A Phenomenological Study of the Lived Experiences of University Educators as They Use Open Educational Resources

by

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Bachelor of Education, Brock University, 2010
Master of Education, Brock University, 2013

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Abstract

Eleven Canadian public university educators who used OERs in their teaching practices were interviewed about their lived experiences with obstacles and affordances encountered when adopting, modifying, and/or creating OERs. The reflective lifeworld phenomenological approach was used for data collection and analysis. The results were viewed through self-determination theory's regulatory styles. Educators reflected on their experiences with several obstacles including, lack of time, perceived poor quality of OER textbooks, and difficulties using Pressbooks to modify and/or create OER textbooks, even though the educators appeared to have good technology skills. OER affordances included the ability to modify resources, OERs were easy to find, and OERs aligned with the participants' teaching practices. Results found educators were motivated to use OERs primarily to ease their students' financial burdens and have up-to-date teaching and learning material. All participants were externally motivated to engage with OERs and two were intrinsically motivated when creating OERs. The essential meaning of the phenomenon is understood as a device rooted in educators' motivation to support students beyond the classroom. This research contributes to the growing body of qualitative OER research. The results and recommendations may be useful to educators who are considering using OERs and to teaching and learning centres that support OER use.

Keywords: OER, open educational resources, university teaching practices, higher education, self-determination theory, phenomenology

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Chapter 1: A Phenomenological Study of the Lived Experiences of University Educators as They Use Open Educational Resources

Canadian educators in universities have a myriad of facilitation resources at their disposal, including textbooks, required readings, assignments, lecture notes, and links to online material. Some educators turn to open educational resources (OERs), which are often digital resources, such as videos, photos, PDFs, quizzes, textbooks, and lesson plans. OERs are "teaching, learning, and research resources that, through permission granted by their creator, allow others to use, distribute, keep, or make changes to them" (BCcampus, n.d.-d, para. 1). These educators may look to OERs to find new ideas, inspiration, prepare for teaching, and supplement existing lesson plans (de los Arcos et al., 2015, p. 22; Masterman & Wild, 2011, p. ii), find and use flexible teaching material (Hylén, 2006, p. 6), and gain access to the best possible teaching resources (Canvas, n.d., para. 2; Hylén, 2006, p. 6).

Armellini and Nie (2013) believe including OERs in the curriculum improves the quality of teaching material, particularly when resources are created by recognized institutions, evaluated by learners, and are content current (p. 16). McGreal et al.'s (2016) findings indicate OERs are an asset to some educators who customize resources, particularly when OERs are created or used in a different geographic location and then modified so they are "relevant to an instructor's or an institution's particular context and culture" (pp. 1-2). Such customizations result in personalization of both the facilitation and learning experiences. Subsequently, Pounds and Bostock (2019) concluded that educators who adopted OERs into their teaching practices also "increase teaching efficiency, increase [the] quality of teaching, and reduce economic and geographic barriers to education" (p. 695).

Educators are increasingly aware of the financial barriers facing students in addition to tuition (Belikov & Bodily, 2016, pp. 241-242; Jhangiani, 2017, p. 142). Some educators actively seek out no-cost resources as an alternative to textbooks offered by traditional publishing companies in an effort to decrease the financial pressure on students. Ultimately, educators control the educational resources used in courses, such as textbooks, and these decisions have a financial impact on their students. Additionally, researchers have discovered the cost of textbooks sold by publishing companies may be a barrier to some individuals who wish to continue their academic pursuits (Belikov & Bodily, 2016, p. 242; Ministry of Advanced Education, Skills and Training, 2019, p. 1; Stovall et al., 2019, p. 371). Open textbooks are an option some educators are considering and easily accessible through the growing number of open textbook repositories (for example, see Thompson River University, (2021b) for active OER textbook repositories). Some repositories are created and maintained by universities, such as State University New York and University of California, Davis, whilst other repositories are maintained by NGOs, such as BCcampus, or not-for-profit organizations, such as ISKME (Institute for the Study of Knowledge Management in Education).

Educators who adopt, modify, and/or create OERs face numerous challenges that must be weighed against the potential value to students and educators alike. OER adoption challenges are well documented and often include references to the educational knowledge and skills needed to use OERs (Wolfenden et al., 2012, p. 3), copyright comprehension (Armellini & Nie, 2013 p. 17; Mishra, 2017a, p. 371; Wild, 2012, p. 20), locating OERs (Jhangiani et al., 2016; Masterman & Wild, 2011; Wild, p. 26; Wolfenden et al., p. 2), the quality of OERs (Jhangiani et al.; Hylén, 2006, p. 7; Wild, p. 22), institutional and/or peer support (McAndrew et al., 2012, p. 4; Wild, p. 6; Wolfenden et al., p. 9), technology skills (Andersen, 2010, para. 10; Armellini & Nie, p. 17;

de los Arcos et al., 2015, p. 24), and time invested in locating and adapting OERs (Armellini & Nie, p. 17; Wolfenden et al., p. 2).

Despite challenges to OER adoption, some educators actively seek out OERs to augment their teaching; however, they are in the minority as OER uptake is limited (Commonwealth of Learning, 2017, p. 7; de Langen, 2018, p. 96, McGreal et al., 2015, p. 173; Mishra, 2017a, p. 375). Nonetheless, OER awareness appears to be increasing in the United States. Seaman and Seaman (2019) found educators in American universities and colleges have an increasing awareness of OERs with 54% (N = 4100) of participants stating they had no awareness of OERs (p. 7). This is an improvement from the 2014 study commissioned by the same company that found 65.5% (N = 2144) of participants were not aware of OERs (Allen & Seaman, 2016, p. 11). In Canada, McGreal et al. (2015) believed OER use by Canadian educators was increasing (p. 163); however, adoption "remains in its early stages" (p. 173). Unfortunately, data are not yet available to substantiate either of McGreal et al.'s claims. Nonetheless, in 2014 the provinces of Alberta, British Columbia, and Saskatchewan signed an OER Memorandum of Understanding to promote the creation, use, and sharing of OER material in their higher education institutions (Government of Alberta, Government of British Columbia, & Government of Saskatchewan, 2014).

Importantly, education in Canada is provincially funded, thus, such provincial partnerships must be established without the aid and support of a national OER strategy at the federal level (McGreal, 2017, p. 295). Increasingly, provincial governments are funding organizations, such as BCcampus, Campus Manitoba, and eCampusOntario, with a mandate to increase OER offerings. Additionally, universities across the country are encouraging OER adoption, such as Kwantlen (Kwantlen Polytechnic University, n.d.-b), Ontario Tech (Ontario

Tech University, 2020), PEI (University of Prince Edward Island, n.d.), and SAIT (Southern Alberta Institute of Technology, 2021). The Canadian OER movement continues to grow, particularly with the sustained efforts by the BCcampus-led initiative known as the Canada OER Group, which brings together higher education educators and administrators from across the country to collaboratively work on OER offerings (BCcampus, 2019).

Researchers remain largely silent about how educators who adopt, modify, and/or create OERs may overcome obstacles and sustain OER use in their teaching practices. Belikov and Bodily (2016) note educators are seeking more information about OERs and question the "specific pedagogical benefits or access to empirical studies that validate the effectiveness of OER" (p. 239). Seeking OER effectiveness indicates some educators are interested in exploring OER use, but, for a variety of reasons, will not move into the OER realm until more information is acquired. Educators who have adopted, modified, and/or created OERs have first-hand knowledge they could share that may assist others with overcoming some of these obstacles. Indeed, OER scholars have called for researchers to examine how OER educators have overcome challenges to adoption (Amiel & Soares, 2016, p. 132; Belikov & Bodily, p. 244; Clements & Pawlowski, 2012, p. 12; Masterman & Wild, 2011, p. v), but this area of OER research has yet to be explored.

The purpose of this phenomenological inquiry was to explore how OER educators teaching in Canadian public universities in the 2018-2019 academic year perceived and described their lived experiences and reflections with using, sharing, modifying, and/or creating open educational resources. This study focused on university educators who use OERs in their teaching practices and explored their approaches to using OERs through their reflections and recollections of their lived experiences of overcoming the obstacles to OER adoption, modifying,

and/or creating. I used semistructured interviews to uncover meaning in the educators' OER experiences. Results from this study provided insights into how OER educators experienced OER challenges and narratives exploring how they managed these obstacles.

The Problem

Researchers have yet to fully explore how educators, who sustain a practice of adopting, modifying and/or creating OERs, met and experienced OER obstacles. Rich descriptions of personal experiences by OER adopters, modifiers, and/or creator are needed to provide meaningful and realistic recommendations to changes in practice and recommendations for further research. McAndrew et al. (2012) call researchers to action:

> Wide interest is not enough in itself to build new approaches and collaborations. We also need to understand what appears to be working … The world of OER is one where we need to monitor activities and spot the actions that people are taking and examine their impact, and to research the ways to design, measure, and use resources in a more open way. (p. 2)

Other researchers state university educators face a number of OER challenges (de los Arcos et al., 2015; Jhangiani et al., 2016; Johnstone, 2005; Porter, 2013; Wild, 2012). Recommendations by researchers were not always embraced in practice despite the published information about OERs and challenges to OER uptake. These recommendations included increasing awareness of OER repositories (Amiel & Soares, 2016, p. 133; Belikov & Bodily, 2016, p. 243), which could assist educators with finding appropriate resources and may lead to increased funding to support OER creation. Finding OERs could be achieved through teaching release time or paid time off (Jhangiani et al., p. 33); however, scholars also called for further research to examine the different types of OER adoption by users (Weller et al., 2015, p. 360),

the impact of OERs on educators' practices (Weller et al., pp. 359-360), and ways to foster educators' use of OERs (Masterman & Wild, 2011, p. 60). Additionally, speaking with educators who have experienced OER adoption, modification, and/or create is the only means to accurately identify obstacles to OER uptake. Consequently, discovering how current OER adopters, modifiers, and/or creators overcame or mitigated their OER is valuable information for researchers and educators seeking to overcome these impediments.

Background and Context

OER is a global movement with Canada, the United Kingdom, and the United States leading the efforts. This dissertation focused on the Canadian context, although many other countries continue to contribute to the OER movement. In the Canadian province of British Columbia (BC), BCcampus is a provincially funded independent organization that supports teaching and learning practices in BC's postsecondary institutions. This organization provides excellent examples of how provincial government funding can assist postsecondary educators with OERs, and professional development opportunities that reside outside of their institutions. The organization's successful open textbook project continues to add to its collection, which currently maintains over 300 open textbooks (BCcampus, n.d.-a); thus, making BC a Canadian leader in OER use. In the neighbouring province of Alberta, a community of practice was initiated when the Campus Alberta Open Educational Resources initiate came to the end of its three-year mandate in 2017 (Alberta OER Community of Practice, n.d. "Provincial initiative" section). Unfortunately, the organization's website shows no activity after 2017. In central Canada, eCampusOntario is a provincially funded organization that supports online learning and researches technology-enabled learning (eCampusOntario, n.d.-a, "Committed to the evolution" section). It also supports open communities through hosting events that support OERs and open

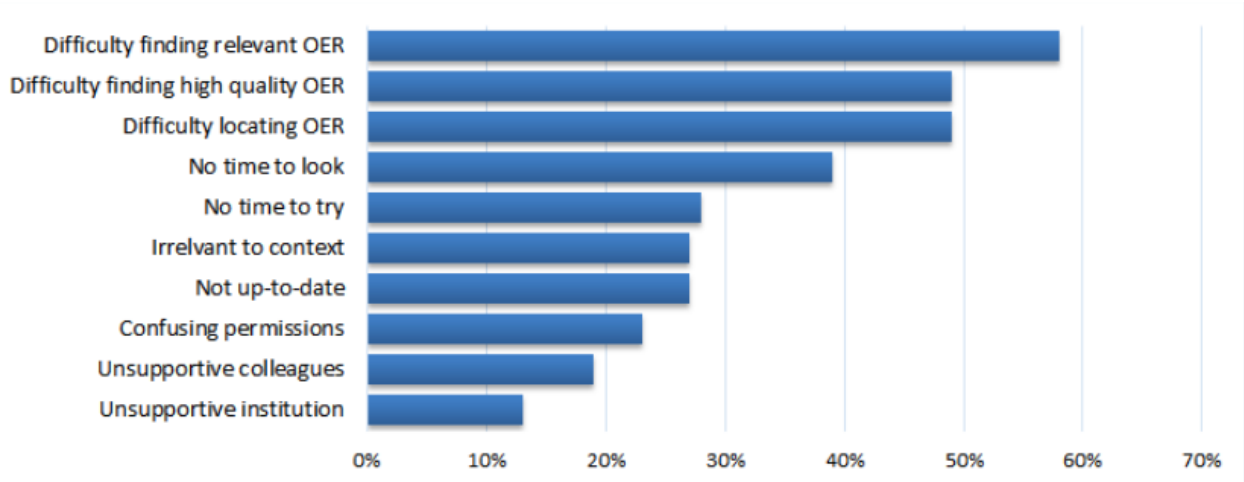
educational practices (eCampusOntario, n.d.-b, “Open communities” section). The website also has an OER textbook search function that provides links to open textbooks and ancillary resources. Along with BCcampus, eCampusOntario is one of the two major Canadian OER repositories. Finally, eCampusOntario also assists with customizing OERs, and introduces digital tools, such as Pressbooks, to aid with OER creation (eCampusOntario, n.d.-d, “Welcome to the open library” section).

Such provincial initiatives are sporadic, as indicated by the closure of the Alberta sites. This is just one of the many challenges facing educators. Unfortunately, only one comprehensive qualitative study provided information about OER challenges faced by Canadian educators. Jhangiani et al.’s (2016) study of some BC OER users found 10 important obstacles to use (see Figure 1). These researchers found myriad challenges facing educators who chose to adopt OERs (p. 19).

These challenges are not unique to Canadian educators. Using quantitative data, researchers have identified a plethora of challenges to OER adoption (de los Arcos et al., 2015; Hilton III et al., 2013; Kelly, 2014; McKerlich et al., 2013), but do not provide sufficient insights into how these obstacles may be overcome. Furthermore, scholars have yet to adequately examine how some university educators have experienced these challenges. Indeed, understanding the discrepancy between OER users and nonusers may require further investigation, but gaining a deep understanding of how university educators overcame or mitigated obstacles and continue to create, modify, use, and distribute OERs may provide important information about innovative teaching practices. This new knowledge may provide the impetus for nonusers to experiment with OERs. Thus, to gain a richer understanding of OER

Figure 1

BC Educators' Most Significant Barriers to OER Adoption



Note. BC postsecondary educators (*N* = 78) survey responses indicate their top 10 barriers to OER adoption. From "Exploring faculty use of open educational resources at British Columbia post-secondary institutions," by R. Jhangiani, R. Pitt, C. Hendricks, J. Key, and C. Lalonde, 2016, BCcampus Research Report, p. 19.

adoption, researchers must explore the paths, experiences, and practices of those who have successfully met and mitigated or overcome some OER challenges.

Rationale

Recommendations by some OER researchers were not founded on the lived experiences of educators who experienced obstacles of OER adoption, modification, and/or creation. For example, researchers have uncovered a number of challenges that potential OER adopters may face, such as the lack of time (Belikov & Bodily, 2016, p. 241; Clements & Pawlowski, 2012, p. 12; McGill, 2014, Table 2), finding relevant resources (Belikov & Bodily, p. 241; de los Arcos et al., 2015, p. 24; Masterman & Wild, 2011, p. 19), lack of institutional or peer support (Jhangiani et al., 2016, p. 28; McAndrew et al., 2012, p. 4), and copyright comprehension (Amiel & Soares, 2016, p. 123-124; de los Arcos et al., p. 15; Pirkkalainen & Pawlowski, 2013, p. 12). OER scholars have made a number of recommendations, such as changes to international copyright laws (Masterman & Wild, p. v; Nikoi & Armellini, 2012, p. 179), changes to institutional policies to encourage the development and dissemination of OERs (de los Arcos et al., 2014, p. 35; Jhangiani et al., p. 33), and changes to OER repositories to increase awareness and make resources easier to locate (Amiel & Soares, p. 134; Clements & Pawlowski, p. 12; Dichev & Dicheva, 2016, p. 34). Such recommendations are valuable; but are beyond the control of individual educators.

Additionally, some recommendations were put forward without consulting current OER adopters, modifiers, and/or creators to discover how they overcame or mitigated OER challenges. For example, scholars studying educators' OER use recommended changes to teaching practices (Masterman & Wild, 2011, p. v), increasing technology training (Clements & Pawlowski, 2012, p. 12), and using current courses to pilot OER use (Jhangiani et al., 2016, p.

34); however, these recommendations were not based on the reflected lived experiences of educators who used OERs. Additionally, White and Manton (2011, p. 13) discussed the perceived lack of quality of OERs as a challenge to adoption, but also questioned whether the true challenge was production quality or educational value. Understanding such gaps between OER usefulness and educational value is not yet known from the perspective of OER adopters, modifiers, and/or creators.

Purpose and Research Questions

The problem is that researchers lack understanding of educators' experiences and perceptions of OERs, particularly the challenges OER educators face. Therefore, the purposes of this phenomenological study were to explore how OER educators teaching in Canadian public universities in the 2018-2019 academic year perceived and described their lived experiences and reflections with adopting, modifying, and/or creating open educational resources. This study used the following research questions to guide the investigation:

RQ 1: How do educators describe and perceive their experiences with obstacles to using OERs?

RQ 2: Upon reflection by educators who have implemented OERs, how do they describe and perceive changes to their educational practices?

Potential Contributions of This Study

According to Hylén, (2007), adopting OERs is touted as a possible strategy to overcoming many challenges facing universities today, such as increased competition between institutions, the globalization of higher education, and the impact of rapid technology development (p. 9). Hylén stated OERs and free content are "economic drivers" that could lead to cost reduction by universities through sharing educational resources (p. 59). Instilling a sense of cooperation amongst educational institutions (p. 59) may result in the increase of globalization

of higher education. (p. 19). Indeed, OERs contribute to globalization when they are shared, adapted, and/or translated (p. 19). Finally, Hylén believed that OERs are a technology development that has the potential to become a "major educational tool" (p. 9) and as students advocate for increased use of digital technologies in the classroom, OERs can "strengthen co-operation among educators within the institution … and [the] quality in the educational offer to students" (p. 124); thus, OER adoption by educators could play a crucial role in overcoming some of these institutional challenges. Many OER studies use quantitative methods (for example, Hylén, 2006; Jhangiani et al., 2016; McKerlich et al., 2013; Kelly, 2014; Perryman & Coughlan, 2014) to gain a broad understanding of challenges facing potential OER adopters, modifiers, and/or creators. Although scholars recommended further research into overcoming implementation obstacles (Amiel & Soares, 2016, p. 132; Belikov & Bodily, 2016, p. 244; Masterman & Wild, 2011, p. v), gaining an understanding of the lived experiences of OER adopters has yet to be explored. Indeed, Hannon et al. (2014) found the critical issue was support for OER teaching practice (p. 137), which may be further realized through investigating this phenomenon.

One intention of this study was to decrease the existing knowledge gap and increase information about challenges to OER adoption, modification, and/or creation through a phenomenological study. Providing first-hand narratives from OER adopters, modifiers, and/or creators answers the call from scholars for a deeper understanding of OER challenges. Recording lived experiences from OER adopters and attempting to "contemplate and theorize the various ways things [such as challenges to OER adoption] manifest and appear in and through our being in the world" (Vagle, 2014, p. 22) may assist other current and future OER educators Additionally, this study may be useful to postsecondary institutions' teaching and learning

centres that provide support and professional development opportunities to educators. Furthermore, results and recommendations from this study may be useful to university librarians if they wish to prepare guides or similar support material for potential OER adopters. This study contributes to the growing OER literature and begins filling the gap in the literature concerning OER adoption, modification, and/or creation through recounting the descriptions of educators with sustained OER use. The results and recommendations generated from this research provide insights that may be useful to educators who wish to explore using OERs, expand their OER use, or incorporate other educational technologies into their teaching practices. Ultimately, it is hoped that this research will pause the readers and cause them to reflect on their personal OER and educational strategies, beliefs, and practices.

