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Crowdsourcing the (Un)Textbook: Rethinking and Future Thinking the Role of the Textbook in Open Pedagogy

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Abstract

In this paper, we adopt a critical lens to investigate educators' understanding of both traditional and alternative textbooks and examine how open pedagogy may call for a rethinking of textbooks and how they are used in a pedagogical setting. Within the context of open pedagogy, including open textbooks, we conducted workshops that involved faculty, instructional designers, educational developers, and academic administrators during three conferences in 2019: OER19 Conference held in Galway, Ireland; the Cascadia Open Education Summit held in Vancouver, British Columbia; and the Educational Technology Users Group held in Kamloops, British Columbia. Based on data collected during these three interactive workshops, combined with personal reflections from the project instigators, we discuss emerging issues and tensions in the use of textbooks as pedagogical agents/artefacts in teaching and learning, and their relation to open pedagogy. Specifically, we consider what aspects of the use and design of textbook may be rethought in the context of open pedagogy as increasingly ubiquitous access to knowledge and open licensing of content and data become more widely available. This is achieved by prompting educators to describe the best and worst features of the traditional textbook format and reflect on what they might imagine as a potential future for the textbook as a resource to support open pedagogy.

Keywords: open education, textbooks, instructional design, open pedagogy

Introduction

In this paper, we contend that open pedagogy provides us with several emergent ways of rethinking the textbook in higher education contexts. Open pedagogy includes such aspects as seeking a diversity of voices, a participatory pedagogy, collaboration, co-creation of learning, and other such open practices. Open educational resources (OER) play a large part in the practice of open pedagogy (Tietjen & Asino, 2021; Hegarty, 2015). Open pedagogy can be a foundation, conduit, or catalyst for further innovation in teaching and learning. However, even with the growth of open pedagogy and in particular OER over the past few decades, the most common teaching and learning practices in higher education-and particularly in North American education systems-are still largely mapped to existing artefacts and systems. This includes an extensive reliance on the more rigid processes of teaching to textbooks, the learning management system (LMS), and traditional instructional design processes, within a commercial academic publishing model more broadly.

For this study, we focus primarily on the textbook, its use in higher education-including the recent shift to open textbooks-and its potential evolution with the use of open pedagogy in teaching and learning. In an age where individuals can access, curate, critique, contribute, and co-create knowledge in a variety of ways, textbooks are still widely used in most parts of North America to both inform both teaching practice and function as a primary source of information in many learning environments. There have been efforts to innovate upon textbooks, with many being collaboratively generated as OER and including multimedia and interactive elements using tools such as Pressbooks and H5P. Yet even as textbooks move to digital formats, with a variety of schemes for access, these still often presented as a relatively static body of information, with the apparent intent that they be used in teaching in a manner similar to the traditional textbook. Beyond questions of format, citing how textbooks obscure the many decisions and debates that lie behind a single textbook narrative as well as the nature of scholarship itself, Hare (2020) raises the questions,

> "Why ... are open textbooks often used as an example (if not the example) of OER? Why are there such extensive efforts to create more open textbooks? Further, how do textbooks, as the primary form of OER shared, limit self-learners outside of the academy? For example, when the goal is to present historically linear 'truths' about a subject, more iterative and active forms of self-learning might be hindered" (p. 45).

These questions urge us toward thinking about how open textbooks can continue to evolve as a growing component of open pedagogy. Our focus is how open textbooks and their implementation in pedagogical settings, in addition to their current benefits, could also be configured as a resource that invites, presents, and offers opportunities for alternative perspectives, settings, narratives, and identities. This focus in particular can be applied for curricular areas where dominant, assumed, or multiple competing narratives exist and the surfacing of alternative narratives is desired as part of the teaching and learning process. Such situations apply not only in the more traditional areas of humanities, social sciences, and arts, but also in STEM disciplines where it is becoming increasingly apparent–for instance, during COVID-19–that science is deeply interwoven with political, social, economic, and other aspects of society.

This ongoing project has two goals. The first goal is to investigate how, in their teaching practice and learning designs, faculty, instructional designers, educational developers, and academic administrators are rethinking the role of the textbook in the context of open pedagogy. The second goal is to look at learning design practice and how it may offer an alternative, critical instructional design lens to mediate the course development process across the university in support of open pedagogy. The second goal is intended to culminate in a resource to support critical instructional design that is conceptualized from the beginning with its use in open pedagogy (Cronin, 2017; Hegarty, 2015).

