the importance of storytelling, collaboration, and self-reflection in the relation to DEI and open education. In addition to OER creation, the guide covers equity minded pedagogy and strategies on community engagement on the topics.
- [Tool for Identifying Bias in Sources](#) – Developed by ISKME, the tool offers questions for self-reflection and critiquing sources in areas such as race/ethnicity, sexual orientation, social class, age, and geographic setting/location.

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## 10. Appendix – search strategies

This research paper aims to provide a general overview of on how OER and open pedagogy can be leveraged to support EDI for students. Although the project is not a traditional, comprehensive review of sources related to the research topic, the process still involved extensive research. To identify relevant sources, the author:

1. Located scholarly articles in research databases (Academic Search Complete, Library, Information Science & Technology Abstracts, and ProQuest's Library Science Database) as well as in Google Scholar.
2. Found articles and reports through Google searches
3. Discovered relevant OER in [Pressbook Directory](#)
4. Browsed through library guides that cover open education and EDI
5. Identified relevant recordings of presentations from past OER Week events and Open Education Conferences, which the author has access to
6. Checked references of research studies to identify additional articles
7. Monitored LinkedIn and Twitter for relevant resources shared by open education advocates.

The search terms used to locate relevant sources included: OER and (EDI or DEI), OER and (equity or diversity or inclusion), “open education” and “social justice,” OER and (accessibility or accessible), OER and “culturally responsive,” “open pedagogy” and (EDI or DEI), “open pedagogy” and (equity or diversity or inclusion), as well as “Indigenous knowledge” and OER.

From the searches, the author identified 57 relevant resources including scholarly articles, recorded presentations, online articles, and reports from educational organizations, as well as chapters from open texts. A majority of these resources were published or created in the US and Canada after 2018.

The main questions that guided the review are:

- Why should educators consider adapting or creating OER through an EDI lens
- How can OER and open pedagogy enhance EDI for students?
- What does research reveal about diversified content and inclusive learning experiences on students' education?

To aid in the screening of the recorded presentations, some of which are time consuming to watch, the author utilized a tool called [YouTube Transcript](#). These presentations, along with

social media posts, helped to uncover unpublished files in Google Docs. During the writing process, the author also performed additional Google searches to locate relevant statistics. Two recently published resources, "[Leveraging Open Educational Resources to Advance Diversity, Equity, and Inclusion \(DEI\): A Guide for Campus Change Agents](#)" and "[Making Ripples: A Guidebook to Challenge Status Quo in OER Creation](#)," are listed in the Additional Resources section but were not reviewed for the research paper. The author discovered these resources near the completion of her writing process.

Since the focus is on OER and open pedagogy in relation to supporting EDI for student, sources specific to culturally responsive teaching, equity pedagogy, and trauma-informed pedagogy were not part of the research review. Furthermore, while the benefits and challenges of open pedagogy are discussed, this paper does not address the full range of faculty approaches and interventions related to student engagement, due to the scope of my research paper.



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