Assumptions, Scope, Study Limitations, and Delimitations

Two critical assumptions guided this inquiry. First, it was assumed that some OER adopters were merely finding resources or information on the internet and using these resources without realizing they are not open for reuse, redistribution, or remixing, (Allen & Seaman, 2016, p. 11; Belikov & Bodily, 2016, p. 240; Masterman & Wild, 2011, p. 13; Wild, 2012, p. 18). The second assumption was that it would be challenging to locate Canadian educators who use OERs, as opposed to readily available copyrighted internet resources.

The geographic scope was limited to universities located in Canada. Additionally, educators at all levels of employment in Canadian public universities regardless of tenure or employment status were included in the study. This allowed for a broad examination of ranges of experiences regardless of participants' employment status. This study did not provide an understanding of how educators use various technologies, including those used to adopt, modify,

and/or create OER material, although participants identified specific technologies and described these challenges.

Data generalization predominantly limited this qualitative study. Specifically, participants were self-selected and volunteered because of their interest in the topic, time available, and willingness to share their OER lived experiences for research. Therefore, the views, opinions, and/or lived experiences of all university educators in Canada were not taken into account. Researchers confirmed that data acquired through qualitative methods are not generalizable (Berg, 1995, p. 179; Creswell & Plano Clark, 2011, p. 174).

This study had five delimitations. The first delimitation was maintaining a focus on OER use and not the specific types of OERs educators use, such as open textbooks or repositories. This allowed participants to provide the depth of details of their experiences without excluding any of the many types of resources. The second delimitation was not delving into institutional support of OERs. Institutions play a considerable role in supporting educators' adoption of new technologies; however, including institutional support considerably broadens the study and moves the focus away from educators' motivation to use OERs. Thirdly, open educational practices were outside the scope of this research. According to Cronin (2017), open educational practices are "a broad descriptor of practices that includes the creation, use, and reuse of open educational resources (OER) as well as open pedagogies and one sharing of teaching practices" (p. 1). Thus, open educational practices include educators who actively engage with OERs and includes the support systems put in place, such a funding and policies, which were not included in this research project as the focus of the dissertation was on exploring challenges to OER use. open educational practices were not actively studied, although educators may identify some open educational practices as challenges or helpful toward OER adoption, modification, and/or

creation. The fourth delimitation was global and national sustainability of OERs and the financial stability of OERs. This study focused on educators' use of OERs, therefore, the final delimitation is that student-created OERs will not researched.

The above assumptions, coupled with limited geographical scope, limitations, and delimitations resulted in a tightly focused study with clearly defined boundaries and goals. Consequently, this study provided rich descriptions and narratives of how some university educators experienced OER challenges and continued to participate and contributed to the growing OER movement.

Researcher Bias

The researcher cannot be separated from the data; therefore, acknowledging the researcher's position in qualitative studies is imperative (Creswell 2009, pp. 177-178). I am a sessional university facilitator with a combined 17 years of experience as a university and college facilitator, in addition to two years as a corporate instructional designer. I currently design and create Creative Commons licensed videos at the university in which I work. My experiences in higher education with using and creating open licensed materials influences my perceptions of university educators and their motivation to use, share, modify, and create OERs.

I acknowledged the following biases when conducting the study's indepth interviews and data interpretation and analysis:

- I am an educator who uses OERs.
- I believe OERs challenge traditional content creators, such as textbook publishing companies, and the notion of universities as dispensers of knowledge.
- I believe that incorporating OERs into instructional material is beneficial to students.

- I believe using, modifying, and/or creating OERs improves and evolves the personal educational practices of educators.
- I enjoy using and trying new technologies for facilitation and evolving my educational practices.

I also acknowledge that acquiring and honing educational and technological skillsets to adopt, share, modify, and/or create OERs is difficult and time consuming. Involving oneself in OERs has numerous challenges and often overcoming one challenge leads to additional obstacles. It is also impossible to conquer all impediments because each educator's approach is unique, as is how they incorporate OERs into their teaching practices. Additionally, emerging technologies may make using OERs easier for some educators but more difficult for others, depending on their comfort and skills using technology. Although I have experienced and overcome some OER obstacles, I maintain there are numerous challenges facing educators, even those who sustain OER use; therefore, I endeavoured to learn about educators' lived experiences on the OER journey and how, or if, OERs changed educators' educational practices as they continue to meet challenges.

Definitions

Several terms used throughout this study require clarity because of multiple or contested definitions. This section briefly explores these terms and provides definitions for these terms.

OERs

This study adopts the definition of OERs from the William and Flora Hewlett Foundation (2018, "OER Defined"), which defines OERs as "Teaching, learning, and research materials in any medium — digital or otherwise — that reside in the public domain or have been released

under an open license that permits no-cost access, use, adaptation, and redistribution by others with no or limited access."

Other leading organizations in the OER movement (Cape Town Open Education Declaration, 2007; OER Commons, 2018) along with OER experts, (Downes, 2011; Wiley, n.d.), have yet to agree upon a definition of OERs. The Cape Town Open Education Declaration states that OERs "should be freely shared through open licenses, which facilitate use, revision, translation, improvement and sharing by anyone" (para. 8). The OER Commons defines OERs as "teaching and learning materials that you may freely use and reuse at no cost, and without needing to ask permission" ("Getting Started with OER"). Wiley maintained that OERs should adhere to the 5Rs: retain, reuse, revise, remix, and redistribute, all under an open license that provides resources for free and perpetual permission to use the resources (para. 1). Alternatively, Downes stated, "Open educational resources are materials used to support education that may be freely accessed, reused, modified, and shared by anyone" (para. 1). These definitions by leading OER organizations and experts are not congruent, particularly around the concept of "free." There is an agreement, however, that the resources are licensed for reuse either through an open license or placed in the public domain.

With the William and Flora Hewlett Foundation's definition in mind, it should be acknowledged that OER materials are teaching and learning materials and not scholarly output, such as journals, books, book chapters, and conference papers. Scholarly outputs are not created specifically for teaching and learning, although educators create these materials and may distribute them under a CC license. Examples of OERs are open licensed videos (YouTube), open textbooks (BCcampus), lectures and course material (onlinecourses.com), open licensed photographs (Flickr), and open licensed graphics (Pixabay). OERs should not be confused with

open educational practices, although they do overlap and influence each other (Bossu, 2016, p. 20). According to Conole and Ehlers (2010), open educational practices include OER creation and reuse, but also includes policy makers and managers "to provide the infrastructure to support the OER" (p. 2), which are not OERs and are beyond the scope of this study.

Intellectual Property Rights Licenses

This study includes issues surrounding intellectual property rights, specifically public domain, Creative Commons (CC), and copyright-protected materials. Public domain materials are creative works that are not protected by copyright or other property laws and are owned by the public. Expired copyrights are in the public domain, as are materials freely given to the public by the creators of the materials. These works may be freely used without obtaining permission (Stanford University Libraries, 2019 para. 1). CC is an open license scheme that rests between the extremes of copyright and public domain. It allows creators to share their resources with others to maintain some rights to works without users seeking prior permission or paying fees (Creative Commons, 2021d, "Is Creative Commons Against Copyright?' para 1). Conversely, the Canadian Intellectual Property Office stated, "copyright means the sole right to produce or reproduce a work or a substantial part of it in any form" (2018, para. 5); thus, permission must be obtained from the copyright owner before an item can be reproduced, modified, exhibited, or stored. Of importance to educators is fair dealing, which, according to the Copyright Act (2017, section 29) allows educators to legally reproduce and distribute some copyright-protected materials under specific restrictions and within certain guidelines. Chapter two of this study contains a detailed exploration of intellectual property rights as they pertain to educators.

Other licensing schemes exist and should be acknowledged, although they are not discussed in this study. For example, the GNU operating system applies its general public license to its software program source codes and to the GNU Free Documentation License (GFDL) to its source code manuals; however, these documentation licenses are not used by educators outside of computer studies, as manuals are sold for a profit, have "special rules for Endorsement sections [to] make it possible to use the GFDL for an official standard," and the manuals must contain "sections that state our political position about free software … that cannot be changed or removed" (GNU, 2020 "Why don't you use the GPL for manuals?" paras. 3 and 5). Additionally, the GNU license is used exclusively for software programs and can only be used with other resources, such as books and videos, if a machine-readable source code is included or a "written offer to send the 'source' code' later" is provided (GNU, "Why don't you use the GPL for manuals?" para. 2). Interestingly, the GNU uses a CC license for its website.

Educators

Faculty may refer to the teaching body within university schools or departments, which may be confused with faculty who are employed by universities. The teaching body consists of all professors, limited-term lecturers, sessionals, and instructors who teach students or facilitate learning for a semester in universities. In this study, preference is given to the word educator as this differentiates it from faculty, meaning the department. Finally, educator is a term applicable to the various types of university teaching positions.

Overview of the Study

The dissertation contains five chapters. Chapter 1 provided the context of this study. Chapter 2 begins with presenting the theoretical framework, then delves into the relevant literature surrounding obstacles and the theoretical underpinning that guides the research. This

includes a critical review of current OER practices in addition to the historical context and its relevance to this study. In Chapter 3, I will present the research methodology and research design. Chapter 4 presents the study's results, including a detailed description of the themes used for data analysis. In chapter 5 I will explore the meaning of the results and discuss how these are viewed through the theoretical framework, in addition to recommendations for future researchers, and implications for educational practices.

Chapter 2: Theoretical Framework and Relevant Literature Review

This chapter begins with a review of theoretical framework through which the data were interpreted. Next, I review the relevant literature, which provides context to the study. The literature review begins with a brief history of OERs and explores how educators use OERs. I follow this with an investigation of five challenges to OER uptake as identified in previous studies. I conclude the chapter with a review of how educators acquire teaching skills and knowledge in the university context and some of the external pressures that affect their teaching practices.

Theoretical Framework

The theoretical framework is a combination of the organismic integration theory from Ryan and Deci's (2017) self-determination theory and a tripartite taxonomy of intrinsic motivation (Carbonneau et al., 2012; Vallerand et al., 1992). Self-determination theory is a meta-theory explaining "the social conditions that facilitate or hinder human flourishing" (Ryan and Deci, p. 3) and includes "an approach to human motivation and personality … that highlights the importance of humans' evolved inner resources for personality development and behavioral self-regulation" (Ryan & Deci, 2000b, p. 68). The five remaining minitheories found in self-determination theory (cognitive evaluation theory, causality orientations theory, basic psychological needs theory, goal contents theory, and relationships motivation theory) did not address the needs of the study.

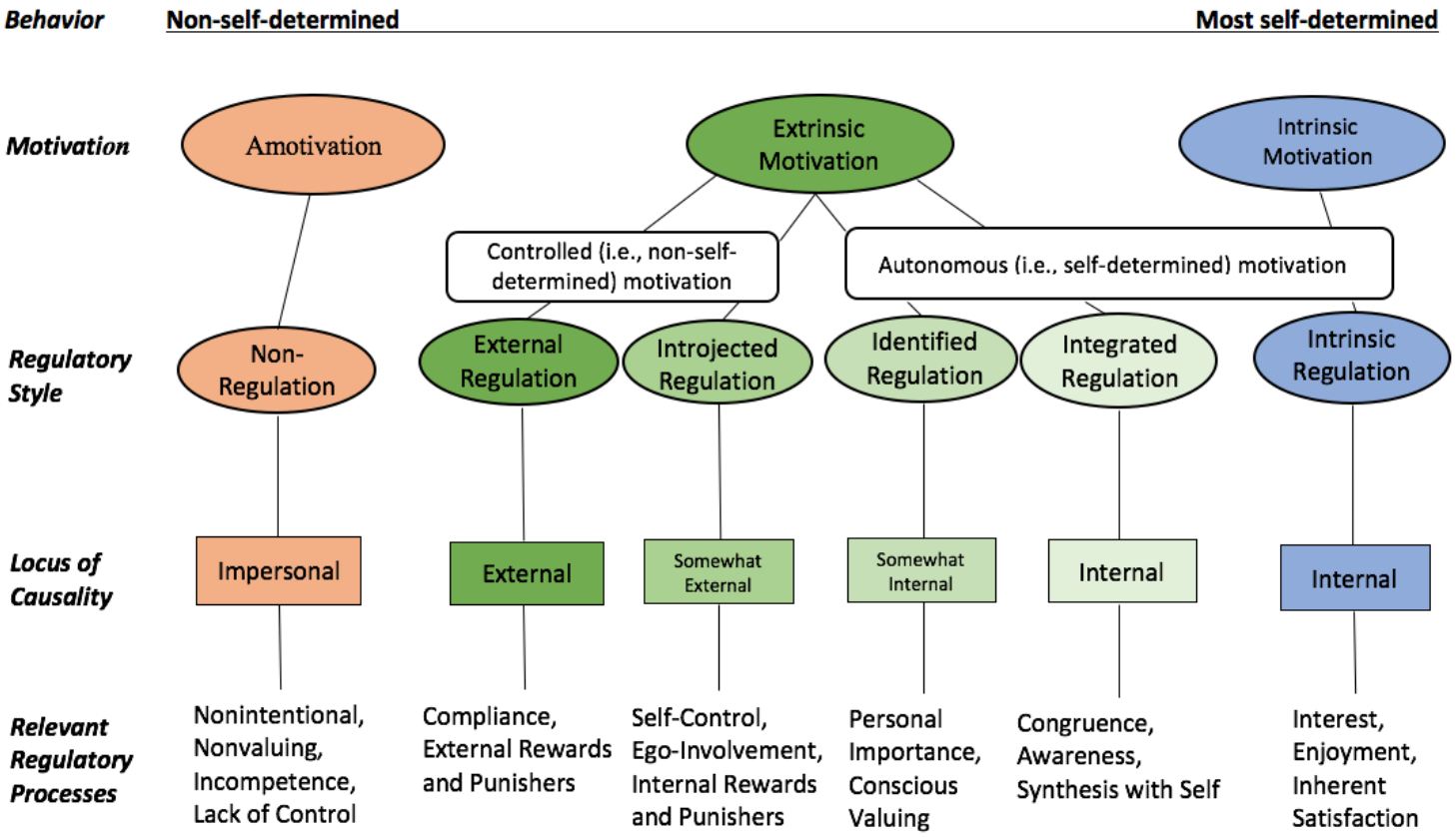
According to Ryan and Deci (2000a), individuals possess various motivations that provide the impetus for tasks and actions that are measured by motivation orientation, which are extrinsic, intrinsic, and amotivation (lacking motivation) and the level, or degree, an individual is motivated to take action and persevere (pp. 54-55). Motivation is further segmented into

regulatory styles that fall along a continuum of relative autonomy, which is the foundation of the organismic integration theory. Ryan and Deci (2017) described organismic integration theory as extrinsic motivation seen through an individual's regulatory style, which are external regulation, introjected regulation, identified regulation, and integrated regulation (see Figure 2). The four regulatory styles represent "how regulations and values can be internalized in distinct ways" (p. 184). Additionally, the researchers note regulatory styles coexist "within a behavioral domain, and often several will be operative as motivation even within a single activity" (p. 184). This indicates the fluidity of the styles.

Concisely, external regulation is the motivation for action that is dependent upon compliance, punishment, or rewards, which are often perceived as controlling by the individual (p. 184). The autonomous nature afforded to university educators does not remove external regulation from this study as educators may sometimes feel pressure to participate in OERs activities. The introjected regulatory style is an internalized motivation that is somewhat external as there is a "sense that one 'should' or 'must' do something or face anxiety and self-disparagement" (Ryan & Deci, 2017, p. 185); thus, the pressure to conform or assimilate is internalized. Identification regulation is also internalized but is not as extrinsically regulated as with the introjected style. Identification occurs when an individual consciously identifies with values and behaviours that are important to them (p. 187). Integration is the final extrinsic regulatory style. It also represents the fullest type of internalized extrinsic motivation and is the most autonomous. Integration occurs when an individual holistically embraces a new value or attitude, and possibly modifies previously held values or attitudes, so the new value or attitude becomes fully integrated with the individual (p. 188).

Figure 2

Self-Determination Theory



From "Self-Determination Theory" by L. Legault, 2020. In V. Zeigler-Hill and T. Shackelford (Eds.), *Encyclopedia of Personality and Individual Differences*, p. 4. http://doi.org/10.1007/978-3-319-24612-3_1162 Copyright 2020 by Springer

Amotivation is the lack of intention not to act or the "perceived inability to attain an outcome" (Ryan & Deci, 2017, p. 191). Amotivation is a separate regulatory style from extrinsic and intrinsic motivation because these possess the intention to act. Using OERs as an example, some educators may be amotivated, meaning these educators likely find no or little value with adopting, modifying, and/or creating OERs, see no rewards to using OERs, or have no intention of using OERs (p. 190).

Organismic integration theory applies to various forms of extrinsic motivation and does not delve into intrinsic motivation. To fill this gap in the theory, Vallerand et al. (1989, as cited in Vallerand et al. 1992, p. 1005) put forward a tripartite taxonomy of three intrinsic motivations: intrinsic motivation *to know*, intrinsic motivation *toward accomplishment*, and intrinsic motivation *to experience stimulation* (Carbonneau et al., 2012, p. 1149; Vallerand et al. 1992, p. 1005). Including the tripartite intrinsic motivation taxonomy augments the organismic integration theory, providing a theory in greater detail and specificity of higher internalized intrinsic motivation (Table 1).

Succinctly, the intrinsic motivation *to know* is related to the constructs of exploration, pleasure from learning, and curiosity (Carbonneau et al., 2012, p. 1149; Vallerand et al., 1992, p. 1005). Intrinsic motivation *toward accomplishment* refers to mastery motivation, or competence, and describes individual achievement, rather than outcomes; thus, it is referred to as undertaking an activity for the satisfaction of the experience or the attempt to create something (Carbonneau et al., p. 1149; Vallerand et al., p. 1005). Finally, intrinsic motivation *to experience stimulation* is referred to as actions undertaken related to the constructs of aesthetic experiences, stimulating sensations, and fun (Carbonneau et al., p. 1150; Vallerand et al., p. 1006). The tripartite taxonomy illustrates that intrinsic motivations are highly internalized.

Table 1

Tripartite Taxonomy

Intrinsic Regulation			
Internal Perceived Focus			
Relevant regulatory processes	Intrinsic motivation *to know*	Intrinsic motivation *toward accomplishment*	Intrinsic motivation *to experience stimulation*
Defining features	Related to exploration, learning goals, learning intrinsic intellectuality, intrinsic curiosity, an inner drive to seek opportunities to learn more about a specific topic	Engaging in an activity for the satisfaction and pleasure derived from attempting to surpass oneself or trying to accomplish or create something related to mastery, intrinsic challenge and creativity	Related to aesthetic experiences, sensation seeking, fun and excitement derived from one's engagement in the activity for stimulating sensations, excitement or aesthetic enjoyment

Adapted from “The Academic Motivation Scale: A Measure of Intrinsic, Extrinsic, and Amotivation in Education,” by R. J. Vallerand, L. G. Pelletier, M. R. Blais, N. M. Brière, C. Senécal, and E. F. Vallières, 1992, *Educational and Psychological Measurement, 52*(4), pp. 1004-1006.

The components of organismic integration theory and the tripartite taxonomy fit seamlessly together to illustrate how they complement each other. This study's data were interpreted, and the results discussed through the lenses provided by the regulatory styles, focusing on the four extrinsic motivational styles and the tripartite taxonomy. Additionally, situating the results from this study within a theoretical framework that combines self-determination theory's regulatory styles with the tripartite framework provided a tight focus on psychological motivation allowing for well-defined phenomenological interpretation of obstacles to OER use as described by participants. Gaining an understanding of how educators implemented OERs and their descriptions of perseverance when encountering OER obstacles afforded insights into their motivation to continue using OERs.