Literature Review

Traditional commercial textbooks are viewed as increasingly unaffordable and inflexible to use. The cost of textbooks has risen dramatically over the years. In the United States, the price of textbooks has increased at three times the national rate of inflation (Economist, 2014). In addition to issues of cost and access, Lambert (2018) and Lambert and Fadel (2022) raise questions of social justice in OER, including questions of redistributive, recognitive and representational justice, questions which invite deeper thinking around critical instructional design and its role in influencing the use of learning resources. Similarly, educators using traditional commercial textbooks "cannot update, adjust, reword, or otherwise alter the materials that they have been given. Teachers must make their students malleable to the content rather than make the content malleable to their students" (Kimmons, 2015, p. 44). Perlmutter (1997) notes that the textbook "is influenced by a complex amalgam of industrial, commercial, and social domains of control related to the particular qualities and complexities of the targeted audience" (p. 70). Beyond the replication of traditional textbook copyright constraints, the industry trajectory towards platformization and datafication (Prasad et al., 2016; Thoutenhoofd, 2018) points to the potential for an increasingly inaccessible and proprietary future constrained by the evolution of these technologies. Hamilton (2003) argues that textbooks have been used to,

> "mediate the structure of knowledge on the one hand, and the performance of teaching and learning on the other....at the same time, however, textbooks contain a deep contradiction. They are today's mediation of yesterday's knowledge in the light of educational projections about tomorrow." (p. 8)

We suspect a similar contradiction applies to open textbooks where they are implemented without a concomitant adoption of open pedagogy.

More recently, open textbooks have emerged as a prominent feature in the growth of OER, characterized mainly by open content licensing in the form of Creative Commons licenses (Hodgkinson-Williams, 2014. Open textbooks can facilitate lower costs to students (Hilton et al., 2014; Sutton & Chadwell, 2014) as well as OER-enabled pedagogies (Wiley & Hilton, 2018), sharing of knowledge and co-creation of content by faculty and students (Stagg & Partridge, 2019; Petrides et al., 2011), flexibility for instructors (Rolfe & Pitt, 2018) and positive impacts on teaching practices (Pitt, 2015). The quality and effectiveness of open textbooks are found generally to compare favorably with traditional commercial textbooks (Clinton, 2018; Jhangiani et al., 2018; Hendricks et al., 2017; Hilton, 2016; Colvard, Watson & Park, 2018).

Open textbooks are increasingly seen as a significant improvement over traditional, commercial textbooks in specific dimensions, but at the same time open licensing of content is only one aspect of textbooks open to change. DeRosa (2019) cautions that "open" is not "a panacea for everything" and calls for a re-theorizing of textbooks: "Fundamentally, I don't want to be part of a movement that is focused on replacing static, over-priced textbooks with static, free textbooks" (n.p.). Beyond licensing and cost concerns, interest has been growing in alternative forms to the traditional textbook format. As described by Chtena (2019), "definitions of openness based on formal characteristics like access, licensing, and format, are not particularly useful for understanding how people 'do' open textbooks, nor do they reflect the meaning that these technologies have for users" (p. 25). Rather, they offer an opportunity to "bring in different voices, viewpoints, and perspectives, particularly non-Western, nonwhite, and non-cis male ones. [Instructors and librarians] also noted the potential of these resources to 'deconstruct' or redefine the canon" (p. 35). Matkin (2009) explores possible future directions for open textbooks as continually edited and revised, localized/customized for a variety of learners (across cultures/locations etc.) and allowing for the materials to be accessed in various ways for learners to view it through different lenses.

Using the term "unbook," Woodworth (2011) provides examples of "books" that students can use with portable devices to "link with art, film speeches, monuments, maps …. The 'unbooks,' the texts that are free and open, can be a smorgasbord of information from which students may pick to satisfy themselves, to bring themselves the pleasure of learning. The 'unbook' is already the best book yet for students to learn how to 'be the book.'" (p. 43). Choi (2012) proposes user-editable and annotatable "untextbooks" incorporating modified and adapted elements to serve local needs, with much of the content including videos, animations, interactives, news articles, and blogs. As described by Matkin (2009), ideally the textbook would interact with the student as well foster a community among learners through social interaction software either for a long-term connection (educators working towards continual improvement of the materials) or a short term (students in a particular class).