Open Education Resources

The following literature review concentrates on studies published after 2009, although academic OER literature began surfacing in 2002. Rapid changes in technology employed in sharing, modifying, and creating the materials continues to impact educators' use of OERs. These changes include the evolution of the internet from static web pages, known as Web 1.0, to today's Web 4.0, with intelligent interactions between humans and machines (Aghaei et al., 2012, pp. 1-2; Almedia, 2017, p. 7041) and continuous software innovations that allow educators to easily share, modify, and create OERs. Research conducted more than 10 years ago may no longer be applicable to today's OER adopters because of these advances in technology. Details of the literature review search strategy and article management can be found in Appendix A.

The Past and Present

Educators shared teaching resources prior to the emergence of OERs but sharing materials with peers occurred primarily within the same institutions and/or departments

(Masterman & Wild, 2011, p. 13; White & Manton, 2011, p. 10). The development of the World Wide Web augmented this sharing culture to go beyond the walls of the institution and laid the foundations for learning objects, which first appeared in 1994 (Frantiska, 2016, p. 1). Learning objects are small digital entities designed for reuse in multiple contexts and, if applicable, across disciples (Cohen et al., 2015, p. 158). Additionally, they are referred to as self-contained objects that may or may not be part of a larger group of resources and have descriptive metatags attached to them to assist with discoverability (Frantiska, p. 2). The term granularity refers to the small size of learning objects, which affords educators the ability to use a number of objects to create complex resources; however, the promise of learning objects as the panacea for educational resource sharing did not materialize. Weller (2014) contends the failure was three-fold: lack of educational context, lack of discoverability, and the lack of critical mass, which signifies the economical unsustainability of creating and disseminating the objects (pp. 70-71). These challenges also pertain to OERs, which I discuss in subsequent sections of this chapter. Nonetheless, learning objects provide solid underpinnings for the current era of open educational resources, and, in many ways, are similar to OERs.

The escalated need to share educational resources occurred at the dawn of the 21st century with the growing acceptance of online learning. This major change in education delivery methods increased costs for institutions as they needed to quickly create new digital learning resources (Weller, 2014, p. 68). An unparalleled explosion of resource creation occurred as universities invested time and money in online learning, resulting in quality print and multimedia teaching resources (Anderson & McGreal, 2012, p. 382). Three important events occurred in 2002, establishing it as a seminal year for OERs. First, the term *open educational resources* was initially used at the UNESCO forum on the Impact of OpenCourseware in Higher Education in

Developing Countries to describe educational resources with an "open provision" for the "use and adaptation by a community of users for noncommercial purposes" (United Nations Educational, Scientific, and Cultural Organization, 2002, p. 24). Next, MIT (Massachusetts Institute of Technology) foraged into the unchartered territory of Open Courseware (OCW). MIT's initiative saw all teaching materials for 50 courses released onto the internet for easy and free access by the public. The initial success of OCW led to the release of 500 courses in the fall of 2003 with the momentum of course releasing continuing to date (Massachusetts Institute of Technology, n.d., graphic). As 2002 drew to a close, CC introduced its first open copyright licenses scheme, which allowed for distribution of creative work without prior permission or payment (Creative Commons, n.d., "History — Creative Commons licenses").

The William and Flora Hewlett Foundation laid the groundwork prior to 2002 with funding the UNESCO forum (United Nations Educational, Scientific, and Cultural Organization, 2002, p. 1) and MIT's OCW project (Weller, 2014, p. 72). Between 2001 and 2005, the Hewlett Foundation supported several institutions and organizations, including MIT and CC, with grants "in excess of $40 million to … develop and provide online access to open educational resources" (William & Flora Hewlett Foundation, 2005, p. 2). Arguably, the Hewlett Foundation's financial support of OERs was the catalyst responsible for the development and continued sustainability of the global OER movement. Clearly, a number of influential organizations are involved in OERs, but Coughlan et al. (2018) noted "the developmental trajectory of OERs as a loosely organized concept and movement" requires further research (p. 1), which implies the lack of a cohesive or unified movement amongst organization, institutions, and educators.

In recent years, several universities and colleges have created courses and entire programs that use only OERs and freely available material: thus, dispensing with commercially

produced teaching and learning resources. For example, in 2013, Tidewater Community College piloted the first zero textbook cost (ZTC) program, also known as z-degree and TXT0 in the United States. In this Florida college, educators removed all commercial components from 21 courses, replacing them with OER material (Wiley et al., 2016, p. 5). BCcampus recognized ZTC's potential and, in the summer of 2017, issued a request for proposals from faculty in postsecondary institutions in BC and the Yukon to compete for $35,000 grants to develop ZTC programs (BCcampus, 2017). Kwantlen Polytechnic University (KPU), the Justice Institute of British Columbia, and Thompson River University, all located in BC, received grants. KPU created a Certificate in Arts program, the Justice Institute launched Law Enforcement Studies diploma, and Thompson Rivers will introduce its ZTC Certificate in General Studies during the 2019-20 academic year (BCcampus, n.d.-c, para. 3; Caldwell, 2019, paras. 4-5).

KPU continues to overhaul its programs and innovate with ZTC offerings. As of late 2020, KPU offers 845 courses that meet the ZTC criteria (Kwantlen Polytechnic University, 2020), including North America's first ZTC four-year degree, which is a Bachelor of Arts in General Studies (Kwantlen Polytechnic University, 2019). These initiatives impacted 27,754 students enrolled in the ZTC courses and 313 educators teaching the courses (Kwantlen Polytechnic University, n.d.-a, Table 3 and Table 4).

Universities in the United States continue to add ZTC, such as City University New York (2019) and the University of Hawai'i (Meinke, 2018), whilst Colorado is moving forward with state-wide training opportunities for all university educators to help them create OER courses focusing on ZTC (Colorado Department of Higher Education, 2019). Canadian universities continue moving forward with ZTC, particularly in BC higher education institutions where Barker et al. (2018) found increased OER textbook adoption (p. 323), particularly in social

sciences disciplines (p. 322). BCcampus (n.d.-b) believes open textbooks has saved nearly 148,000 BC students approximately $14.5 million in 40 BC postsecondary institutions, with almost 700 BC educators using open textbooks, whilst Campus Manitoba attributes just over $1 million in student saving from using OER textbooks (2019, para. 3). Although these are impressive numbers, the majority of courses and programs offered by Canadian universities require students to purchase textbooks.

How Educators Use OERs

Large OERs, such as textbooks and entire courses, or granular OERs, such as graphics or short videos, are used by educators to gain fresh ideas or inspiration for teaching material (de los Arcos et al., 2015, p. 22; Masterman & Wild, 2011, p. ii) and to supplement teaching and learning materials, such as required textbooks (Masterman & Wild, p. 16, p. 22). Discovering relevant OER material remains a challenge, particularly as some scholars believe that educators do not often visit OER repositories, such as Connexions (cnx.org) and OpenLearn (open.edu/openlearn), to discover resources (Dichev & Dicheva, 2016, p. 34; Masterman & Wild, p. 18). Instead, OER educators locate resources using search engines (Dichev & Dicheva, p. 34; Weller, 2014, pp. 79-80), which may lead educators to sites such as YouTube, Slideshare, and community-driven repositories, such as Wikiversity; however, colleagues and personal friends often provide OER recommendations (Clements & Pawlowski, 2012, p. 9). Regardless of how the resources are located, OER educators select appropriate resources based upon provenance, quality, relevancy, and ease of use (de los Arcos et al., 2014, p. 26; Masterman & Wild, p. 20). Educators either use the resource without modifying it or they adapt or modify it to suit their needs. Creating bespoke material is another option but creation is time consuming and requires some level of technical competence. Not surprisingly, reuse is more widespread than

modifying, with creating OERs the least prevalent (de los Arcos et al, p. 14; Jhangiani et al., 2016, p. 12).

Reusing OERs

Researchers believe educators have normalized reusing OERs (White & Manton, 2011, p. 10), allowing educators to augment courses with comprehensive content (Allen & Seaman, 2016, p. 7). The granularity of OERs impacts their use. For example, smaller resources can be quickly added to support material, and, similar to learning objects, allow educators to insert multiple resources to create units or lessons (Armellini & Nie, 2013, p. 17; McGreal, 2012, p. 2; Thille, 2008, p. 171). White and Manton posit OER reuse occurs in five steps:

1. Deciding to reuse an OER.
2. Discovering the resource.
3. Selecting the resource.
4. Designing how the resource will be used.
5. Delivering the resources within the learning context (p. 10).

These steps illustrate reuse complexity in its simplest form. Each step, however, may be perceived as an obstacle to adoption, and, if the process is too arduous, an educator may reject using OERs as an effective addition to teaching practices. Additionally, educators who reuse resources have a number of obstacles to overcome, such as copyright comprehension or unclear copyrights (Jhangiani et al., 2016, p. 19; Pirkkalainen & Pawlowski, 2013, p. 12; Taylor & Taylor, 2018, “Challenging factors - expertise” section) and finding suitable resources (Allen & Seaman, 2016, p. 31; Pirkkalainen & Pawlowski, p. 11). Similar to OER modification and creation, scholars have investigated obstacles to adoption but fail to provide educators with recommendations to overcome the challenges.

Modifying OERs

One key advantage of OER use is the legal ability to change, or modify, resources, which may be achieved through updating information in the resources or improving the quality (Armellini & Nie, 2013, p. 16). According to Petrides et al. (2008), educators occasionally modify and combine several resources found in repositories to the extent that entirely new resources are created; however, educators must have good working knowledge of the required technology (p. 113) and the resources must be easily remixable. For example, modifying some digital resources, such as videos or PDFs, are problematic (McGreal, 2012, p. 3; Ovadia, 2019, p. 83) as special software and skills are required in addition to the time invested to learn the technologies and the time needed to modify the resource. Ovadia noted that educators were often prevented from modifying CC licensed YouTube videos because access to the raw files is required (p. 83).

Additionally, understanding copyright and open licensing can be arduous when several resources are involved in a remix as each resource may have a different CC license. Modifying becomes more complex if copyrighted materials are used, as seeking permission to use these materials can be both time-consuming and expensive (Hylén, 2007, p. 60). The advent of CC licensing increased OER creation and sharing; however, Kelly (2014, p. 39) noted the perceived quality of OER material is a factor in its adoption, whilst Hilton III et al. (2013, p. 47) found the strength of OERs are its flexibility and allowing educators to rearrange, revise, and remix resources.

Technological advances may render some OERs lost. Ovadia explains that proprietary formats that are no longer supported may trap resources from being used or modified as the software to open the OER is not long available or useable (p. 83). The researcher recommended

using Open Document to "future-proof" resources (p. 86), which allows educators to download the file, work with the content, and reintubate the resource without relying on other servers (p. 86-87) and proprietary software.

Modifying resources may not be an easy task and appears to be time consuming. Scholars have yet to discover how OER adopters overcome or mitigate these and other challenges and have not yet delved into why OER educators go to such lengths to modify resources. It is unclear if these OER modifiers prefer a higher level of personalized resources or if adoption and modification are related to the proprietary textbooks they use, as the textbooks may not meet the needs of the students or educators.

Sharing OERs

Cronin (2017) emphatically stated "education is about sharing knowledge; thus, openness is inherent in education" (p. 2); however, researchers found that educators are more likely to reuse and modify OERs but sharing resources is not common, least of all publicly (de los Arcos et al., 2014, p. 14; Jhangiani et al., 2016, p. 18). This implies a double standard and does not conform to the altruistic roots of OERs. Sharing resources may be more common when sharing amongst peers at the same institution or department, but it remains unclear why some educators will use OERs but not share resources they have modified. This may indicate that some OER adopters have not fully integrated the essence of open into their educational practices. Indeed, they may encounter challenges that have yet to be identified by scholars, but if these impediments do exist, then some adopters have overcome the obstacles. Hylén (2007) suggested some educators do not want to share their resources because they surrender control of the materials (p. 67), but researchers have yet to investigate this. Ironically, the purpose of the open movement and CC is to relinquish most, if not all, control of modified or created OERs. As

David Porter pointedly stated, “It’s what education is about: sharing what you know with others. Don’t hoard it, share it!” (Klassen, 2012, “David Porter”). Further investigation into this phenomenon may identify hidden or obscured challenges to OER adoption and provide additional information about OER rejection.

Creating OERs

Creating and sharing are the currencies used in the world of Web 2.0. From maintaining personal Web pages, to posting on social networks, uploading videos, and commenting on YouTube videos, we live in a participatory culture. Arguably, the highest levels of OER engagement are OER creation and dissemination (Wild, 2012, p. 17), as it requires motivation, the ability to create, and competent use of technological resources (Tuomi, 2013, p. 64). Good working knowledge of CC and fair dealing are required in addition to knowing how and where to disseminate the OERs. Unfortunately, there is relatively little research on examining the steps, obstacles, and accomplishments of individual educators who create bespoke OERs. McKerlich et al. (2013) found 29% (N = 154) of faculty and staff created OERs, mostly tutorials and quizzes (pp. 96-97). Further information pertaining to the content of the tutorials was not forthcoming, and, therefore, it is unknown what types of resources were created.

The size and complexity of an OER are likely factors educators consider prior to creating an OER. For example, sharing a photo on Flickr or Pixabay requires much less technical expertise and time than creating a textbook. Indeed, textbook creation may seem daunting but resources, such as Moore and Butcher’s (2016) “Guide to Creating OER Textbooks” and BCcampus’s “Open Education Self-Publishing Guide” (n.d.-a) provide educators with guidance throughout the process, whilst Mays (2017) took at different approach and reached out to OER experts to contribute to “A Guide to Making Open Textbooks with Students.” The presence and

availability of such guidebooks indicates that educators are interested in textbook creation and some are willing to devote time and effort to such an enterprise.

Hylén (2007) recognized that individuals produced OERs of their own initiative (p. 10), and, therefore, these educators must develop additional skills than what is required to modify OERs. OER educators may review online professional development material offered by various institutions, such as the Commonwealth of Learning (n.d.), University of British Columbia (n.d.), and University System of Georgia (n.d.), to acquire and hone their skills. These online resources further support educators' interests in OER creation, particularly those seeking to create open resources. Additionally, such materials are available on a just-in-time basis, which allows educators to view and act upon the information provided when the educators require the information and when they have the time to implement OER strategies. Reviewing and applying online material supplied by the institutions may enable participants to create quality OERs, increase copyright comprehension, address software questions, reduce time to create and modify resources, and increase individual participant's reputation amongst peers. Such instructional generated material seems easily available, but self-paced online courses offered within universities for professional development could be useful for those seeking entry into modification and creation.

OERs are also created on a large scale by some universities, such as The Open University (2019) in England and the University of Michigan (n.d.). These OERs are used in the universities' open courseware offerings, which educators from outside the institutions may modify for their own purposes. These universities take a collaborative approach to creating OERs by creating inhouse repositories and creation mechanisms. From this, several models have appeared, such as OERu's open design and development approach (WikiEducator, 2015), and

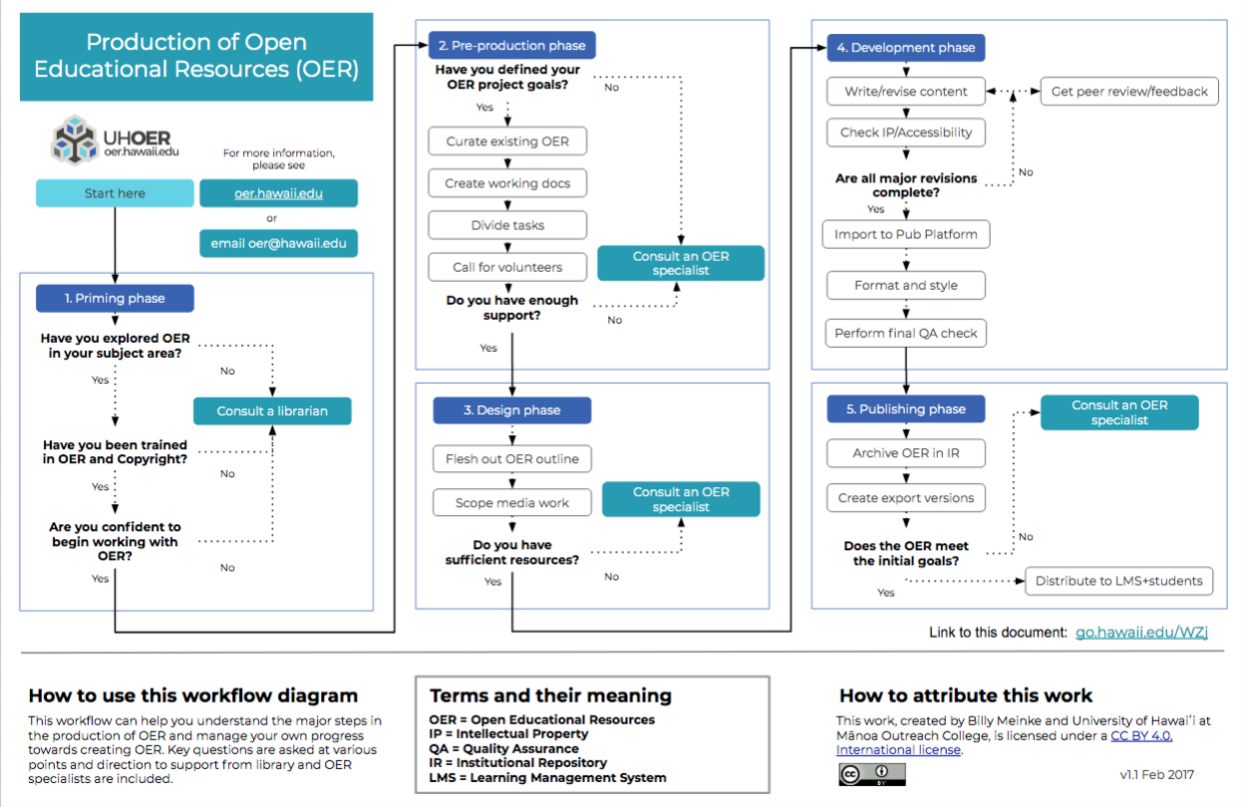
the CORRE workflow by Witthaus et al. (2011). When reviewing these processes, it is apparent that educators and their expertise are a small part of large projects, which can include project managers, instructional designers, video production personnel, and legal assistance. Individual OER creators could use these workflows as guidance, but they may be overwhelmed as the details required for such projects as these are beyond the needs of individual OER creators seeking to make granular resources; however, educators may consider consulting instructional designers at their university as they may be able to help educators create structured workflows and/or assist with technical issues. Alternatively, Meinke's (2017) OER workflow for educators provides them with an individualized approach, breaking the process down into five distinct phases (see Figure 3). Meinke's work is an excellent example of how experts, such as librarians, may assist educators, but it is also problematic. Meinke often suggested consulting an OER specialist, which may pose a challenge to some educators who do not have access to an OER specialist. Nonetheless, the diagram illustrates many decisions and challenges OER creators face from the idea of adoption through to publishing.

Challenges to OER Adoption, Modification, and Creation

Scholars have successfully identified challenges to OER adoption (for example, Belikov & Bodily, 2016; de los Arcos et al., 2015; Jhangiani et al., 2016; Pirkkalainen & Pawlowski, 2013), with a fairly consistent list of obstacles facing university educators who wish to adopt, share, reuse, modify, and/or create OERs. The five challenges of discoverability, lack of quality, copyright comprehension, confusion between digital resources and OERs, and lack of time, are next presented to be an illustrative rather than an exhaustive list that briefly explores some key challenges educators face with OER adoption. Additionally, these challenges are linked to

Figure 3

Meinke's OER Five-Step Workflow for Faculty



establish connections between obstacles and to draw attention to similarities of the recommended changes to practice suggested by scholars to overcome the challenges.

Discoverability

Finding OERs on the internet remains a serious challenge to OER adoption (Belikov & Bodily, 2016, p. 240; Masterman & Wild, 2011, p. 19; Xu, 2018, p. 86) and there appears to be no one best approach to OER discoverability. Similar to other obstacles to OER adoption, discoverability of OERs was linked to other impediments. For example, White and Manton (2011) suggested educators use search engines, such as Google, as a starting point, but noted this was dependent upon the discipline. They found the information presented was nonacademic or incorrect for some subjects (pp. 14-15). Indeed, Xu found educators frequently used Google and YouTube to discover resources (p. 86). Using Google may be problematic as researchers noted that some educators confuse digital resources found on the internet with OERs (Belikov & Bodily, p. 240; Seaman & Seaman, 2019, p. 6) and did not have a clear understanding of copyright, particularly open licensing (Jhangiani et al., 2016, p. 19; Nikoi & Armellini, 2012, p. 179; Pirkkalainen & Pawlowski, 2013, p. 12).

White and Manton (2011) also recommended searching OER repositories (p. 15); however, Moore and Butcher (2016) found educators were challenged when searching for OERs in repositories because there was "no single repository or search facility for users to find open materials. Resources are dispersed across the internet, and a multitude of search techniques are needed to find them" (p. 5). Although Xu's study (2018) was small, with only 16 educators interviewed, the researcher asserted "most faculty" were not aware of OER repositories, databases, or libraries (p. 86). The lack of awareness was exacerbated with the challenge of locating useful repositories, (Amiel & Soares, 2016, p. 133). Once inside an OER repository,

educators may legally use these resources, which "allow educators to share, manage and use education resources" such as lesson plans, videos, quizzes, presentations, and learning activities (University of British Columbia, 2017, p. 3); however, locating relevant OERs in repositories also posed a challenge (Dichev & Dicheva, 2016, p. 32; Pirkkalainen & Pawlowski, 2013, p. 13).

Overcoming the challenge of discoverability is manifold because of the connections with other obstacles. Nonetheless, to enhance discoverability, Dichev and Dicheva (2016) suggested tagging all resources with metadata to indicate licensing (p. 34). Using search parameters, such as a Boolean search, would allow anyone using the internet to search for items by the licenses attached to the item. Hylén (2007) also suggested using metadata to describe the resources but acknowledged a disparity between descriptions and actual search terms (p. 100). This, however, assumes a level of digital literacy by the searchers, and the willingness and ability of people who post digital resource to include the license in the metadata. A more practical solution is to enlist the assistance of institutions' librarians of learning technologies, to help educators locate reliable, discipline specific sites or repositories where OERs reside (Armellini & Nie, 2013, p. 18; Wild, 2012, p. 7). Other researchers suggested a university's instructional designers may be helpful to educators with locating resources and assisting with the OER adoption process (Miller & Homol, 2016, p. 352; Ren, 2019, p. 3483; Xu, 2018, p. 86).

University-created repositories, such as MIT's OCW and OpenStax CNX, were created for the purpose of providing OERs to educators within and outside of the institutions. Such institutions' sites were referred to by Dichev & Dicheva (2016) as unconnected islands. These researchers believed the lack of connectivity results in multiple searches in multiple sites, which causes repository searches to be a tedious and an unproductive task (Dichev & Dicheva, p. 32). This does assume, however, that educators discovered a number of repositories relevant to the

topic prior to beginning the search process. Arguably, OERs and OER repositories are easily found if the correct search parameters are used. It is not yet understood how some educators are able to find OERs whilst other educators state that OER discoverability is one of the principal hindrances to adoption.

Aside from repositories, OERs are available from a number of sites, such as specialized content sites (a list is available at http://open.ed.ac.uk/how-to-guides/where-to-uploadshare-your-resources/specialised-content-site/), OER search engines (a list is available at https://www.jisc.ac.uk/guides/open-educational-resources), and by employing the CC search engine (https://search.creativecommons.org). These resources are easily found using "where can I find OERs" in a Google search. Some university libraries (Brock University, 2020; Thompson River University, 2021a; University of Winnipeg, 2021) maintain web pages devoted to assisting educators with finding OERs, including repositories; therefore, even though participants in OER studies constantly state that discoverability is a critical issue, it appears that OERs are fairly easy to find, which then leads to asking why these resources are not known or used and why participants seeking specific OERs are not locating them.

Allen and Seaman (2016) found participants' attitude towards OERs was a factor in resource discoverability. "Proponents of OER can take a 'glass half full' approach," they stated, whilst nearly half the educators with "the 'glass half empty' approach … report it was hard to find OER" (p. 42). White and Manton (2011) suggested educators searching for OERs should "have realistic expectations of what is available on the Web and refining search methodologies is a key digital literacy" skill (p. 14). Finally, Levey (2012) placed the onus on educators to find repositories and construct a solid search strategy using precise search terms (p. 131).

These three studies clearly moved the responsibility of understanding how to search for OERs from technology tools and institutions to educators. Of particular interest is Allen and Seaman's (2016) research, which suggested educators' expectations and attitudes effect discoverability, but researchers have not examined this further. Belikov and Bodily (2016) also suggested additional research is needed to explore the use of models to overcome the issue of discoverability (p. 244).

Anderson and Leachman (2019) suggested librarians could host workshops that concentrate on how educators could search for OERs and gain an understanding of various licenses. They noted that such workshops received "poor attendance" and suggested future workshops be "in tandem with … small-grants programs" in an effort to increase attendance (p. 9). Clearly, discoverability is a critical issue, but further actionable recommendations for changes to practice to mitigate obstacles to OER adoption are needed. I recommend further research into uncovering how OER educators successfully search for resources and then disseminate these techniques to educators.

Copyright Comprehension

Educators who wish to use or create OERs require rudimentary knowledge of copyright and CC and know where to find current information about how to use, reuse, distribute, modify, and create CC resources. Nonetheless, researchers found some educators had yet to acquire an appropriate level of copyright knowledge (de los Arcos et al., 2014, p. 15; Jhangiani et al., 2016, p. 19; Mishra, 2017a, p. 371). This lack of knowledge places the educators and their postsecondary institutions in legal jeopardy with statutory damages ranging from $100 to $5000 for using copyright-protected material for noncommercial purposes without obtaining a license to use them (Copyright Act, 2017, section 38.1(1)). The statutory damages are purposely low so

as not to cause undue financial hardship on individuals who break the law (Geist, 2012), but for educators and their institutions, the damage may also affect their reputations. Alternatively, copyright holders have the option of seeking statutory damages or actual damages, which may be awarded higher than the statutory damages maximum.

In Canada, copyright applies to "every original literary, dramatic, musical and artistic work" (Copyright Act, 2017, section 5 (1)) that meet the conditions of copyright as per the Copyright Act, which received Royal Accent in 2012. Additionally, the Act also covers performers' performances, sound recordings, and communication signals (Copyright Act, sections 15 and 21). The copyright holder maintains the rights "to produce, reproduce, perform any translation of the work" (Copyright Act, section 3 (1) (a)) including converting written work into dramatic work (section 3 (1) (c)), and public exhibition of the work (section 3 (1) (g)). The copyright holder may rent, lease, or sell the rights for full or partial use of the copyrighted-protected material.

According to the Council of Ministers of Education Canada (CMEC), the modernization of the Copyright Act provides the legal framework for educators and learners "to use publicly available internet materials in their educational pursuits" and clarified the use of copyright-protected material for educational purposes, known as fair dealing (CMEC, n.d., p. 1). Fair dealing is applicable to educators working at nonprofit education institutions and allows the use, reproduction, and distribution of copyright-protected materials for research, education, and for certain noneducational purposes, such as satire and news reporting (Copyright Act, 2017, section. 29). The essence of fair dealing allows educators to copy and distribute, both physical copies and through the institution's learning management system, provided attribution is given to the author or creator or the materials. This is applicable only for excerpts of copyright-protect

materials distributed to students or for teaching purposes. Some Canadian educators may erroneously be under the impression they can freely use any and all copyright-protected materials for teaching and researching, as these fall under the fair dealing clause of the Copyright Act; however, this is a misconception as there are restrictions to fair dealing, and restrictions to CC licensed materials.

Canadian educators must be aware of the following seven fair dealing guidelines before using copyright-protected materials:

- Short excerpt may be used for research, education, private study, criticism, review, new reporting, satire, and parody.
- The source, author or creator of the copyright-protected material must be attributed.
- Each student may receive a short excerpt of copyright-protect material in the form of a class handout, via a post on the course learning management system, or as part of a course package of readings.
- A short except is defined as a maximum of 10% of the copyright-protected material, one chapter of a book, one article from a periodical, and an entry from references such as a dictionary or encyclopedia.
- Educators cannot copy or distribute multiple short excerpts from a single copy.
- Educators should seek additional guidance from their institution if they exceed the limits of the fair dealing.
- Fees charged to students for the use of copyright-protected materials are expected to cover the costs, including overhead costs, and not be used for profit by the institution or educator (CMEC, 2016, pp. 2-3).

Although these seven guidelines appear uncomplicated, the Act specifies numerous restrictions, exemptions, and circumstances; therefore, consulting a copyright expert is advisable.

The Canadian Copyright Board (2018) establishes royalties paid for use of copyrighted materials that is "entrusted to a collective-administration society" and supervises licensing agreements when the "copyright owner cannot be located ("Raison d'être," para. 1). The Board maintains a two-step process to determine if permission is needed to use copyright-protected material. Michael Geist, a professor of law and Canada Research Chair in Internet and E-Commence Law, summarizes the process as follows: The first step is the amount of material, with 2.5% determined as the maximum amount that may be used without obtaining a license (Geist, 2015, para. 5). If more than 2.5% is used, then an educator who wishes to use the material must "test" how the material will be used. This includes ensuring the material is for research, education, private study, or certain other noneducation related purposes. Finally, educators must employ a six-factor analysis to determine whether the materials are used correctly under fair dealing. These factors are purpose, character, amount, alternatives, nature, and effect of the dealing (Geist, paras. 7- 14). Copyright-protected materials need not meet all of the conditions in the six-factor analysis; however, even though the material meets these conditions, the copyright-protected material must still be used according the free dealing guidelines as defined in the Copyright Act.

Many Canadian university libraries (for example, Ontario Tech University, 2020; Simon Fraser University, 2021; University of Victoria, 2021) provide educators with online information about fair dealing and how they may use copyright-protected material and remain compliant with the Copyright Act. Such university resources, for the most part, do not provide extensive information, but instead allow educators to understand copyright at a high level. Conversely, the

lack of details may consequently leave both the institution and their educators open to legal action by copyright holders. In contrast, the Copyright Act may be too time consuming for educators to read and correctly interpret. To support educators' use of copyright-protected materials, some Canadian universities periodically offer copyright workshops to educators (for example, Ryerson University, 2016; Thompson Rivers University, n.d.). Online interpretations of the Act may provide an alternative to educators, such as the CMEC published Copyright Matters, a user-friendly comprehensive interpretation of the fair dealing guidelines specifically for educators, which may be adequate to provide a basic knowledge of fair dealing. Nonetheless, these online resources cannot replace the expertise of universities' copyright librarians who can help guide educators through the proper use of copyright-protected materials.

Similar to copyright-protected materials, educators who use open licensed resources must understand the open licensing scheme. The open license de facto standard is CC (White & Manton, 2011, p. 3), resulting in the CC licensing scheme becoming "firmly associated with openness and OER" (McAndrew et al., 2012, p. 6). Seaman and Seaman (2019) argued CC is a modification of copyright and not an alternative to copyright (p. 5) and Allen and Seaman (2016) stated the "barriers to adoption of open licenses has been simplified to the point that simply attaching an image or a piece of code can be a proxy for a legal deed" (p. 132). The licensing scheme offers alternatives to the extremes of public domain and traditional copyright (see Figure 4). Broadly, CC licensing allows resource creators to share their work for others to use with specific obligations and restrictions for users of the licensed materials. Creators may share resources by posting materials in OER repositories, on their personal blogs, or in online collections of artifacts, such as Pixabay (photos), YouTube (video), and SoundCloud (audio). Creators who wish to apply an open license to their work must consider how they want others to

Figure 4

The Creative Commons Licensing Scheme

	Copy, use, and distribute	Attribution required	Modify, remix, and adapt	Change the licence	Commercial use	Explanation
PUBLIC DOMAIN	✓	✗	✓	✓	✓	This license is the least restrictive license, allowing for use, remixing, commercial use, and changing the licensing when remixed with other works. No attribution is required.
BY	✓	✓	✓	✓	✓	This license allows reuse, remixing, and distribution for commercial and noncommercial use. The license can be changed when remixed with other works, but attribution is required.
BY SA	✓	✓	✓	✗	✓	This license allows reuse, remixing, and distribution for commercial and noncommercial use. Attribution is required and the same license must be applied to the remixed works.
BY NC	✓	✓	✓	✓	✗	This licence allows reuse and remixing. Attribution is required and the licence can be changed when remixed with other works, but the work cannot be used for commercial purposes.
BY ND	✓	✓	✗	✓	✓	This license allows for reuse and distribution for commercial and noncommercial use. The work cannot be remixed or changed in any way. Attribution is required.
BY NC SA	✓	✓	✓	✗	✗	This license allows for reuse, remixing, and distribution, but only for noncommercial use, and the license must be the same. Attribution is required.
BY NC ND	✓	✓	✗	✓	✗	This license allows for copying, using, distributing the work, but it must be attributed to the creator, cannot be used for commercial purposes, and remixing is not allowed. This is the most restrictive CC license.
copyright All rights reserved	✗	✗	✗	✗	✗	All rights are reserved. No copying, reusing, remixing, or distribution is allowed without permission from the copyright holder. The fair dealing section of the Canadian Copyright Act allows educators to use some copyright-protected materials .

Note: The licensing scheme used by Creative Commons is presented to illustrate the various licenses available along with the appropriate graphics used to denote each license. The licenses in the lower portion of the figure equates to less control users have when using the material. Adopted from "Can I combine material under different Creative Commons licenses in my work?" by Creative Commons (2021c). https://creativecommons.org/faq/#can-i-combine-material-under-different-creative-commons-licenses-in-my-work

use the resource and affix the appropriate CC license to the resource, indicating the correct use and reuse of the resource.

Educators seeking teaching resources encounter a variety of CC licenses. These licenses appear as easy-to-use alternatives to copyright-protected materials, or at the very least may be used in conjunction with fair dealing copyright-protected materials. However, CC licenses may be troublesome for educators who wish to mix several CC resources with different licenses as not all CC licenses are compatible for remixing (Friesen, 2013, p. 84). For example, educators must be aware of the CC license attached to each resource they wish to mix together. According to CC, all resources require attribution (BY), whilst other CC licenses require the user not to edit or remix the resource (BY-ND). The mixing of resources with different and noncompatible CC licenses may be an issue if embedding a small BY-ND video clip within a new video. Additionally, some resources require the same license be attached to all new works the resources are used in (BY-SA). Whilst educators can use noncommercial resources (BY-NC) these resources cannot be mixed with BY-SA resources because some materials are restricted with the BY-NC license. This may not appear to be an onerous constraint, but CC recognizes 26 license combination restrictions when remixing CC materials and notes a further five license combinations that may prove troublesome (see Figure 5).

Such license restrictions indicate that educators who wish to create or modify CC licensed resources must be aware of the limits of the licensing scheme prior to working with CC licensed materials. CC licenses were “drafted to be enforceable around the world” and “the licenses have never been held unenforceable or invalid” (Creative Commons, 2021b, “Are Creative Commons Licenses Enforceable in a Court of Law?”). CC maintains a wiki with a list of global court decisions related to CC licenses (Creative Commons, 2017), but CC does not

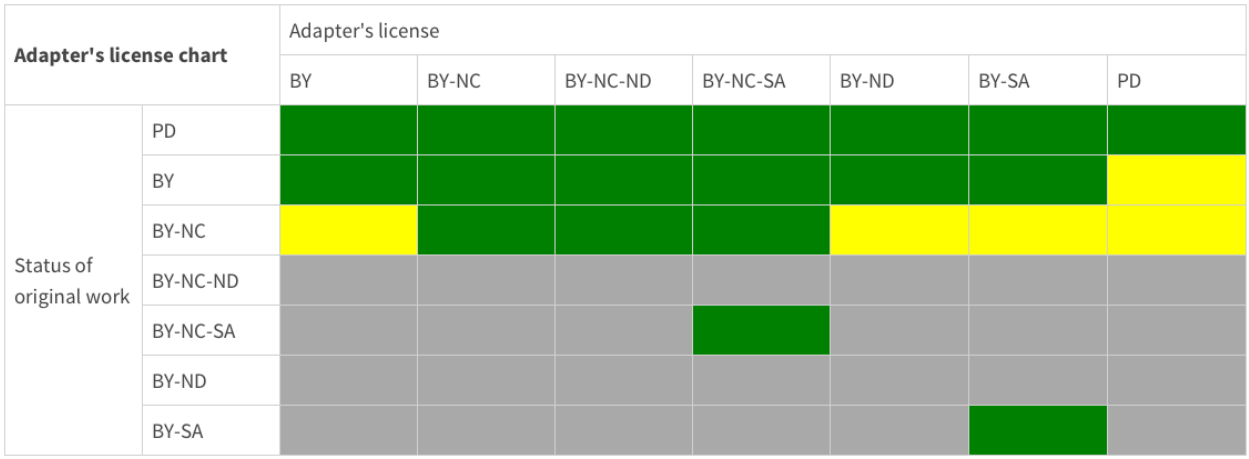
provide information about statutory damages or actual damages. Whilst the list of decisions is relatively short, it nonetheless illustrates the global enforceability of CC and the willingness of courts to uphold the rights of CC license holders.

Both fair dealing and the BY-NC license may confuse some educators who believe universities operate as commercial businesses. The argument is educators cannot use any CC licensed resources because students pay tuition to enroll in courses (McAndrew et al., 2012, p. 5; Hylén, 2007, p. 77); thus, universities are making money. The Copyright Act offers clarification with identifying educational institutions as "a nonprofit institution licensed or recognized by or under an Act of Parliament or the legislature of a province to provide … postsecondary education" (2017, section 2). Although the Copyright Act does not delve into CC resources, CC (n.d.) stated it "works to minimize legal, technical, and social barriers to sharing and reuse of educational materials" ("History — Education"). This support for educational resources appears to reject the premise that public universities are commercial businesses and encourages the use of BY-NC licensed resources by postsecondary educators in publicly funded institutions.

Further confusion surrounds whether or not educators can release resources they have created or modified because it is unclear if the university owns this material or if educators are owners (Hawkridge et al., 2010, p. 163; Nikoi & Armellini, 2012, p. 173). For example, in Australia, employers generally own the copyright to materials created by an employee in the course of their work (Bossu et al., 2014, p. 7), which also applies to the university-educator relationship (p. 16), but universities do not retain the rights to educators' scholarly works (p. 17). This situation varies by country but may also apply differently to institutions within the same country; therefore, educators should consult their university copyright librarians for clarification.

Figure 5

Various Levels of OER Adapter's Licenses



Note: In the Creative Commons adapter's license chart, the grey boxes indicate licenses that may not be used in an adapter's license. Yellow boxes indicate licenses require caution, as future users must be aware of the original CC license. Green boxes indicate an adapter may use when licensing the resource. Adapted from "Adapter's License Chart" by Creative Commons (2021a) https://creativecommons.org/faq/ - if-i-derive-or-adapt-material-offered-under-a-creative-commons-license-which-cc-licenses-can-i-use

Interestingly, confusion surrounding permission for use also abounds in OER repositories. Amiel and Soares's 2016 study of repositories found only 22% of resources clearly stated the CC license, with some material confusingly licensed as "all rights reserved" and others using the most restrictive CC license of BY-NC-SA (p. 130). Copyright confusion may also occur when both the copyright symbol ©, which indicates all rights reserved, appears in proximity to the CC license (Amiel & Soares, p. 123). This may result in confusion about the usability of the material and the extent the materials may be used.

Individual educators cannot address the OER repository issues discovered by Amiel and Soares, as these matters rest with the organization that houses the OERs. Educators can, however, seek out copyright workshops or seminars within their institutions (Armellini & Nie, 2013, p. 18; Masterman & Wild, 2011, p. 57; Wild, 2012, p. 7) or review the CC site themselves to gain a better understanding of how the various licensing schemes work. Indeed, Mossley (2013) recognized that copyright comprehension "is one of the biggest concerns for those coming to OERs for the first time" (p. 12) but contended copyright comprehension for educational purposes was not difficult once an understanding of permissions was gained (p. 12). Clearly, copyrighted materials pose an obstacle to adoption; however, it is not yet known if the key challenges to OER adoption are the lack of CC licensing comprehension, confusion over ownership of material created by educators, or other copyright comprehension issues. Perhaps copyright may be a perceived obstacle because educators believe it is complicated, it is time consuming to understand, or is in the domain of lawyers.