Open textbook authors and researchers continue efforts to reconceptualize and experiment with not only open textbooks but also with the practices surrounding them. For example, while the model of one or a few authors procured to write commercial textbooks still predominates in both open and traditional commercial textbook creation, growth in collaboration within a wider community of authors and expansion of media outside of primarily print can promote a diversity of voices and enable increased community engagement (Lambert, 2019; Woodworth, 2011). The result being that "everyone who wants to will use it, revise it, make it better, and share their insights and changes with the group–the whole group–through the course site or wherever any one might want their versions to exist" (Woodworth, 2011, p. 46). Walsh (2009) describes a digital literacies project in collaboration with a local art museum where students use multimedia to reconfigure school textbooks, and Gibbs (2014) tells of an "UnTextbook" textbook project characterized by a set of open online resources organized in a manner that permits students to make virtually infinite "possible paths to follow through the UnTextbook. By the end of the semester, each student will have made their own textbook!" (n.p.).

Another example is the Ravenspace project hosted by UBC Press which describes itself as being "dedicated to a model of publishing that embraces collaboration, respects Indigenous protocols, and uses digital tools in imaginative ways to make knowledge accessible and

shareable across communities and generations." In this space, guests are invited to follow traditional knowledge and guest protocols and to consider that the "stories, photos, videos, and language shared on this site are not simply content or information. Rather, they are our belongings, the intellectual property of either myself or the ɬaʔamɪn people" (Elsie Paul, 2019,). A traditional knowledge license provides readers with guidance and protocol in order to respect and acknowledge the voices and knowledge represented within the learning resource. The interactive platform provides means for multiple modalities and innumerable pathways through the knowledge and practice that is shared.

Implementing alternatives to the traditional textbook requires not only a different resource, but also a rethinking of a transmissive concept of knowledge sharing, as challenged by the practices associated with open pedagogy. Underlying teaching and learning practices intended to support open pedagogy is critical instructional design. Critical instructional design is rooted in critical pedagogy. Grounded in the work of Freire (2011) critical pedagogy and its expression in instructional design is described as "an early, emerging attempt to get at some concrete methodologies for creating agentive spaces in online and hybrid learning environments" (Morris, 2018) in a way that "would ask questions about technology, about the assumptions we make about technology–its includedness in education, its politics, its economics and labor, and its repercussions for privacy and surveillance–and not simply about the use of technology" (Morris, 2018). Morris follows earlier research in critical instructional design, which has been developing over the past number of years (e.g., Inouye, Merrill & Swan, 2005; Campbell, Schwier & Kenny, 2009).

The examples provided above offer some glimpses of concerns and possible ways to expand or rethink the notion of textbooks. However, in exploring possible changes to open textbooks, it remains important to proceed with caution. Friesen (2017) describes the history of attempts at innovations to textbooks that end up having little substance, with similar narratives also given by Watters (2014). Users may be challenged by the over-use of interactive digital features that are overwhelming to some and require excessive and sometimes unavailable digital bandwidth (Chtena, 2019). The time and technical skills required to develop and adapt open textbooks, let alone additional enhancements, present impediments to their implementation (Petrides et al., 2011) that are not resolved with changes to formats and technologies alone. Issues of academic labour in OER development deserve scrutiny (Hare, 2020). In the end, technologies including textbooks are:

> continuously shaped and negotiated by a range of actors, interests, and systemic constraints both in their production, and in their realization in different contexts….[The] meaning and shape of open textbooks remains interpretive, flexible, and under constant negotiation both by the people designing and using these artifacts... [inviting a] ...counter-narrative to more deterministic views of educational technology as neutral and separate from social influences. (Chtena, 2019, p. 25)

Research Questions

We sought to address the following contradiction as a research question: While increasingly ubiquitous access to knowledge and open licensing of content and data can support open pedagogy, what aspects of the textbook and its use may be rethought in the context of open pedagogy? In addition to this overarching research question, we ask: what do educators
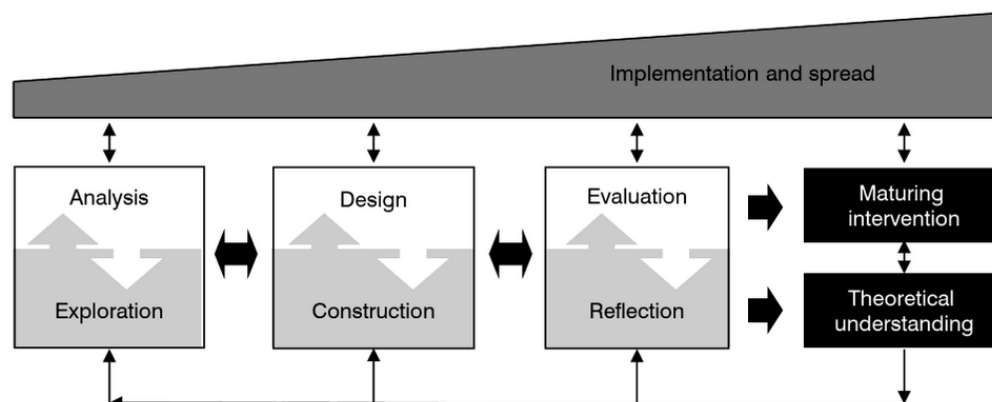
describe as the best and worst features of the traditional textbook format (print or digital) and what could they imagine as a potential future for the textbook as a resource to support open pedagogy?