Recent studies recommend educators seek the assistance of university librarians to navigate CC licensing and other copyright issues (Ovadia, 2019, p.79; Reed & Jahre, 2019, p. 240); however, OER scholars have not yet put forward a call for further research into educators'

copyright and CC licensing comprehension. This in itself is interesting, as researchers recognized copyright comprehension as a critical issue and do not agree upon changes to practices. The recommended changes in practice appeared practical for the most part. However, it is surprising that researchers have not yet acknowledged that open licensing information is easily accessible on the internet for those seeking clarification of copyright issues. With this in mind, I suggest disseminating the CC licensing scheme to all educators via email at the beginning of each academic term. The copyright librarian's contact information should also be included as support for educators who have questions. OER researchers could use such information dissemination campaigns for further studies and they should consider working with their institute's public relations researchers to both implement such a program and study the results.

Confusing OERs With Digital Resources

Closely aligned with copyright comprehension is the confusion between OERs and digital resources found freely on the internet (Falconer et al., 2013, p. 41; Masterman & Wild, 2011, p. 13; White & Manton, 2011, p. 3). Many freely-available resources found on the internet are copyright protected and not usable without prior permission from the copyright holder. Researchers found educators were not always aware that resources found on the internet were copyrighted and permission must be obtained prior to use (Masterman & Wild, p. 41; Seaman & Seaman, 2019, p. 6; Taylor & Taylor, 2018, "Expertise – Copyright" section.). Additionally, some educators believed all resources found on the internet may be used if the materials are correctly cited (White & Manton, p. 4), which may stem from the practice of citing sources whilst writing research articles. Conversely, Taylor and Taylor found some educators avoided OERs because they feared copyright infringement ("Expertise – Copyright" section.). Clearly, confusion between freely-available resources and free-to-use resources ultimately rests with

educators' lack of understanding of copyright laws. For example, de los Arcos et al. (2014) found that only 26.8% (n = 215) of the educators in the study, who were aware of the open licensing and familiar with CC, were concerned with permissions for using or modifying a resource (p. 14). This indicates that approximately a quarter of the educators who understand CC intentionally disregard licensing.

In addition to using or remixing freely-found internet resources, some educators stored collections of digital resources on their computer for later use (Harley, 2008, p. 201). It is unclear if these collections contained open-licensed resources, copyright-protected materials, or a mixture. Understandably, once an educator discovers a potentially useful resource, it is more efficient to download, save, and add to a personal collection than it is to bookmark the resources and hope that it remains available for future use. The problem arises when a copyright-protected resource is retained on a computer, as this contravenes the Copyright Act. OER researchers have yet to discover the prevalence of private resource collections or the licenses of resources within the collections; nonetheless, the use of personal resource repositories should be examined to gain further insights into resource curation practices by both OER adopters and educators who do not use OERs. Additionally, gaining some knowledge of how or if these resources are metatagged may be useful to OER researchers and creators.

To increase knowledge and assist educators with understanding that free access does not necessarily equate with free to use, Jhangiani et al. (2016) recommended librarians and universities' teaching and learning centres disseminate information about the use of copyright resources, which the authors suggested would increase OER adoption (pp. 32-33). Clearly, confusion between OERs and freely available digital resources is also related to discoverability of OERs. Whilst increasing copyright knowledge may be helpful, so too might be using metadata

to indicate licensing of resources. Levey (2012), however, contended that metadata will not solve the problem of poor resource retrieval skills (p. 134), which falls under the domain of digital literacy skills. The American Library Association (2013) defined digital literacy as "the ability to use information and communication technologies to find, understand, evaluate, create, and communicate digital information" (p. 1). Although this definition is widely used, it is not always agreed upon (Hadziristic, 2017, p. 18). Nonetheless, at the core of many digital literacy definitions is the ability to search for relevant materials, evaluate the information, and process the materials or information; however, for educators challenged with OER adoption, this appears not to be a strong skill set. These skills would correspond with knowing and utilizing advanced searches using public search engines, finding OERs through search engines, discovering relevant OER repositories, and effectively and efficiently finding resources in repositories.

Some educators may lack the required digital literacy skills to navigate copyright comprehension and open licensing, but this perceived problem may be because of lack of time or simply lack of interest. Falconer et al. (2013) suggested promoting awareness of open licensing and "encourage people to differentiate between resources that are openly licensed and those that are free of charge" (p. 47), but the researchers failed to provide recommendations to execute "encouragement." Finally, both research teams of Masterman and Wild (2011) and White and Manton (2011) acknowledged this critical issue but failed to provide any recommendations to change of practice or to conduct further research. This may be the result of the close relationship between confusing open resources and free material and copyright comprehension. Nonetheless, this critical issue needs further exploration to discover its relationship with copyright comprehension and uncover how educators who use OERs address this obstacle.

Understanding how educators search for OERs has yet to be pursued by OER scholars. Gathering data through interviews or observations of OER adopters and rejecters could yield useful data that may contribute to further insight into educators' knowledge of copyright and open licensing and resource search processes that might lead to a deeper understanding of OER impediments.

Lack of Quality OERs

Some educators bemoaned the lack of quality of OERs (Belikov & Bodily, 2016, p. 242; McAndrew et al., 2012, p. 6; McGill, 2014, Table 1), although it appeared that educators who adopted OERs into their teaching practice had a higher perception of OER quality than educators who have yet to adopt OERs (Belikov & Bodily, p. 242; Jhangiani et al., 2016, p. 5; Mishra, 2017b, p. 79). This could be indicative of preconceived notions about OERs and may be related to rejecting OERs prior to trialing or observing how they are used in practice. Such subject bias requires further investigation as OER scholars have yet to study if there is a change in attitude after OER adoption. Quality has a different meaning to different people in different contexts (Clements, et al., 2015, p. 1100); however, Mishra (2017b) noted quality has many attributes, including accurate and authentic information about the OER, appropriateness of content, and reusability (pp. 68-70). Such attributes may be at the forefront for educators as they search for and evaluate potential OER teaching material, but Mishra also found "The real measure of a material's quality is based on the students' learning outcomes and whether/how it helps them to learn better" (p. 81). This may indicate that some educators put time and effort into remixing several OERs or modifying lower quality OERs to meet their needs. Canadian researchers also point out that educators employed at research-intensive universities had a higher regard for OER

quality than those at teaching-intensive universities (Jhangiani et al., p. 5), although, unfortunately, the researchers did not offer an interpretation of this finding.

Other OER scholars raised the question of comparing commercial resources against those created by educators, stating, “it should be obvious to everyone that a teacher’s job is different from that of a publisher” (eLIG, 2005, as cited in Geser, 2007, p. 25). Presumably very few educators have the training to create textbook quality resources because that is not their area of expertise. Additionally, entire enterprises are in place to create high quality resources, which an individual educator will find difficult to compete against.

Individual educators do have the ability to create small resources, known as granular resources, of high quality. It is perhaps the small size of the resources that makes this possible. For example, individuals who have a specific skill set can create quality short videos, podcasts, or graphics. Photos, for example, can have multiple uses in various contexts. These skills may not lend themselves to larger projects, such as hour-long videos, regular lengthy podcasts, or a series of intricate graphics complemented with corresponding text. A participant in Luppicini’s (2008) study on educational technology stated that university educators face the challenge of “being a jack of all trades and a master of none because there are so many things associated with addressing learning and performance needs that there is no way to be an expert in all areas” (p. 290).

Judgments placed on OER quality deter some educators from sharing their resources for fear of being criticized by their peers and the fear that their resources will be remixed to a lower standard (McGill, 2014, Table 1). This may be viewed as an obstacle for educators wishing to move from reusing to remixing and deter some educators from increasing their technology skillset. For educators who fear others will remix their resources to a lower quality, they may

release their work with a CC no derivatives license (BY-ND), but as seen above, a license does not necessarily stop people from using or reusing or remixing resources. Additionally, once a resource is remixed it may lose its original license when shared because of poor or missing metadata or improper license application. For example, a public domain resource may be remixed with a CC noncommercial (BY-NC) resource to create a new resource that could then be released with a no derivatives license (BY-ND) free for commercial use, or be copyright protected. Data connecting the relationship between sharing and quality has yet to be gathered, leaving OER scholars unable to speculate further.

Educators often compare traditionally published textbooks against OER counterparts, particularly when assessing to adopt the new textbook for a course. Fischer et al. (2017) found Canadian educators who provided online reviews of textbooks (n = 44) tended to provide lower rating for OER textbooks than their American counterparts (p. 151). The authors speculated Canadian reviewers may have higher standards and the textbooks were not "equally useful in different educational systems," the reviewer's contexts may be different, and "average scores may hide difference among various groups of rates" in international studies (p. 151). Although not specific to OER textbooks, Jhangiani et al. (2016) found Canadian OER adopters rated the quality of the resources higher than educators who had not adopted OERs (p. 16). One study participant stated OER textbook authors were creating more interactive eTextbooks with links to videos and other resources, thus making the OER textbooks more comparable in quality to traditionally published textbooks (p. 26). Another participant appeared to miss the "extras" included with traditionally published textbooks, such as instructor resources (p. 21), which impacted the overall quality of using an OER textbook. This is fortified by the Canadian

Association of Research Libraries that found “quality control and content vetting” remains a key challenge to educators seeking to adopt OER textbooks (2014, p. 3).

The perceived poor quality of OERs is contested by Mossley (2013), who believed community-agreed standards were beginning to emerge, particularly in repositories; thus, even large amounts of low quality OERs will not be able to inundate and hide high quality OERs (p. 14). It is, however, unclear if educators, who believe there is an abundance of low-quality resources, know how to use search engines to find the materials or are searching within OER repositories. This leads to the concern that some educators, who do not have the necessary skills to find OERs, likely do not know how to find quality OERs.

McGreal et al. (2016) believed the underlying assumption about OER quality perpetrated the low-quality myth (p. 5), which concurred with Hylén et al.’s (2012) claim, “It is sometimes suggested that materials given away for free cannot be of high quality” (p. 21). Combating these preconceived notions may be problematic, as quality is not controlled; however, educators seeking to use OERs should have realistic expectations, particularly as quality is subjective.

Scholars have put forward possible avenues to address OER quality issues. One approach is through an open-source method, similar to how Wikipedia is updated and edited (Coffin, 2012, p. 18). Likewise, open users could vote for or review resources, such as used with the Connexions project (Yuan et al., 2008, p. 18). Another suggestion was a peer-reviewed process comparable to the academic journal-publishing model (Coffin, p. 18), which appeared similar to McGreal et al.’s (2016) suggestion of peer-assessment (p. 6), but unfortunately the researchers did not elaborate on the possible processes. MIT and the Open University UK are two examples of institutions housing repositories of learning resources created by production teams and educators employed at the institutions. Universities are increasingly creating OER repositories to

house resources, both granular and courseware, for use by their educators. Some university repositories are also available to outside educators.

D'Antoni (2008) reasoned "The OER movement would benefit from an exploration of current international quality-assurance mechanisms and general guidelines and, potentially, from linking with existing quality-assurance agencies" (p. 17). In 2015, Clements et al. responded with the creation of a learning object repository quality assurance framework. The framework provided guidance when building or updating repositories but did address the quality assurance of individual OERs. Suggestions for OER quality assurance echoed Jhangiani et al.'s (2016) proposal that institutions commit to a process for reviewing their OER offerings (p. 32). Conversely, Clements and Pawlowski (2012) advised educators to increase their technology skills, and involve them in OER quality assurance, which in turn "will motivate them to reuse OER from existing repositories" (p. 12). These suggestions aligned with involving educators in an OER community of practice, which Wild (2012) envisioned occurring within institutions. Wild supported capitalizing on educators' OER skills within faculties, so educators could "work together to find technical solutions to facilitate local sharing, reuse, and clustering of good quality OER" (p. 6). These recommendations of using a community of practice may be practical if time is available, which assumes the OERs are not needed in a short period of time.

OER scholars agreed the perceived quality of OERs was a critical issue impeding mainstream adoption. Noticeably, study participants agreed that quality was an issue, but researchers have yet to ask OER users, and potential users, how they perceive quality, how they establish quality, and where they find reliable quality OERs. Additionally, researchers may wish to gain a deeper understanding of how assurance models or peer-review processes could be

implemented by institutions and individual educators who create granular OERs within days of using them.

Lack of Time

Searching for OERs is time-consuming for educators (Anderson & Leachman, 2019, p. 2; Armellini & Nie, 2013, p.17; McGill, 2014, Table 2; Wolfenden et al., 2012, p. 2), which is not surprising considering the aforementioned obstacles surrounding lack of discoverability. Nonetheless, many educators felt they lacked time, which affected multiple obstacles to OER adoption (Xu, 2018, p. 86). For example, using OERs sometimes requires more preparation time (Bliss et al., 2013, p. 9), particularly when modifying or repurposing a resource (Clements & Pawlowski, 2012, p. 12; McGill, Table 2; Ovadia, 2019, p. 83). For time-poor educators, it is often quicker to use proprietary resources supplied by publishers than it is to search for, and possibly remix, OERs. The ease of use is the allure of supplied resources, but publisher-created resources are created for mass appeal and cannot meet the demands of educators, and students, who want resources relevant to their location and cultures, in addition to the specificity and depth of their subjects and topics covered. OERs can meet these demands, but, as Belikov and Bodily (2016) pointed out, evaluating OERs prior to use could also be time consuming. Horn et al. (2018) called attention to the amount of time educators invested to locate resources, evaluate them for relevance, and curate the resources so they were meaningful to the educator (p. 198). Some OER adopters, however, were willing to invest their time to search for relevant OERs if they are searching from "trusted providers" (White & Manton, 2011, p. 9). Presumably, these trusted providers met the criteria of usefulness and quality set forth by these educators. Providers could be peers, OER websites, or institution-owned repositories.

Few studies examined OER use that compares educators who work full-time to those who facilitate part-time. Belikov and Bodily (2016) did not purposely seek out these two groups but discovered part-time educators "were less concerned about the time needed to evaluate or adopt OER, and stated they were less concerned with their ability to find existing repositories of OER" (p. 244). Whilst the researchers called for further research into these differences (p. 244), I suggest future research include exploring teaching loads as well as other responsibilities, such as the number of research projects and number of institutions these educators are employed at. Such depth of information would provide a more accurate representation of time available to educators and assist with understanding time constraints that may affect OER adoption and use.

Replacing a traditionally published textbook may also be time consuming. According to Lieberman (2018), OERs educators may "underestimate how much work is involved in moving from a course-spanning textbook to a revolving collection of disparate materials" (para. 13). Additional time may be needed to discover, remix, and/or create relevant OERs, which appeared in contrast to Jung et al.'s (2017) research on OER textbooks adoption. The scholars found 82% (n = 123) of study participants (N = 150) who adopted OpenStax textbooks stated the equivalent amount of less preparation time was required when using an OER textbook (p. 129); however, 48% (n = 72) of participants made instructional changes, including shifting their approach to collaborative, active learning, and using a flipped approach (p. 130), which presumably resulted in substantial changes to previously established lesson plans. Unfortunately, the researchers did not collect data on the amount of time educators required to make changes to their teaching approach, or the time invested by educators when adapting a course that previously relied upon a traditionally published textbook. Jung et al. also noted that many OER studies combined types of OERs and did not differentiate between the types, so it remains difficult to gain an understanding

of how each obstacle is correlated with the various types of OERs during adoption or modification (p. 124).

In addition to the lack of time, some educators viewed OER production as "extra work" (McAndrew et al., 2012, p. 6) and not correlated with promotion or rewarded by their university. This is echoed by Harley (2008), who found some educators do not positively perceive OERs, and other technologies, as integrating these into practice did not help with promotion and tenure prospects and was viewed as a waste of time (p. 202). Jhangiani et al. (2016) believed educators would be more motivated to participate in the OER movement if OERs were connected to service and was considered an important factor in tenure, promotion, and the reappointment process (p. 33). Seemingly, with this in place, educators would be rewarded for OER participation; however, this recommendation is not feasible across university disciplines. Some educators do not have the technical skill set and certain courses, such as finance and law, require students to study from prescribed textbooks to obtain knowledge and information to meet accreditation standards.

Combined, these studies indicated a broad spectrum of impediments related to time, which may account for some OER scholars' recommendations that educators receive release time, or paid time, to search, create, or modify OERs (Jhangiani et al., 2016, p. 33; Taylor & Taylor, 2018, "Linking solutions with challenges" section; Wild, 2012, p. 6), whilst others felt a lack of a reward to devoting time to OERs (Andrade et al., 2011, p. 115; Mishra, 2017b, p. 35). These recommendations may not be easily implemented by Canadian universities; therefore, the issues of time associated with OER use needs further research that produces actionable recommendations. I also suggest broadening the scope to gain an understanding of how

university educators learn to use technologies, which will shed further light on time devoted to acquiring technology skills.

Other Impediments to OER Adoption

Clearly, the above impediments are not an exhaustive list of obstacles. Indeed, scholars have discovered a number of challenges that should also be acknowledged. First, granularity of the resources is an issue because large OERs, such as entire online courses, cannot be easily modified; therefore, smaller OERs are more suitable (Armellini & Nie, 2013, p. 17; Ovadia, 2019, p. 83; Pirkkalainen & Pawlowski, 2013, p. 11). Not applicable, or a bad fit, is similar to discoverability, as some participants could not find resources within their subject discipline. OER scholars found some participants were not aware of where to find or how to search for appropriate OERs (Allen & Seaman, 2016, p. 33; Belikov & Bodily, 2016, p. 241; Mossley, 2013, p. 19; Jhangiani et al., 2016, p. 19). Next, lack of institutional support was cited by a number of researchers. This may have resulted in the call from librarians and teaching and learning centres for additional educators training (Geser, 2007, p. 65; Jhangiani et al., p. 19). The lack of institutional support may be aligned with the "closed institutional process" in which OERs are often created, shared, and remixed (Coughlan et al., 2018, p. 5). OER repositories are difficult to locate, not connected to each other, and have unreliable search functions (Amiel & Soares, 2016, p. 133; Dichev & Dicheva, 2016, p. 32; White & Manton, 2011, p. 15), although some educators did use OER repositories, which they found saved them from creating a resource that already existed (Blink & Marcus, 2015, p. 31). Jhangiani et al. discovered that educators who rely on ancillary materials provided by traditional publisher encountered an obstacle to OER use because OERs may lack of support material and they recommended increased funding to support the creation of such resources (p. 17, p. 33). Studies also noted some educators lacked

interest in educational innovation (Andrade et al., 2011, p. 118; Hylén, 2007, p. 67), allowing these educators to use the same facilitation methods for years.

Participants in several studies identified technology as an impediment to OER adoption. Technology issues were varied and included the lack of digital literacy skills (Armellini & Nie, 2013, p. 16; Hylén, 2007, p. 66; Mossley, 2013, 11), lack of media production skills to create OERs (Hylén, p. 60; White & Manton, 2011, p. 18), and continued reluctance of educators to adopt technology for teaching and learning purposes (Conole, 2012, p. 112). Indeed, technology is the foundation of OERs in today's educational environment, as the vast majority of OERs are digitally created and disseminated over the internet. Çinici and Altun (2018) believed the lack of "authoring tools with the functions that allow the preparation of learning objects in accordance with personalized instructional needs, their arrangement, entering their metadata, and their packaging" was an obstacle to adoption (p. 2); however, such authoring tools may require time and effort to learn, which may be detrimental, as many educators lack time to learn new complex and powerful multifunctional authoring tools. Additionally, some of these technologies may be proprietary, which limits the usefulness to educators who fully embrace the open movement. This is fortified by Mishra (2017a), who contended that OERs must be "created using open and accessible technologies" (p. 377) to be considered open. Ovadia (2019) acknowledged that OERs were not necessarily created with open software or tools; thus, "the more proprietary formats there are in the OER ecosystem, the greater the chance they might someday become outdated and inaccessible or will require technical skill and pretense to access" (p. 83).