Methodology

As part of a response to our research questions, one outcome of this project is the planned development of a community produced open (un)textbook on critical instructional design which challenges the form and use of the traditional textbook. A DBR methodology requires that researchers work with practitioners to collaborate towards identifying authentic and current problems and issues and involving them in working towards solutions and changes to existing processes (Reeves, 2006). Our DBR process includes three iterative stages including analysis and exploration, design and construction, and evaluation and reflection (see Figure 1 below) with practitioners working in the open education landscape focusing on a practical problem (McKenney & Reeves, 2012). This approach is using practice-based challenges and solutions and includes facilitated workshops and design sprints, follow-up focus groups, and feedback and reflection. We are using two full DBR cycles (termed meso-cycles, consisting of smaller micro-cycles).

Figure 1

Dual-layer model for design-based research

Note. Dual-layer model that includes practical solutions and theoretical understanding for conducting design research in education. Figure 3.3 from McKenney & Reeves (2012). Conducting educational design research. Routledge.

This paper describes the conclusion of the first analysis and exploration phase (micro-cycle) of the project, where workshop participants were asked to explore their understanding of both traditional and alternative textbook forms and the subsequent impact on learning design. We will present the initial analysis of the practical problem and the development of the first wave of solutions based on user feedback and analysis from the literature.

Data Collection

Collaborative sessions were facilitated by the authors at three conferences: OER19 in Galway, Ireland; Cascadia in Vancouver, Canada; and Educational Technology Users Group (ETUG), in Kamloops, Canada. Participants were typically faculty, instructional designers, and educational technologists with an interest in educational technology and open education more generally. In

these sessions, participants were led through a facilitated process where they were invited by the authors to be creative about conceptualizing the "untextbook" and how it might differ from traditional texts. In each workshop participants were first provided with an overview of the desired project outcome, probing questions about the traditional forms of textbooks, and an interim definition of critical instructional design to critique and modify. Collaborative small-group activities were then organized to generate input and ideas on sticky notes that were then organized by the facilitators into categories. We intentionally left space to invite participants to bring in their own perspectives and experience and critically examine their own practice in relation to textbooks and related practices. Approximately 100 participants participated in this activity across the three workshops.

During each workshop the following questions were presented to help frame the discussions. These questions were selected to gather feedback on the elements of textbooks that challenge and enable innovation and engage participants in thinking about how the textbook might evolve to support more open pedagogy. Introduced in the context of supporting open pedagogy, the questions were:

1. What are the best and worst features of the traditional textbook format (print or digital)?

2. How could the textbook evolve now?

The workshops were the primary data collection tool. Participants worked collaboratively in small groups of four to six individuals to address the two questions that followed the presentation by the workshop facilitators. The documentation produced was photographed and collected and transferred to a digital data matrix, which was reviewed and analyzed iteratively by the project team. In addition, prior to the OER19 workshop a hashtag was shared on Twitter, and each question was posted to invite responses from the broader Twitter community. The Twitter responses were thus added to the data matrix.
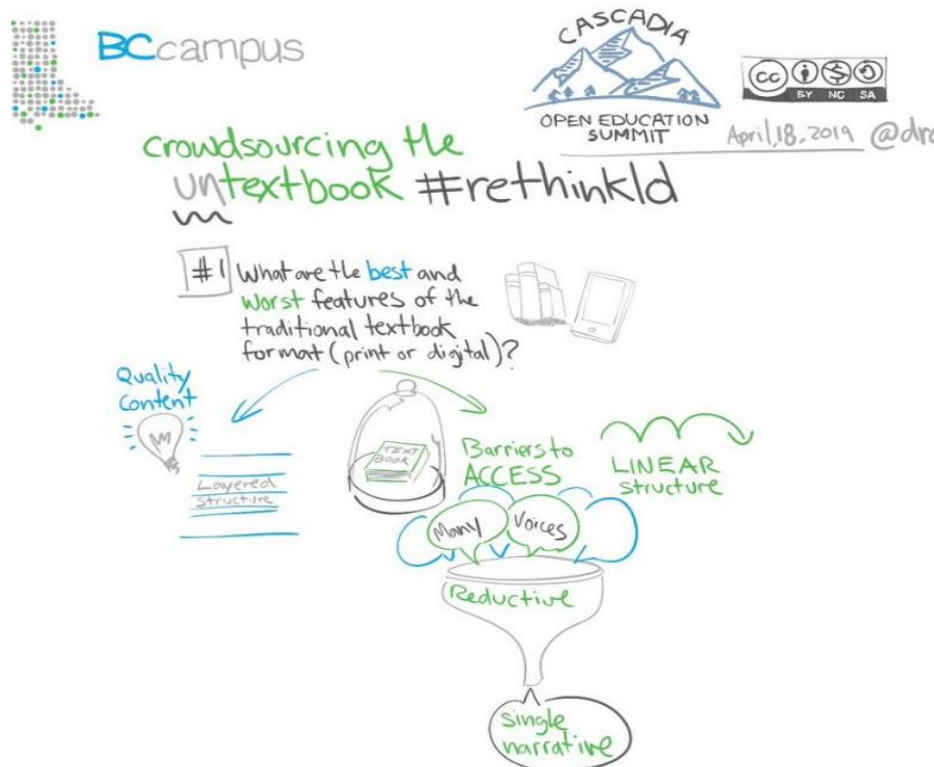
Analysis of the data was both deductive and inductive (Miles, Huberman, & Saldaña, 2014). First cycle coding treated each question separately, and each of the four researchers individually coded each question and then met to compare codes. Second cycle coding involved collapsing and rearranging first cycle codes, and agreement was reached on each of the coded segments. In total, four codes were established across 46 segments for the first question. The same four codes plus an additional code were established for 37 segments for the second question.

Results

When asked to consider what the best and worst features of a traditional textbook might be, participants contributed perspectives that aligned with five overall themes, which included accessibility, *agency*, interactivity, structure, and *voice*. We were fortunate to have a visual practitioner, as part of the session at the Cascadia Open Education Summit who created the following diagrams during the session using visual methods. The practitioner, Jason Toal, developed diagrams which are presented below along with the discussion.

Figure 2

What are the best and worst features of the traditional textbook format (print or digital)?

Note. Visual representation of the first question

Accessibility

Though the digital was seen to open up possibilities for multimodality and perspectives, ensuring accessibility was noted as a requirement. As one participant highlighted not all learners have easy access to digital resources, and putting increased focus on the digital may introduce new barriers to participation. Balancing the need for technologies, usability, design, and sustainability were brought forward as points to consider. As participants noted "print still matters" and "paper might still be the most effective technology." Ensuring that digital resources are still available to print, in part or in whole, is important, as a recent study in British Columbia found that 27% of students and 66% of mature students chose to print some or all of their learning material to use offline (Earle, 2019).

The accessibility of textbooks was valued, provided students have inexpensive access to them. In an ideal situation, when all students have their own textbook, this creates an equitable environment for teaching and learning. For printed textbooks, participants suggested full access to textbooks could lead to less reliance on technology due to learners owning the printed text. The challenge, of course, is the increasing costs of commercial textbooks. Past research has suggested that as many as 65% of learners have opted to not purchase their textbook, in some cases risking their academic success, due to the high cost (Senack, 2014). Students may also choose not to purchase the textbook if they feel it is bigger than the course itself, in that it will not be fully utilized. In this case they may share or borrow textbooks from the library, limiting

access to specific times. For textbooks that are in printed form, translation options are limited and individuals who are blind or have visual impairments may struggle to use these with text-to-speech software. In recent years, progress has been made in the development of open textbooks, that come at zero cost to learners, in multiple formats, and designed with accessibility in mind.

Agency

The linearity of structure was also seen to be limiting, as content might be combined in ways that do not make sense to instructors and therefore restricting the agency of both faculty and students to use content in ways other than what was planned by the original authors. Some participants suggested there may be other paths through a discipline, as opposed to the one prescribed in the text. Participants also noted that textbooks can be useful to those new to teaching or in casual teaching roles. However, the common activity of teaching to the textbook was also offered as an issue that reinforces hand holding as opposed to agency.