Finally, obstacles to OERs are not discreet. McGreal (2017) provided an example of the cost of the salaries of educators and the time they invested in creating and modifying OERs must be accounted for (p. 293); however, cost/time/salary should also be considered if educators seek

assistance from other educators, librarians, or technical experts, including teaching and learning centres and IT support. This is fortified by Stovall et al. (2019), who noted factors, such as "cost, format, local content, and faculty preference can play a role in the selection of OER material or traditional textbooks" (p. 366). These issues paralleled many challenges facing OER educators who wish to remix or combine resources. Even so, this does not address the underlying issue of obstacles to learning these technologies ahead of creating, mixing, or sharing OERs.

It is not surprising that motivation to adopt OERs may also play a key role in deterring adoption. Taylor and Taylor (2018) believed educators lack the financial motivation to develop OERs, and in particularly sessional or adjust faculty, who are contracted by the semester, have little vested interested in the extra work required to adopt, modify, or create OERs ("Challenging factor - Motivation" section). The authors stated that educators received little recognition from their institutions for authoring OER textbooks, and the lack of formal institutional OER policies contribute the educators' indifference of OER adoption ("Challenging factor — Motivation" section); however, the Commonwealth of Learning (2017) found the combination of national, institute, and project open policies has increased from 45% in 2012 to 55% in 2017 (p. 1), indicating a discrepancy in the research. Clearly, no one solution can address these and other concerns; however, the above brief examination of a few obstacles to adoption illustrates the myriad of problems facing educators who wish to adopt OERs and the potential ease of rejecting OERs as a worthwhile innovation. What must be acknowledged is educators' adoption and sustained use, modification, and creation of OERs face many challenges that are outside of the realm of traditional educational practices.

OER Benefits and Incentives

Fortunately, scholars have explored positive attributes that encourage OER adoption. According to Blink and Marcus (2015), OERs offer educators the freedom to choose and control the course content and on a global level, and they "add to the pool of knowledge which make up the fabric of academia (p. 30). This is supported by Allen and Seaman (2016), who found discoverability of resources, recommendations for other educators, the ability to re-mix resources, and the inclusion of education materials, were all important incentives as indicated by participants (p. 7). Clearly, modification of OERs to suit the learning outcomes and students' needs are key benefits to OER adoption, but these benefits were not enough to sway the majority to use, reuse, modify, and/or create OERs. This problem may be because of low awareness of OERs. For example, Horn et al. (2018) found that with increased OER awareness educators also became aware of how OERs were beneficial to "any teaching and learning experience" (p. 199); thus, indicating that educators who have no or little knowledge of OERs are unaware of the benefits.

Albright (2005) recommended motivating educators by offering incentives for OER use, such as policies to include OER material in the tenure and promotion process and awards for outstanding OER materials (p. 6). This was supported by Taylor and Taylor (2018), who suggested OER educators "receive a certificate of recognition from the administration" ("Compensation, release time, recognition & awards" section). Some Canadian universities, such as the University of British Columbia, include OERs as evidence of contributions towards educational innovation in the tenure and promotion process (2020, p. 15), but this appears not be the norm. For example, Skidmore and Provida (2019) recommended Ontario universities include OER in tenure and promotion guidelines (p. 20). These researchers reviewed a number of

Canadian universities' OER polices and found that many institutions encouraged and assisted educators' use of OERs, but initiatives were not supported by formal policies (p. 18).

Explicit policies may motivate some educators to explore OER adoption, but it remains unclear whether educators have time to incorporate OERs into their teaching practices even with incentives in place. Furthermore, other areas of practice may suffer as time-poor educators turn their energies towards the rewards of an incentive program. However, Ryan and Deci's (2017) research stated rewards and incentives were not effective when permanent behavioural changes are the goal, particularly in a workplace setting. "Approaches to that are performance-contingent," stated the researchers, "have a high risk of fostering external motivation and of being experienced as controlling" (p. 549). They went on to elaborate that when applying externally administered reward contingencies to control behaviours "can alienate people from their values and interests and at times reduce their quality of engagement [and] their performance and creativity" (p. 125). Hylén, (2007) had a different approach to rewards and suggested gaining a good "reputation within the open community" was often an incentive (p. 12). Coffin (2012) concurred and added that reputation building fuels the opportunities for collaboration (p. 17). This may motivate some educators, including those who enjoy participating in Web 2.0 activities. The intrinsic value of OER use was beneficial to educators, who reported it promoted self-directedness, self-regulation, and increased self-confidence and self-motivation (Hussain et al, 2013, p. 374); however, this was balanced by Mishra's (2017b) findings that OER's role in promotion, "opportunities for professional development, networking and image building" were key extrinsic motivators in this study from India (p. 67).

A recent study by Barker et al. (2018) found that some educators who used OERs and worked at multiple institutions or moved from one instruction to another, shared their enthusiasm

for OERs with their colleagues, who in turn also adopted OERs (p. 329). These OER evangelist may assist with the "rapid adoption and a sudden increase of open textbook adoptions at their new intuitions" (p. 329), and if this is true for open textbook, then it is possible that similar OER adoption practices may also occur. The study, which occurred in BC, also hypothesized that OER working groups in postsecondary institutions also assisted with OER adoption (p. 331), particularly as these groups often consisted of educators who promoted OER use to colleagues (p. 329). Kinskey et al. (2018) noted "many professors and students are unfamiliar with OER or do not fully understand what OER means," (p. 199); therefore, it is likely that educators who were not familiar with OER were involved with working groups.

Several OER researchers reported that using OERs were beneficial to educators' teaching practices. Masterman and Wild (2011) offered many benefits to educators who adopted OERs, such as making available to students supplementary learning materials to address learners' needs and interests, providing students with materials that educators were unable to create themselves, benchmarking educators' teaching practices, and increasing collaboration opportunities with other educators (p. ii). Jhangiani et al.'s (2016) study participants reported the greatest benefits of using OERs were to generate ideas and find inspiration when creating lesson plans and to prepare for teaching (p. 5). These participants also stated that OERs have a "positive impact" on teaching practices (p. 5). Researchers also found OERs were employed to augment or supplement teaching materials (Armellini & Nie, 2013, p. 18; Jhangiani et al., p. 5; van der Merwe, 2013, p. 893). Clearly, there are a number of benefits for educators when using OERs; however, these critical issues require further research and actionable recommendations that affect practices, such as programs guides or mechanisms, which could be put in place to assist educators with overcoming these issues and increase OER engagement.

Research Purpose

Scholars identified many skills OER educators may need, such as copyright knowledge and technical competencies, but there are sparse first-hand accounts of educators' reflections of the challenges they faced when adopting OERs and the changes to their teaching practices after OER adoption. Indeed, scholars recommended further examination of how OER adopters overcame OER obstacles (Amiel & Soares, 2016, p. 132; Belikov & Bodily, 2016, p. 244; Clements & Pawlowski, 2012, p. 12; Masterman & Wild, 2011, p. v). Therefore, the purpose of this phenomenological inquiry was to explore how OER educators teaching in Canadian public universities in the 2018-2019 academic year perceived and described their lived experiences and reflections with using, sharing, modifying, and/or creating open educational resources. The following research questions guided this study:

RQ 1: How do educators describe and perceive their experiences with challenges to using OERs?

RQ 2: How do educators who have implemented OERs perceive and describe changes to their educational practices?

Summary

Although the history of OERs is not lengthy, sharing teaching materials predates OERs and the internet. Numerous researchers identified the benefits of using OERs in the university curricula, along with the various challenges to adoption. The five critical issues examined here have genuine implications for the future success and adoption of OER by university educators. Participants in OER studies consistently identified discoverability, copyright comprehension, confusion between digital resources and OERs, lack of OER quality, and lack of educators' time as obstacles to OER adoption, modification, and/or creation. Although much research into OERs

has been conducted since the term was first used in 2002, all five critical issues require further research to gain a deeper understanding so that educators who wish to experiment with OERs in their educational practices can benefit from the experiences, insights, and narratives of current OER educators.

Researchers who identified the five critical issues offered many of the same solutions, such as training or assistance from librarians and teaching and learning centres. It is also clear that suggested recommendations to change practice are either not undertaken or these initiatives are not effectively reaching their target audience. OER scholars have identified additional impediments to adoption then provided here, but this overview of the five issues provided some context surrounding the obstacles educators face when adopting, modifying, and/or creating OERs. The incentives and benefits to using OERs appears underreported, which may, in itself, be a deterrent to OER adoption; therefore, further research is needed to uncover how some educators overcame these challenges, which may result in recommendations to practice that may be implemented to assist further growth of OERs in higher education.

Chapter 3: Research Methodology

This chapter presents the details of the research methodology I used during data collection and analysis. I begin chapter three with a brief overview of the research design followed by an exploration of my chosen methodology: reflective lifeworld research. Next, I describe the data collection methods, including, sampling procedures, participant recruitment efforts, data processing, and analysis processes. In subsequent sections of this chapter, I discuss assumptions I made about the data, review the limitations of phenomenology research methodology, acknowledge the trustworthiness of data, and describe the ethical considerations of my study.

Research Design

This study employed a qualitative phenomenological approach. In the realm of phenomenology research methodologies, there are a number of traditions to choose from. Reflective lifeworld research methodology was chosen to gather, process, and analyze participant data. Phenomenology complements the research topic and the purpose of this study because "phenomenology orients to the meanings that arise in experiences" and familiar experiences "tend to become quite extraordinary when we lift it up from our daily existence and hold it with our phenomenological gaze" (van Manen, 2014b, p. 38); thus, research participants are conduits through which a phenomenon is examined. The focus of phenomenology, according to Creswell (1998), is on the subject's experience toward a phenomenon, and not on the life of the subject (p. 38) and examines the "phenomenon and the meaning it holds for individuals" (p. 40). For example, Giorgi (2012) stated "phenomenology does not dictate to phenomena, but rather it wants to understand how phenomena present themselves to consciousness and the elucidation of this process is a descriptive task" (p. 6). Employing this methodology allowed me

to capture the rich descriptions of educators' experiences with OERs, challenges to OER adoption, and provided an enhanced understanding of perceived changes to educators' teaching practices after adopting OERs.

Reflective Lifeworld Research Methodology

I employed Dahlberg et al.'s (2008) reflective lifeworld research (RLR) approach as the methodology as RLR is congruent with the dualism of descriptive–interpretive phenomenology (Vagle, 2014, p. 61). For example, Vagle noted the descriptive analysis processes aligns closely with Giorgi's descriptive approach, whilst RLR adheres to van Manen's (2014b) interpretive text analysis approach (p. 63). Diekelmann (2008) concurred; adding the philosophical foundations of RLR resides "between the transcendental phenomenology of Edmund Husserl and the hermeneutic (interpretive) phenomenology of Martin Heidegger" (p. 19).

Drawing upon the epistemologies and philosophies of Husserl, Heidegger, Merleau-Ponty, and Gadamer, the RLR methodology is described as an "open design" without a "set of fixed or locked rules" (Dahlberg et al., 2008, p. 25). Nonetheless, the open design should not be construed as unscientific, as the epistemological grounding of the methodology "guarantees the research effectiveness and is also what separates science from non-scientific work" (Dahlberg et al., p. 26). The epistemology stems from Husserl's concept of lifeworld, which is founded on the "natural attitude where all science and research has its origins" (Dahlberg et al., p. 35). Accordingly, the natural attitude is characterized as an activity a human is immersed in *in the now* (Dahlberg et al., p. 36), and, as van Manen reminded us, *now* is a fleeting moment that disappears the moment it commences (2014a, slide 7). Thus, it is only upon reflection of the moment – the lifeworld, the now – that RLR can be employed, as it "seeks to know how the

implicit and tacit become explicit and can be heard, and how the assumed becomes or problematized and reflected upon" (Dahlberg et al., pp. 36-37).

Choice of Data Gathering Methods

Dahlberg et al. (2008) advised researchers to acknowledge three factors that direct the choice of gathering RLR data: (a) the phenomenon itself, (b) the research questions, and (c) the bridling attitude that allows the phenomenon to emerge (p. 176). RLR offers three choices to gather data: narratives, interviews, and fieldwork and observation (Dahlberg et al., pp. 178-229). These choices need not be isolated from each other, particularly as new insights into a phenomenon may arise from maintaining a bridled attitude. Dahlberg and Dahlberg (2020) stated bridling is "an art of being present and asking questions to one's own understanding of a phenomenon rather than taking it for granted. Its goal is to open for many possibilities of understanding" (p. 460). Dahlberg et al. (2008) provided guidance to undertaking each method. After reflecting upon the phenomenon of OERs, the purpose of the research project, and the two research questions, I chose to use interviews to gather data, as employing fieldwork and observation would likely not yield usable data.

I eliminated observation because observing an educator over a course of days or weeks may only yield a few instances of educators interacting with OERs. Such observations would likely affect the educator's use of the OERs, as they would consciously be aware of the observation and may alter their use of OERs. Narratives, which involve the participant writing their reflections of the phenomenon (Dahlberg et al., 2008, p. 179-180) were not considered as a viable option for this study. RLR narratives are often used when a "limited amount of data" is required, such as small descriptions of a specific event (Dahlberg et al., p. 178). This study does

not meet these criteria, particularly as the OERs used by the study's participant are not a specific event but occurs throughout their teaching practices.

Pilot Study

The pilot study took place during November 2019. Five educators who do not use OERs and four educators who use OERs tested the survey. I refined the survey questions and responses based on their collective feedback. Two female and two male OER postsecondary educators assisted with piloting the interview protocol. I interviewed and then transcribed each interview and partially analyzed the data, which assisted with identifying data codes, meaning units, and the RLR data analysis process.

Screening Criteria and Recruitment

All participants were employed as an educator at a Canadian university at the time of participation in the interviews. Additionally, participants indicated they used, modified, shared, and/or created OERs in the last three semesters. I recruited educators using nonprobability sampling, purposeful sampling, and snowball sampling, using email invitations to recruit participants. In the nonprobability sampling phase, I emailed invitations to participate to administrators at Royal Roads University (RRU), University of Victoria (UVic), and Vancouver Island University (VIU). These sites were chosen because of the proximity to my home university and the universities represented three types of postsecondary institutions. RRU offers an abundance of online degrees, UVic is a mid-size research university offering doctoral, masters, and bachelor's degrees, and VIU is a former college that now offers masters and bachelor's degrees in addition to offering certificates in Red Seal trades. I intended to recruit participants with a variety of perspectives and lived experiences with OERs. I followed this with purposeful sampling to increase the number of participants. I emailed invitations to my

professional contacts who were educators employed at Brock University, Université Laval, Ontario Tech University (OTU), the University of Regina, the University of Saskatchewan, and the University of Toronto. Finally, snowball sampling was used when participants knew of other educators who used OERs. A mean of 8.25 participants took part in recent studies that employ a phenomenological methodology to research topics in higher education (Appendix B). This is within the range consistent with recommendations for phenomenological studies (Moustakas, 1994, p. 109; Vagle, 2014, p. 75); thus, the goal of this study was to interview nine participants.

Participants

Using nonprobability purposeful sampling, seven participants, four females and three males, were recruited from VIU and one female and one male were recruited from UVic. I began recruitment in January and conducted interviews from February to April 2020 inclusive. Using purposeful sampling, one female was recruited from Brock University, and one female and one male participant were recruited from OTU. Three interviews occurred in July and August. Finally, one male participant was recruited using snowball sampling. He facilitated at OTU and was interviewed in August (see Table 2 and Table 3). Although two participants are colleagues, I was not in a power-over power relationship with any participants.

Instruments

I used a screening survey and semistructured interviews to gather data. The screening survey consisted of 16 questions (Appendix C), which was used to collect demographics information and screen participants for eligibility for the study. Completed surveys from nonOER users were not used in the study and neither were survey from OER users who did not participate in the interview phase.

Table 2

Demographics Characteristics of Study Participants

Name	Age	Gender	Academic Discipline	Employment Status	Appointment	Rank	Delivery Methods	Courses Taught per Year	Years Teaching
Geri	50 to <60	F	Humanities	Part-time	Probationary/ tenured track	Teaching faculty	F2F	8	15<
John	60 to <70	M	Social science	Full-time	Tenured	Associate professor	Online	3	15<
Michelle	50 to <60	F	University preparation	Part-time	Part-time/ sessional	Lecturer/ instructor	F2F	5	>1
George	60 to <70	M	Applied science	Full-time	Tenured	Professor	F2F	9	15<
Victoria	50 to <60	F	Social science	Full-time	Tenured	Associate professor	Online and blended	2	10-15
Eric	40 to <50	M	Natural science	Part-time	Part-time/ sessional	Lecturer/ instructor	F2F and blended	1	15<
Melanie	50 to <60	F	Formal science	Part-time	Tenured	Teaching faculty	F2F	2	15<

Name	Age	Gender	Academic Discipline	Employment Status	Appointment	Rank	Delivery Methods	Courses Taught per Year	Years Teaching
Paul	40 to <50	M	Natural science	Full-time	Probationary/ tenured track	Teaching faculty	F2F	5	10-15
Emma	40 to <50	F	Natural science	Full-time	Tenured	Professor	F2F	5	5-10
Bruce	60 to <70	M	Applied science	Full-time	Limited term	Teaching faculty	Blended	11	15<
Stephanie	50 to <60	F	Social science	Full-time	Tenured	Associate professor	Online, F2F, and blended	6	5-10

Note. Delivery methods were described as follows to the participants: *F2F* face-to-face, fully on-campus or in the community; *online*, which describes fully online courses; and *blended*, which is online activities combined with classroom instruction in the same course. These data are self-reported.

Table 3

Categorical Data of Survey Responses of Interview Participants by Teaching Experiences, Gender, Rank, and Appointment

	Gender		Rank				Appointment			
Teaching Experience (years)	Female	Male	Professor	Associate professor	Teaching faculty	Lecturer/ sessional	Tenured	Probationary	Limited term	Part-time/ sessional
>1	1 (9.09%)	–	–	–	–	1 (9.09%)	–	–	–	1 (9.09%)
1 to <5	–	–	–	–	–	–	–	–	–	–
5 to <10	2 (18.18%)	–	1 (9.09%)	1 9.09%)	–	–	2 (18.18%)	–	–	–
10 to <15	1 (9.09%)	1 (9.09%)	–	1 (9.09%)	1 (9.09%)	–	1 (9.09%)	1 (9.09%)	–	–
15<	2 (18.18%)	4 (36.36%)	1 (9.09%)	1 9.09%)	3 (27.27%)	1 (9.09%)	3 (27.27%)	1 (9.09%)	1 (9.09%)	1 (9.09%)
Totals	6 (54.54%)	5 (45.45%)	2 (18.18%)	3 (27.27%)	4 (36.36%)	2 (18.18%)	6 (54.54%)	2 (18.18%)	1 (9.09%)	2 (18.18%)

Fifteen open-ended semistructured interviews questions were developed to gather information about participant's experiences with OERs (Appendix D), with some questions specifically for participants who only used, shared, modified, or created OERs. Typically, each interviewee answered 11 questions in addition to clarifying prompting questions. Following phenomenological interview protocol, each interview began with a broad opening question: "Tell me about yourself and your approach to teaching." I asked this question to direct the participant's intentionality, specifically their thoughts and feelings, towards their current teaching practices. I focused the next questions on an OER artifact each participant shared with me, using "directed opening questions" (Dahlberg et al., 2008, p. 191). I also asked follow-up questions, or prompts, in an attempt to direct the participant towards reflecting on their lived experiences with OERs whilst maintaining a conversational approach (Dahlberg et al., p. 190). The artifacts served as an example of how the educator interacted with the OER and served as a reminder to the participant of how they used, shared, and /or created the artifact. The participant directed the conversation, supported with clarifying questions, to reflect and elaborate on their experiences with the artifact (Dahlberg et al., pp. 191-192).