One group offered the idea of building a space where "foraging literacy" might be at the forefront, providing a platform and scaffolded structure that would help guide participants to forage for knowledge, building critical information literacy skills. Foraging in this instance can be thought of as a way to search about, seek, or wander about for provisions or resources. By helping scaffold the foraging process, the "untextbook" in this case is not defined by learning materials themselves, but the structure that would help learners put their own resources and learning pathways together. Also described as an "uncolouring" book, this space would provide for ongoing building, annotation, and learner ownership/authorship, with the idea that the "untextbook" is never done.
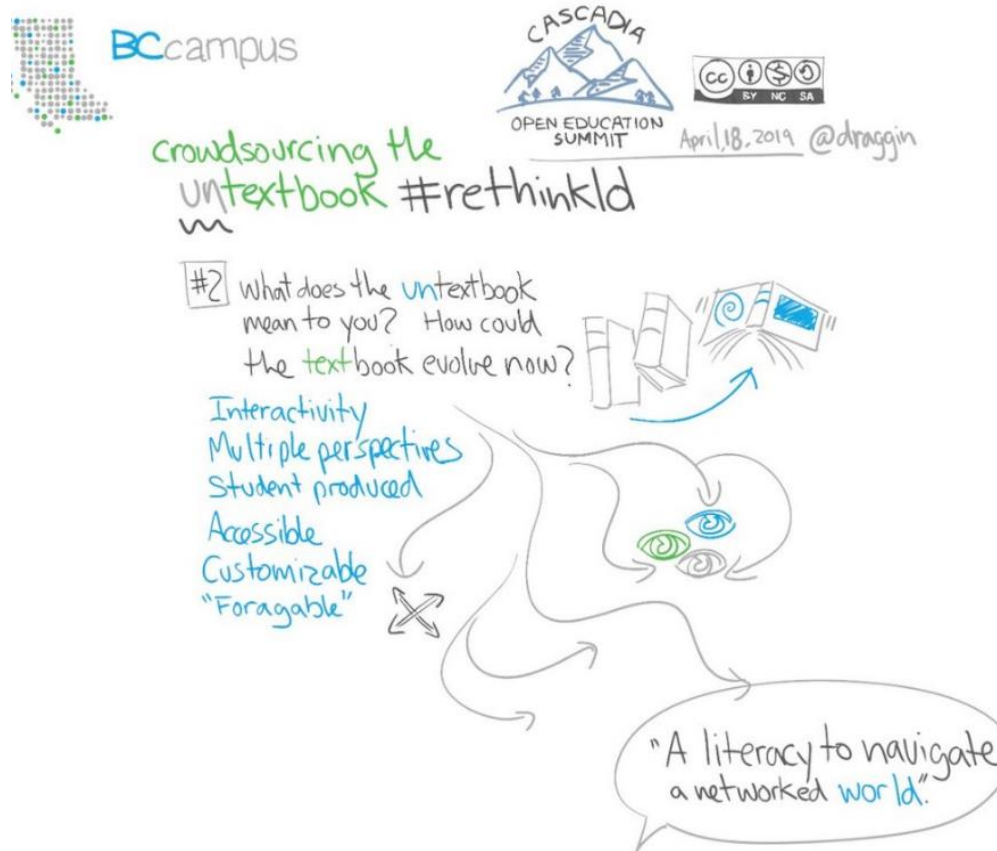
Structure

Participants pointed to both limitations and advantages of the traditional textbook structure, noting how the linearity and structure can provide an overall organization and framework that can be essential to scaffolding content and knowledge. The positive aspects of structure included the organization of a set of topics relevant to a topic which might provide a good introduction to a discipline, being presented in a linear format (for better or worse) and being perceived as having undergone quality control and significant revision. Some pointed to how this structure can help them organize and sequence their courses, provide materials and resources that are consistent and at the appropriate level and can make challenging concepts accessible. It was also noted that this familiar and traditional structure can be reassuring, that structure can provide visual cues through layout and help with creating pathways. In this way, textbooks were suggested as a safe route to approaching teaching within a discipline. Textbooks were also noted to provide a common experience for learners and for educators teaching courses using the same resource.

At the same time participants felt that this structure was limiting, with almost all noting that this traditional approach created fixed, static content and often reflected a single authoritative voice not connected with current events or developments in the field. As one group noted, the textbook often offers "single narratives, reductive in nature [which] invite omissions in voices, resulting in extreme bias." In addition, textbooks are often seen as top-down, not interactive, and static, either due to licensing (copyright) or to the nature of non-digital publishing practices. Participants commented that a textbook may be bigger or smaller than a course, meaning that

more or less than needed may be included which posed problems for aligning textbooks directly to a course. This is related to the issue of many traditional texts being locked down in printed or PDF form and under copyright which restricts their customization, although it should be noted that with the implementation of open textbooks even some publishers are creating opportunities to customize text. Structure implied rigidity and a linear focus which may not align with the beliefs and prerequisite knowledge of both educators and learners.

Figure 3

How could the textbook evolve now?

Note. Visual representation of the second question

Voice

There was a focus particularly on building in multi-authorship, to allow for diverse perspectives and voices, and to have various layers of input included. This focus on inclusion and diversity has been supported in recent discourse around the use and development of OER where the dominance of predominantly western authors and lack of diverse voices and the "impact this may have on the epistemological foundations of open education" has been questioned (Adam, 2020, p. 171). Adam (2020) used the term "digital epistemicide" to describe a situation where "only dominant Euro-American epistemologies survive as OEP do not take into account the contexts of those on the periphery" (p. 182). Participants in the sessions saw the opportunity for non-linearity and openness as a means of including different voices and perspectives, as multiple authors could reorganize content and other knowledge into new configurations that may

disrupt [traditional] structures in favor of alternative perspectives (away from time, events, colonial/Euro/North American viewpoints).

A textbook was identified to represent the beliefs, opinions, and bias of the authors, publishers, and country of origin potentially leaving behind a diversity of voices. This was identified for both educators who may have differing beliefs than the textbook authors and for learners and for those who may seek more personalized and interest driven ways to access the curriculum. In *Lies My Teacher Told Me* (Loewen, 2007), the author argues that textbooks have a tendency to avoid controversial issues and present one-sided, simplistic, accounts of contested knowledge. The issue of contested and controversial knowledge was raised among participants as a significant challenge, both due to the potential for bias among textbook authors and the static nature of traditional texts. Participants raised the question as to whether there were still opportunities for educators and students to introduce concepts and ideas when a text was assigned. In a world where knowledge and information are being created at an accelerating rate, undynamic knowledge resources can fall quickly out of date.

Participants also considered the need to ensure content and materials were factually correct and trustworthy, while at the same time moving away from only including dominant narratives and discourses. Questions such as what quality entails and whose voices are included in those decisions emerged. There were also discussions about discipline specific needs, noting that the needs for STEM or Arts related resources might be different. This surfaces an important tension in the pursuit of finding new ways to present knowledge that might be contested versus knowledge that is fixed and largely uncontested.

Interactivity

Participants aspired to see learning resources that could be more participatory and interactive, taking advantage of digital media and technology to allow for movement through text and multimodal resources. In a printed text, creating links between topics and concepts via clickable hyperlink is not possible, and yet this provides ways for learners to navigate learning resources in a more personalized way. Digital texts handle clickable hyperlinks, allowing a user to navigate throughout a document. Participants expressed a desire for interactive conceptual models, mind maps, timelines, and other visualizations that might help learners visualize their learning resources and see the connections between concepts, events, and ideas. For example, a learner may want to look back upon the pathway they took through hyperlinks to arrive at a section of text in order to see the relationship between ideas and concepts. Since some of these features have been available in some book creation platforms for several years (e.g., Apple iBook Author; Pressbooks and H5P) it suggests that awareness of this potential may not be widespread. Furthermore, a desire for dynamic learning environments in which students might join the conversation and contribute was referenced.

Discussion, Recommendations, and Next Steps

While commercial textbook publishers tout the future of learning analytics, artificial intelligence, and adaptive learning systems, these developments must be problematized to consider whose interests are served, what data is being collected, and how new ownership models such as subscription-based access to digital platforms are emerging. In contrast, the open and community-based nature of open textbooks sidesteps many of these problems. Our goal with this paper was to investigate the critiques and desires of educators in relation to the current

state of textbook provision, and to explore the future conceptualizations of what an (un)textbook model might entail for open pedagogy. We believe such resources can take advantage of many potential technological enhancements while protecting privacy, being mindful of student's personal data, and ensuring open access.