Procedures

The invitation letter (Appendix G) included my contact information, the purpose of the study, approximate interview length, how the study will be used and disseminated, eligibility criteria, and a link to the screening survey. Survey responses were collected in Survey Monkey. The first page of the survey included the informed consent. Participants who provided contact information were invited for an interview and provided with interview questions and an interview consent letter prior to the interview (Appendix H). Interviews were held face-to-face (n = 4), through online video conferencing software (n = 5), or over the telephone (n = 2),

according to each participant's preference. Interview consent was given orally and recorded prior to starting each interview. I used an audio digital recorder to capture the interview audio, not video. I asked for participant consent prior to screen capturing OER examples and artifacts they shared. I later reviewed the shared OER links. Consistent with norms of phenomenological interview (Giorgi, 2009), the length of interviews in this study ranged from 46 minutes to one hour and 27 minutes, with an average length of an hour.

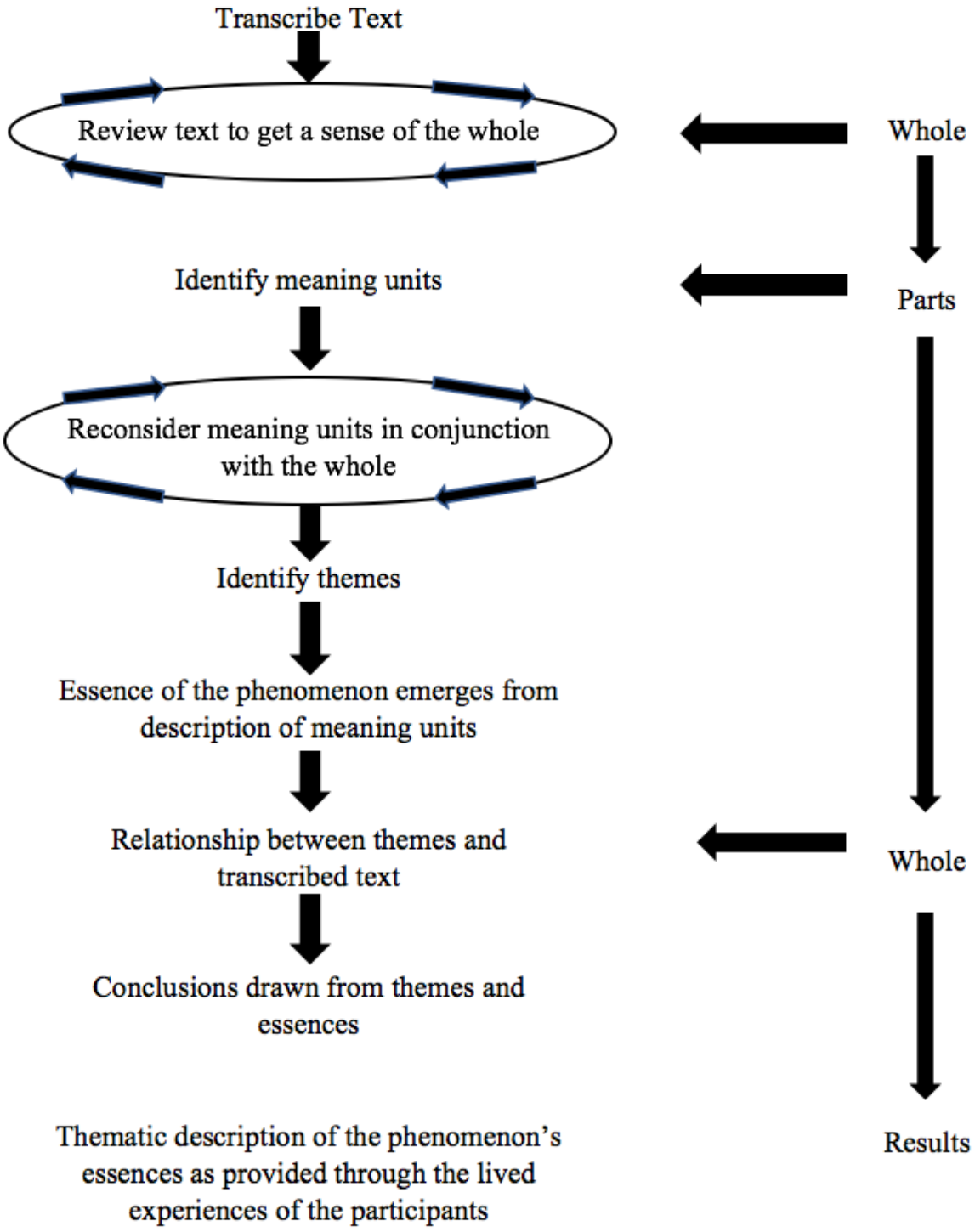
Qualitative Data Processing and Analysis

Dahlberg et al.'s (2008, pp. 232-254) recommended stages of data analysis were followed: (a) transcribe the interview recordings; (b) view the text as a three-part structure, which is whole, parts, whole; and (c) perform a descriptive analysis (see Figure 6).

Transcription (Stage 1). I transcribed each interview, removing all identifying information. I emailed each participant an anonymized transcript of the interview to confirm accuracy and provide an opportunity for them to clarify, add information, and provide further suggestions to anonymize their interview. Two interviews were transcribed by an experienced professional transcriber. Verbatim transcriptions of the audio included nonverbal information, such as sighs, coughs, and periods of silence (Dahlberg et al., 2008, p. 234). Ideally, the researcher should transcribe the interview recordings to ensure accuracy and, upon completion, read through the transcript whilst listening to the recording. This step ensures the accuracy of the recording to the transcription (Dahlberg et al., p. 235). Acknowledging the limitations of transcriptions in terms of capturing verbal nuances, (e.g., pauses in speech, laughter, word emphasis, and hesitation) remained central to my bridling attitude through the analysis and writing process.

Figure 6

The Reflective Life Research Data Analysis Process



Note. Adapted from "Reflective Lifeworld Research" by K. Dahlberg, H, Dahlberg, and M. Nyström, 2008, pp. 232-254.

Transcription Analysis (Stage 2). Texts were analyzed for meanings using the three-part process of whole-parts-whole. I step 1, the text of one interview was read several times to gain "a sense of it as a whole (Dahlberg et al., 2008, p. 238). The purpose of the *whole reading* is to gain a sense of the whole to allow meanings to emerge from the text, particularly as the researcher's preunderstanding employs a bridled attitude of "carefulness and reflection" (Dahlberg et al., p. 241). With this perspective in mind, I wrote a descriptive analysis of the text. Consistent with RLR, I questioned all meanings stated in the text, and reflected upon the meaning (p. 241). Following Dahlberg et al.'s recommendations, I continued this whole reading process until I perceived that I had a "good sense of the whole text and could easily and briefly articulate the overall theme of a particular text, as well as the logistical information contained within it" (p. 239).

In step 2, I focused on parts, or meaning units, of the text, such as clusters phrases. sentences, and meaningful words (Dahlberg et al., 2008, p. 243). Giorgi (2009) stated meaning units are discovered when the researcher reads the text and "experiences a shift of meaning in the description as he or she rereads it" (p. 143). During this step, meaning units were coded using holistic coding (see Saldaña 2013, p. 142). I combined relevant data from all interviews during the holistic coding phase. Holistic coding illuminated patterns within major themes derived from the studies research questions, such as "obstacles," and "andragogical approaches," and how participants interacted with OERs, specifically "creating OERs," "modifying OERs," and "using OERs." I chose not to analyze the holistic codes as Saldaña cautions the report would be "less substantive" (p. 142).

In step 3, I applied value coding to the data in each of the major six themes. Saldaña (2013, p. 111, p. 115) recommended using value coding for phenomenological studies. Value

coding, which consists of value, attitude, and belief codes, is recommended because it seeks to determine participant motivation. Each holist code was reviewed reading line-by-line to identify "shifts in meaning," and categorized the meanings as value, attitude, or belief.

Saldaña (2013) advised writing analytic memos as a means for researchers to gain deeper insights to the coding choices, the process, and emerging patterns (p. 41). I used this as the foundation of a research journal, which helped me review the codes as they emerged from the interview transcripts. This allowed me to later reflect on my coding practices and was a constant reminder to maintain my bridled attitude when working with the data. The research journal was immediately useful to the coding process as my notes and reflections illuminated the need for additional codes. I also used the research journal to record my assumptions and reflections, particularly when I changed or merged codes and meaning unites. As I coded, I often listened to the interview recordings. Hearing the participants' voices helped me understand the nuances of the transcripts.

Broad descriptions were described as themes (Saldaña 2013, p. 175). I marked passages, resulting in meaning unit identification, and remained "sensitive to nuances and changes in meaning" (Dahlberg et al., 2008, p. 244). Following Nilsson et al.'s (2019) example, I explored the meaning units for clusters of related or similar meaning units in multiple interviews. These clusters are unified to amplify the essence of the meaning units (p. 3). Shifts in motivational nuances were noted. When participants appeared motivated, the meaning unit was highlighted. I then referred to the defining features and process on the self-determination regulatory style continuum to discern if the meaning unit appeared to align with a regulatory style. I remained mindful of not taking liberties with my understanding of each meaning unit and I often referred to the context of the surrounding meaning units and paragraphs. Additionally, I remained aware

that not all meaning units could or must align with a regulatory style. To further ensure I maintained a bridled attitude, I often referred to my research journal where I listed by assumptions and biases.

In step 3, the text was treated as a whole again, which enabled me to identify and mark the meaning units to gain a deeper understanding of the text (Dahlberg et al., 2008, p. 254). The meaning units should, at this point, form a pattern and cohesive description of the phenomenon so that the essence, or the very being, of the phenomenon emerges (Dahlberg et al., p. 254). It is important to note, the essence of a phenomenon is not the collective characteristics of the phenomenon, but the "necessary general form" that enables a thing to be a thing (Husserl as cited in Dahlberg et al., p. 249). Essences are elusive, according to Dahlberg et al., as they are "indefinite and expandable" (p. 252). This addresses the continuous evolution and malleability of a phenomenon, particularly as phenomena can never be perceived in the now. This aligns with Dahlberg et al.'s observation that essences are "never completely explored and described" (p. 252), which Moustakas also supports (1994, p. 100).

Ideally, researchers move back and forth between the parts and whole to discover "similarities and discrepancies in the data" and the meaning units (Sundströrm & Dahlberg, 2011, p. 15). Themes begin to emerge from these comparisons of meaning units and the appearance of the essence. These themes retain distinct features and meanings when removed from the whole, but also preserve the meanings relative to the other themes (Sundströrm & Dahlberg, p. 15). Importantly, I used the research journal to describe my biases and my preunderstandings prior to and during the whole, parts, whole process. This allowed me to reflect, bridle, and help me acknowledge how my understandings changed as I engaged with the

transcripts. I believe using the research journal contributed to the trustworthiness of the research, which I elaborate on in the next section.

I did not design the interview questions, prompts, and follow-up questions to directly ask participants about their motivations. Instead, I attempted to identify motivation from the participants' descriptions of their lived experiences with OERs. Thus, the interviews were less focused on motivation and were more focused on the obstacles and affordances to OER use. Succinctly, I analyzed the data beginning with transcribing the text, reviewing the text, identifying meaning units, entering a loop of reconsidering the meaning units in conjunction with the whole, and identifying themes. The essence of the phenomenon emerged as I reviewed and read through the description of the meaning units. Next, I recognized the relationship between themes and with the transcribed text. I finally drew conclusions from the themes. The results of the study were a thematic description of the phenomenon's essence as provided through the lived experiences of the participants. I used NVivo software to aid with coding and employed values coding to assist with further understanding of the transcripts.

Assumptions About the Data

I made a number of assumptions about the data that may impact the research results and research recommendations. First, I assumed the study's participants would understand each interview question and they were knowledgeable about their use of OERs. I also assumed I would likely ask follow-up questions as some participants may have difficulty answering questions because they may not be fully aware of their perceptions, knowledge, feelings, judgments, and encounters with OERs prior to the interview; however, this did not occur. Additionally, I assumed participants would provide truthful perceptions of their lived experiences with OERs and the information they provided was based on their personal

experiences. Presumably all participants were confident with the answers they supplied, provided honest answers to the best of their ability, and did not intentionally attempt to deceive me about their use, abilities, and motivations to engage with OERs.

Ensuring Trustworthiness

Qualitative researchers must demonstrate their study's trustworthiness, according to Given and Saumure (2008). Specifically, qualitative researchers must provide evidence their data were confirmable, credible, dependable, and transferable (p. 896). According to Jensen (2008a), confirmability addresses the quality of the results, which the researcher interprets from the data collected. These interpretations must be "grounded in the participants' perceptions" (p. 112). To ensure confirmability, I reviewed the written transcripts several times whilst listening to the audio recording of the interviews; thus, the nuances of the speech were better understood. Additionally, each participant reviewed the written transcript of their interview to ensure accuracy of the transcript. I also asked two participants to clarify specific parts of the transcripts and gave all participants the opportunity to add any information at the end of the transcripts. Jensen acknowledged that researchers "bring a unique perspective to the study," but this must be tempered with researchers clearly acknowledging and answering for any research biases. In the first chapter of this study, I addressed my biases and stated I use and create OERs and believe they are valuable to higher education. Jensen stated an audit trail must be included in the study to allow a nonpartisan reviewer to "verify the research process and interpretations of the data as consistent on both the literature and methodological levels" (pp. 112-113). To address this issue, I provided the detailed process of RLR, which allows for a review of the data collection and analysis processes.

Jensen (2008b) also called for scholars to include these five methodological procedures ensure the creditability of a qualitative study:

- Ensure sufficient time to contact participates and gather information (time).
- Gain a holistic view of the data by viewing that data from various perspectives (angles).
- Ask colleagues who have knowledge of topic to review the findings (colleagues).
- Gather data using a variety of techniques and from multiple sources (triangulation).
- Ask participants to review the analyzed data to ensure the data were accurately interpreted (member check). (Jensen, 2008b, p. 139)

First, the average length of the 11 interviews was one hour, which ensured sufficient time with the participates to gather information. All participants took their time to answer all the questions I posed, and the interviews were not rushed. I remained in contact with the participants after the interviews and emailed each of them asking the verify their interview transcript. Second, I attempted to gain a holistic view of the data by viewing each transcript using the RLR whole-parts-whole process. Additionally, I maintained a bridled attitude whilst reviewing and analyzing the data, which assisted with mindfulness of my biases and preconceptions. One participant did not like the open textbooks she felt forced to adopt. My attitude throughout the interview was one of curiosity, as I attempted to understand her point of view. This helped me to interrogate each interview from a skeptical perspective, which provided an alternative view of the data. Third, these findings were reviewed by my supervisor prior to presenting the study to the committee. Jensen's fourth procedure suggested multiple techniques and multiple sources. The only data collection method employed was open-ended in-depth interviews; however, the 11 participants offered a variety of perspectives. Finally, each participant reviewed their transcript

for member checking to ensure the data were accurate with all participants promptly replying to my request to confirm the credibility of the transcripts.

In qualitative studies, dependability is closely linked to reliability, which is a term often referred to in quantitative studies. Jensen (2008c) reminded scholars they must include sufficient methodological information in their study so other researchers can replicate it and obtain similar results (p. 209). My supervisor reviewed the methodological information and findings to mitigate errors in the process and interpretation of the data.

As stated above, qualitative research is not generalizable; however, Jensen (2008d) believed the transferability of the results can occur in "other contexts and situations beyond the scope of the study context" (p. 886). Jensen recommended the researcher obtain thick descriptions of the phenomenon from participants, which allows readers to ascertain if the study is transferability. Additionally, Jensen recommended using purposeful sampling to ensure participant meet the study's criteria (p. 887). Stating the study's limitations, delimitations, and criteria for participant selection allows readers to "assess the degree of transferability of their given context" (p. 887). This was supported by Creswell and Plano Clark (2011) who encouraged researchers to recruit participants who can provide accurate data and are trusted and credible sources of information (p. 211). This study clearly stated all of these and used purposeful sampling during the second half of the recruitment process. Sufficient details were provided during the recruitment process for readers to determine if transferability is relevant to their context.

Finally, Creswell (2009) provided guidance for the following additional strategies: member checking, use rich and thick descriptions, clarify researcher bias, present negative or discrepant information that runs counter to the themes, spend prolonged time in the field, use

peer debriefing, and use an external auditor to review the entire project (pp. 191-192). Fortunately, the RLR methodology addresses many of these concerns, including, rich descriptions, researcher bias, time in the field, and auditing to review the completed project. Additionally, my supervisor, who has extensive knowledge and experience working with OERs, provided peer debriefing. Clearly, Vagle's (2014) suggestion of "sustain engagement" was pervasive throughout RLR's data gathering and data analysis processes.

Study Limitations

As with other design methods, phenomenology has its strengths and weaknesses. Gray (2013) noted the advantage of using phenomenology research methodology is the likelihood of discovering factors that were originally outside the focus of the research (p. 30). Conversely, Mardis et al. (2014) called attention to relying solely on interviews "has inherent limitations and weakness the researchers' ability to strengthen credibility through triangulation" (p 178). This calls into question the trustworthiness of the qualitative data gathered, which will be addressed in a following section.

The emergence of essence is particular to phenomenology and a study may be deemed a failure if the essence of the phenomenon is not explicated. According to Dahlberg et al. (2008), the failure to recognize and describe the essence, and thus the failure of a RLR phenomenological study, may occur if the data have a lack of richness and a "lack of nuances" (p. 254). Finally, the researcher may "stay too close to the data to see any structure" (Dahlberg et al., p. 255); thus, it is imperative the researcher maintain a bridled attitude whilst working with the data and not be ambivalent when articulating meanings units (Dahlberg et al., p. 255). Nonetheless, if the essence does not emerge, the identified themes may still be employed as

study results, but Dahlberg et al. cautioned researchers that meaning units should not be construed as related to one another (p. 255).

Finally, data analysis of phenomenological transcriptions is problematic because the nuances and inflections of the voices carry meanings that are difficult to accurately capture in a written transcript. Reviewing the audio recordings several times whilst reading the transcript provided researchers with further insights beyond the static words presented on a page; however, difficulties likely remain when attempting to discover a phenomenon's essence through written transcripts.

Chapter 4: Results

In this chapter, I present my research results beginning with a description of the participants and then I present the quantitative data, gathered from the intake survey. Finally, I present the qualitative data derived from the 11 interviews. Groenwald (2004) reminds us the term *analysis* "has dangerous connotations for phenomenology" as it directs researchers to examine parts, whereas the term *explicate* directs researchers to investigate the "phenomenon while keeping the context of the whole" (p. 49). Therefore, this chapter provides an explication of the participants' reflections upon a wide variety of lived experiences with the OERs they adopted, modified, and/or created. Finally, I assigned pseudonyms to participants to obscure their identities.

Quantitative Data Findings

Interview participants used a variety of OERs and maintained several sharing practices. As per Table 4, all 11 participants stated they shared OERs, eight participants modified OERs, and six participants created OERs. Participants often used OERs in multiple ways. Specifically, three participants only shared OERs, two participants shared and modified OERs, and six participants shared, modified, and created OERs. The most prevalent use of OERs were images, used by nine participants, followed closely by course material and textbooks, with eight participants stating they used each of these OERs. Six participants used OER videos in their teaching practices, and only one participant used audio, such as podcasts or other sounds. Furthermore, participants used OERs in seven combinations: One participant used only textbooks, one participant used a combination of course materials textbooks and videos, one participant used a combination of course materials, images, textbooks, and videos, and one participant used course materials, images, and textbooks. Only one participant used audio, course

Table 4

Types of OERs Used by Interview Participants

OER Use	*n*	%
How used		
Shared	11	100
Modified	8	72.72
Created	6	54.54
Combined uses		
Only shared	3	27.27
Shared and modified	2	18.18
Shared, modified, and created	6	54.54
OER types used[a]		
Audio	1	9.09
Images	9	81.81
Course material	8	72.72
Textbooks	8	72.72
Videos	6	54.54
Combined OER types used		
Only textbooks	1	9.09
Course materials, textbooks, and videos	1	9.09
Course materials, images, textbooks, and videos	1	9.09
Audio, course materials, images, textbooks, and videos	1	9.09
Course materials, images, and textbooks	1	9.09
Images and textbooks	3	27.27
Course materials, images, and videos	3	27.27
Shared with		
My students	10	90.90
Peers within the university	7	63.63
Post for all	5	45.45
Combined sharing data		
Only with their students	3	27.27
With their students and peers within the university	2	18.18
Posted openly online for others to use	1	9.09
With my students, with peers within the university, and posted openly online	4	36.36

[a] The question asked participants to indicate all types of CC and public domain educational resources they used in the previous three semesters. The list included open textbooks, videos, images (i.e., photos and graphics), sounds/podcasts, and open course materials (i.e., assessments, lectures, and lesson plans).