One major focus of this part of our research was to explore how educators interested in open pedagogy could see resources and open textbooks evolving to meet their pedagogical and philosophical needs. The results support the premise that educators interested in using critical approaches are looking for tools and resources that allow for recognition and honoring of multiple voices and perspectives, where they and their students can contest more traditional norms around knowledge sharing and construction. Many indicated they are looking for spaces to co-create, to challenge norms and process, and to engage in discourse and knowledge building in meaningful ways. As learning design professionals and faculty strive to adopt open pedagogy, including more collaborative and open ways of sharing, there is recognition that many of the traditional tools and spaces that shape our educational systems will not meet these pedagogical and epistemological shifts. The need for more agency and multivocality were discussed in depth and participants agreed that though textbooks provide pathways and foundational structure for courses, the static and rigid format also intrinsically imposes a pre-determined epistemological framework for learning. As educators we are looking for alternatives beyond the rigid spaces of traditional textbooks and LMSs, and publishing models and licensing that allows for flexibility such as Creative Commons (CC) and the Public Domain provide possible ways forward. For example, traditional knowledge licenses provide ways to centre Indigenous voices including oral traditions that honour cultural protocols and guidelines on respectful ways of listening. One implication is that the "untextbook" may not be a textbook at all but another way of locating, collecting, sharing and contextualizing resources.

As both the literature and participants relate, different models will also require platforms and tools with flexible architectures that invite and allow access for multiple users and formats. Interactivity, agency, and accessibility were seen to be key attributes of more open and participatory textbooks and as highlighted above. Many of the challenges shared about using commercial textbooks were related to the rigidity in structure and the focus on one unitary voice. Participatory and open platforms for digital resource development provide some opportunity to move beyond the hierarchical and linear ordering of content, but many of these platforms still represent solely western epistemologies and knowledge-sharing traditions. For example, Funk and Guthadjaka (2020) argue that most digital platforms are not designed to accommodate Indigenous knowledge authority, in that information is framed as "content" and put in "discrete digital containers" (p. 1) which conflicts with cultural practices where knowledge is embedded within ancestral and relational contexts. From our own experiences of working with OER development and open, participatory platforms, there is still a focus on content development, where commonly used tools such as Pressbooks and (others) are designed around content delivery and transmission.

The movement towards open education, including the use of OER, open pedagogy, open-source, and open access, has provided us with new ways of designing learning experiences in higher education, but at the same time has been mapped onto many of our existing legacy artefacts and systems such as standard textbooks, design processes, and traditional course publishing models. One relevant example of this is the creation of open textbooks, which has

recently become a prominent focus in the discourses around open education. While recognizing the considerable impact that open textbooks have had on textbook affordability and access, there is a need to explore how openness may also invite new modes and approaches to teaching and learning, and address epistemic and representational injustices (Lambert, 2018; Lambert, 2019; Hodgkinson-Williams & Trotter, 2018). As Adam (2020) highlights in her study on MOOC designers and open pedagogy, open education practitioners are not just objective educators "implementing static content or textbook practices" (p. 182) but rather they incorporate their own subjectivities into their practice. For openness overall to become more intrinsic, she asserts that we need to find new ways of looking at open pedagogy, away from thinking about it as a practice being done *to* something, but to becoming individuals and practitioners that are more open.

Conclusion

As open education advocates, we argue that many of the forms and implementations of textbooks run the risk of falling out of sync with our technological and social landscape and, fundamentally, with the emerging emphases and priorities of open pedagogy. Through personal reflection, we fear the risk of replicating existing structures with new technologies and their potential uses which offer much greater possibilities for action. The availability of OER and growth of open pedagogy have the potential to significantly change learning design approaches. An important development in this field is the reference to social justice as an impetus towards more open education, and yet this does not find its way into traditional instructional design. Starting from a critical place of equity, social justice, and openness is preferable to adding these elements to resources, structures and practices that contradict or limit their impact. Our research has shown a desire among educators and learning designers to move away from using textbooks and pedagogies that are fixed and linear, to those that are networked and fluid, ensure that knowledge is examined through multiple lenses, and those that encourage diverse thinking from multiple perspectives. As part of our research, we are continuing to prototype both alternative models of the textbook and methods for their use in educational settings.

Author's Contributions

All authors participated in data collection, analysis and writing of this original research. All authors have read and approved the final manuscript.

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Conflict of Interest

The authors do not declare any conflict of interest.

Data Availability Statement

The data used in this study will reside with the authors as per the confidentiality statements agreed to in the participant consent forms. Authors may grant access to the data upon reasonable request.

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