Table 5

Qualitative Themes and Categories

Themes	Categories
OER experiences	Searching
	Adoption
	Modification
	Sharing
	Creation
	Use of OERs
Teaching material	OER material
	NonOER material
Focus on teaching	Facilitation
	Relationships
	University influence
OER support	Universities
	Other supports
Student focus	Students' needs
	Students and OERs

- Paying for OER textbooks
- Provincial support for OERs
- Raise awareness of OERs
- Student created OERs
- Students have technology barriers because of financial issues
- Students' use of OERs
- Types of OERs created
- Use of links to copyright material
- Utility of OER videos
- Zed cred

Upon removal of the 16 items, I ran a matrix query using 59 emergent codes (see Table 6).

OER Experiences

As discussed in the literature review, educators search, adopt, modify, share, and/or create OERs. The reflective lived experiences expressed in this study agrees with those found in the literature; however, participants tended to focus only on some of these aspects. Additionally, participants provided details of how they used the OERs they adopted, modified, and/or created. In this section I provide rich descriptions that support the essential meaning of the phenomenon, which is understood as a device rooted in educators' motivation to support students beyond the classroom.

Searching for OERs. Eight participants recalled how they searched for OERs with several participants using BCcampus or eCampusOntario to look for relevant textbooks. Eric noted that "BCcampus is my go-to" when looking for textbooks (S12), but this OER repository did not have a textbook on his course's topic even though it had a section dedicated to the topic.

Table 6

Emergent Codes and RQ-Framework Codes

Emergent codes	RQ-Framework codes								
	Affordances that aid OER use	Challenges that hinder OER use	Motivation to use OERs	Demotivation that stops OER use	Amotivation	Feels	Thinks	Social values	Values
Academic culture	0	5	0	2	0	5	3	2	0
Accessibility requirements	1	3	0	0	0	1	0	0	0
Altruism	0	2	1	2	0	1	0	14	1
Ancillary material	3	2	0	0	0	0	0	0	0
Authentic teaching-student experience	1	0	0	0	0	1	0	0	5
Autonomy	2	0	0	0	0	0	0	0	1
Belief system	0	0	0	0	0	0	0	0	2
Contacting the author	1	0	0	0	0	0	0	0	0
Community of practice	0	0	0	1	0	1	1	22	0
Copyright	0	6	0	0	0	4	1	2	1
Core beliefs	0	0	0	0	0	0	0	0	2
Course packs	0	0	0	0	0	0	0	0	2
Creation, OER	5	3	8	0	4	2	3	0	1
Creative Commons	3	6	0	1	0	1	1	2	8
Ease of use	2	0	0	0	0	0	0	0	0
eBooks	0	3	0	1	0	0	0	0	0
Education philosophy	0	0	1	0	0	0	0	0	2
Ethics	0	0	0	0	0	0	0	1	0
Evolution of teaching practices	0	0	0	0	0	0	1	0	0
Experience as an OER editor	0	0	0	1	0	0	0	0	1
Fostering relationships	0	0	0	0	0	0	0	0	4
Funding	3	2	12	2	1	0	2	0	0
Future use of OERs	0	0	0	1	0	0	2	0	2

Emergent codes	RQ-Framework codes								
	Affordances that aid OER use	Challenges that hinder OER use	Motivation to use OERs	Demotivation that stops OER use	Amotivation	Feels	Thinks	Social values	Values
Hired a student	2	0	0	0	0	0	0	0	0
Inconsistent in the interview	0	0	0	0	0	0	0	0	1
Indigenous	2	0	0	0	0	3	0	0	2
Journals and paywalls	0	0	0	0	0	2	1	5	1
Librarian's help	9	3	4	1	0	0	1	0	0
Modification to OERs	10	3	2	2	0	1	1	1	6
OER adoption	0	0	1	1	0	2	1	0	2
OER as disruption to education	0	0	0	0	0	0	0	0	1
OER homework system	0	0	1	0	0	1	0	0	0
OER not available	0	0	0	1	0	0	0	0	0
OER textbook	0	9	0	9	0	2	1	0	4
Perfection	0	0	6	0	0	1	0	0	0
Pressbooks	3	9	0	1	0	4	0	0	2
Problems to solve	0	0	0	0	0	0	1	0	1
Quality, OER	11	1	2	9	0	2	0	0	9
Respect for others	0	0	0	0	0	0	0	0	1
Right and wrong	0	0	0	0	0	0	0	0	1
Searching for OERs	2	5	1	1	0	1	0	0	0
Service	0	0	0	0	0	0	0	0	1
Sharing OERs	1	2	0	0	0	1	1	1	0
Standards	0	5	0	12	0	1	1	0	23
Student engagement	0	0	0	0	0	0	1	0	6
Students' finances	2	0	14	2	0	3	0	1	43
Students' needs	4	1	4	1	0	2	0	1	5
Suggestions	0	0	1	0	0	0	0	1	0
Teaching background	1	0	0	0	0	0	1	0	1

Emergent codes	RQ-Framework codes								
	Affordances that aid OER use	Challenges that hinder OER use	Motivation to use OERs	Demotivation that stops OER use	Amotivation	Feels	Thinks	Social values	Values
Teaching-education philosophy	0	0	2	0	0	0	0	1	21
Technology	6	12	0	0	0	0	0	0	2
Tenure or merit	1	2	0	1	0	1	1	1	0
Time	2	15	0	18	0	8	1	4	4
Traditionally published textbooks	4	2	8	9	0	5	4	1	10
University support	7	6	2	5	1	3	1	1	0
Up-to-date teaching material	9	0	0	1	0	2	0	0	14
Use of other OERs	0	0	1	0	0	0	0	0	1
Utility of the OER textbook	2	1	0	0	0	1	1	0	0
Workload	1	2	0	3	0	1	0	1	0

He explained, “I would like a bit more choice, I guess. I would like to see other [OER] texts out there in this field. Like I said, I have a choice of one or none” (S18). Paul looked on the eCampusOntario site, but, for one of his courses, an OER textbook did not exist (S14). As a result, he continued using a traditionally published textbook for that course, although he adopted an OER textbook from eCampusOntario for a different course (S14). Eric’s experiences mirrored Geri and Melanie’s searches for textbooks. Although participants reported that BCcampus did have a textbook on their topics, neither educator adopted them because they felt the OERs did not fit their needs (Geri, S6; Melanie, S31). Geri eventually decided to create her own textbook (S7), whilst Eric and Melanie continued looking by “poking around the internet” (Eric, S12; Melanie, S33). Indeed, internet searches were beneficial to this group of educators, but, as Victoria noted, “it’s easier to find credible OER resources” using eCampusOntario or BCcampus (S10). Interestingly, educators who talked about their searches for an OER textbooks did not mention the credibility of the resources they eventually adopted.

Finally, three educators recalled that others introduced them to textbooks as opposed to them searching for a textbook. Specifically, Michelle reported receiving an “invitation that came out through my work email, through the department, for instructors to take a look at what was available” on the BCcampus website (S9). Bruce remembered he was introduced to the textbook through the Indigenous Tribal Council (S4) and George recalled, “it was purely happenstance that [an author of a different textbook] announced his book on one of the forums I signed up for” (S12). Finally, Emma’s colleague suggested the department adopt a textbook from BCcampus (S11). These three instances indicate OER textbooks were discovered in a variety of ways, including when educators were not actively searching for textbooks.

OER Adoption. Participants had a wide variety of lived experiences with OER adoption. Four participants adopted OER textbooks requiring little or no modification. Specifically, Michelle chose an OER textbook because it aligned with her facilitation style and because it was free for her students (S11). She recalled that "chapters build upon each other" but she would "skip some sections" (S16). Skipping sections allowed Michelle to tailor the material to her facilitation style and her students' needs. She did, however, augment the OER textbook with her own assignments (S1). Arguably, skipping sections in textbooks and creating assignments is no different from how some educators use traditionally published textbooks.

Bruce was asked to create an Indigenous leadership course by his university. The Indigenous Tribal Council provided Bruce with a book they developed, which fit perfectly with the course and the program. Although the textbook did not include a CC license, Bruce maintained it was an OER because the information in the book "gets passed on from generation to generation. It comes through dozens of generations. Hundreds of generations. Nobody gets credit for knowing what they know" (S3). He explained "there is no publishing credit on it" (S4) and the book is free of cost, and the information is freely available for everyone to use (S4). Bruce did not address if modification of the OER textbook was broached in his discussions and emails with Indigenous leaders who acted as his guides as he created the course. Seemingly, this is the only book available that bridges the gap between scientific literacy and Indigenous ways of knowing.

George adopted an OER research methods textbook that was specific to his industry. He saw no need to modify the textbook because "the structure of it works more in a linear applied fashion" and "mirrors" how he teaches the course (S10). George specifically looked for a textbook focusing on the "applied aspect" of research as opposed to traditionally published

textbooks that explain the ontology and the epistemology aspects of research "and would then get into more detail on the psychology of the data methods, collection methods then is necessary at a [names a graduate program] level" (S12).

Finally, Eric adopted an OER textbook as support material. He explained, "It's not something we're relying on day to day. I mean, the students, some students may need to supplement their learning" (S20). Thus, the OER textbook was not required reading, but was useful to some students who did not have a scientific background and lacked foundational knowledge of the topic or for students who needed additional insights to better understand topics covered in the course (S11, S30).

These four educators chose to adopt OER textbooks partially because each textbook fits their approach to the course they facilitated and mitigated the financial burden students faced. Although this will be explored later in the chapter, it is important to acknowledge that educators may have many reasons to adopt an OER textbook instead of a traditionally published textbook.

OER Modification. Some educators who adopt OERs may also modify the resources to meet their needs and the needs of the students. Paul adopted an OER textbook he found in the eCampusOntario repository for one of his courses (S16). He noted the textbook originated from the OpenStax repository (S 17), and although eCampusOntario "kinda puts their own, I think, spin on it, or flavour on it" (S18) it remained "an American textbook, for sure" (S18). Nonetheless, Paul explained it was an advantage because it was an introduction to astronomy and "it was less important to be the exact right textbook. It's like, I can adapt this textbook for my purposes easy enough" (S18). He clarified that he did not make many changes.

> But it did emphasize some things that I didn't want to at this level, and other things were missing. But it was pretty easy to supplement that material, um, that's missing and stuff. And then, like, just focus on the, the things that are necessary. (Paul, S20).

He pointed out that his modification to the textbook was minimal and he mostly created ancillary material, which "wasn't too hard" and "where I saw deficiencies, you know, linking to an article or a video or something like that in my [names the learning management system] page was easy enough" (S24).

Paul did not report encountering any significant challenges when modifying his chosen textbook; however, modifying OERs was challenging for educators. For example, Victoria encountered several technology challenges with the course she adopted, and later modified, from another Canadian university. Victoria noted the OER course was "widely accessible" (S 60) and she appreciated that the public could view the course content and complete the open course. Unfortunately, "being able to use all of that is um, a different story" (S 60). She did not encounter problems downloading the content (S17), but the output file was in Articulate Storyline, which is a proprietary software. "It kind of made it difficult to separate things out" (S 18), explained Victoria. She elaborated on her experience:

> You took it all as one. You took the videos. You took the text. You took everything. All at once. And that isn't necessary. If you want to reuse things, how can you reuse the thing? You want to be able to like, "Okay, yeah, here's all the text. Here's the videos. And here's some of the web content. If you kind of have that separately, it makes it easier then to plug and play. (Victoria, S23)

Victoria clarified with an analogy:

> If you go and embed a picture into a document. As soon as you save that as PDF, it's all locked into one. You can't sort of separate out the image from the text anymore. It's all into one, um, format. And that, and that was our challenge with that [course modification]. (Victoria, S24)

Victoria also voiced dissatisfaction with that university's approach to OERs:

> You're making content for your own uses. But when, you know, when you are going to share this as an OER resource, there is an added level of "Okay, how do I make this easiest for people to modify and remix after." Because it's kind of an assumption that, "Oh, yeah, you're going to want all of it exactly as it is." That's not necessarily true. (Victoria, S24)

To intensify these issues, the learning management system at Victoria's university was an additional challenge. She understood her university's learning management system "is not a widely used format," which caused several problems.

> The layout of pages on [the university's learning management system] is weird. Like, you can't download a whole page and have all that content and put it in. You have to literally copy and paste it in. So, I think that was a problem that we had. But, yeah, so, taking that [other university's] content, copy paste it, put it in [her university's learning management system]. So that's why we built a [her university's learning management system] version of it for our students and then we built a complimentary, um, Pressbooks version as well. (Victoria, S64)

The decision to create an OER textbook using Pressbooks added more time and technology obstacles to her project, Pressbook is a Canadian book authoring and editing software used by BCcampus and educators to create and publish open textbooks. Participants who

modified or created an OER textbook expressed challenges specifically with Pressbooks. Additionally, two participants expressed obstacles with eTextbooks. These three topics are combined to illustrate the overall users' and modifiers' challenges with OER eTextbooks.

Emma, whose department adopted and modified a chemistry OER textbook, was unable to overcome the challenge of the lack of colour in the graphics, which is particularly noticeable when printing the textbook. "The pages aren't coloured," she explained, "so there's a lot to be conveyed in colour and shading" (S17). Aside from the lack of visual appeal, Emma added the lack of colour in graphics does not "convey the right information" (S17). She continued with concerns about the cost barrier associated with the OER textbook, saying, "the cost of printing for this textbook is about $35 as sold through our bookstore" (S45). Michelle had similar concerns printing, saying the textbook is "a bit big" to print at about 500 pages and added "we don't use that much" of the textbook to warrant printing it in its entirety (S34). Printing the Pressbook was also an obstacle for educators. After Geri completed creating her OER textbook, she made it available through Pressbooks.

> We just hired a new person to teach one of the courses that uses this textbook. So, I directed her to the textbook, and she said, "Oh, I'm going to download the PDF because I like to print it off and have a hard copy." I was like, "Oh, really [sounds unhappy]. Okay. Caveat. It's not going to look great. [Participant laughs.] And I might change it" [the content during the semester]. (Geri, S66)

Indeed, Geri's obstacles with Pressbooks began as she worked with the software. Prior to using Pressbooks, she had information "set up more or less like chapters, in a Word Document, in, like a book" (S10). However, when she imported the files into Pressbooks, Geri discovered she "couldn't just copy and paste it in a lot of cases. There's a lot of things, a lot of ways that

program didn't support" (S10). Fortunately, the librarians had the skill set and "were able to translate a lot of that stuff technologically" (S10). The librarians needed to write "special coding in some cases because the formatting just wouldn't do what I wanted it to do, and stuff. And because it's a technical writing textbook, so the formatting is really, really important" (S11).

Emma recalled a similar experience when she modified the chemistry textbook, noting, "I think we have moved away from [Pressbooks] and just decided to work in Word because it's way easier" (S29). Her experience with Pressbooks was time consuming because of "problems with graphics." She explained:

> I spent a lot of time creating this giant table that had figures and words and it was part of the table, but when it came out, it looks fine when I first looked at it and printed it as my own version, but there was an update and we went to create the PDF for the rest of the class, the picture was totally jumbled. It didn't make any sense. Just completely nonsensical. (Emma, S29)

Prior to uploading the graphic to Pressbook, Emma took the precaution of reviewing the HTML coding "to look for things" (S30). She "worked through the HTML to make sure, like, it was consistent with what it was producing. But there was an update and it messed it all up" (S30). The HTML coding may also have an adverse effect because

> in chemistry we have a lot of special symbols and superscripts, and so sometimes those often get messed up. This is part of the copyediting piece. Although it may look fine in Pressbooks, when you produce the final product it could be screwed up and you don't know that unless you have a copyeditor go through and look through it all, right, which is more time. So, that was a challenge. (Emma, S30)

Emma's solution was to create the graphic in "Word and then just create a PDF on my computer and we posted instead" (S30).

Geri noticed similar issues with Pressbooks, saying, "I just keep it online. I don't even download the PDF. It doesn't download very well as a PDF. That's another frustration, I guess" (S64). Geri noticed these problems as she worked with the Word document, and explained:

> If I copied and pasted from a Word doc into the online, it might ignore some of the tabs I might have had. And it won't show up on the online version, but when you download it again to the PDF, the tab's there. So, the line is indented. It's like, "I don't want the indenting. How do I get rid of that?" I can't even see them on the online version. They don't show up, but for some reason they're still there in the background somehow. (Geri, S70)

She further reported that downloading the Pressbook as a PDF "does weird things" to the final product:

> The widow and orphan control is lousy and there are huge blank spaces and it doesn't, um, have ways to resize images effectively to get them to fit. And it would take hours, and hours, and hours and hours [participant emphasis] to make the PDF look good. (Geri, S65)

Geri attempted to correct the problem she saw in the PDF by working with the online version but "it didn't work the way I thought it should" (S70). In sum, Geri described the obstacles with Pressbooks and PDF printing as "little frustrating things" (S70), but these accumulated issues did not deter her from continuing to work with OERs.

As Geri noted, time was also a factor when modifying and maintaining OERs. Emma's department adopted an OER textbook found on BCcampus, and she discovered the OER "requires a lot of maintenance on the instructor's part." Emma elaborated:

> I've had to write chapters for it and put in a lot of time and effort into doing so. Um, not just me but other faculty members as well. So, we've put in a lot of time and effort into putting together this textbook and bringing it to a level that we would like to see it at. It's still not at the level I'd like to see it at. (Emma, S11)

Although some of the participants expressed concerns with obstacles they encountered when modifying the OERs, Victoria noted OER modification saved her time and money. She said, "it would have been significantly more time consuming and significantly more costly" to create the course (S 61). "Even with all the hassles and problems we had, starting from what [the Canadian university that created the course] have, it's significantly easier than starting from scratch. So, I think that's important to acknowledge" (S60).

OER Sharing. Educators shared OERs in a variety of ways. Bruce revealed, "there is actually a lot of sharing of resources" in his department (S8). Sharing takes place through the learning management system where "most of the materials are available if you pick up a course from somebody and they make it accessible to you, then their resources automatically come to you" (S8). Presumably this helped colleagues discover new resources, including OERs. To some extent this may assist other educators with OER discovery. For example, Eric made "other faculty aware of what I'm using," and appeared to promote BCcampus (S96). "I can only assume that they're at the very least, 'Oh, BCcampus! That's amazing!' And then they've gone off on their own little journey" (S96). John, who created videos for his courses, said, "Making them available online [as on open resource] is a no-brainer from my perspective" (S11). He uploaded

the videos to YouTube and used the least restrictive CC licence (S11). The BY attribution allows for remixing and redistribution with providing only the name of the original creator in subsequent versions of the resource. Victoria, who modified an OER course, created a Pressbooks OER textbook based on the course to "share and hope that would make it a little bit easier than what we had to deal with" (S18).

Interestingly, Michelle, seemed hesitant to share assignments she created to augment the OER textbook she adopted. When I asked her about sharing, Michelle replied: "I have not thought about that yet … I tend to try to be really flexible with my students, and so I'm not sure if the assignments that I have my students do would be more generally applicable" (S18). Similarly, Paul created a homework system for the OER textbook he adopted. He noted "the homework [system] is available for everybody to use" (S25); however, educators may have difficulty locating it on the internet. Interestingly, he has not shared any of the supplemental material he created for the OER textbook (S25).

OER Creation. Several educators did not appear interested in creating OERs. Eric said, "It crossed my mind when I saw that [the university he works at] does provide grants for OER development" (S33) but noted OER creation is "not something I'm interested in currently but it's good that support is out there" (S29). George, however, dismissed the notion of OER creations, stating:

> I will worship at the feet of anybody who wants to write a book. It's a wonderful service to the, the academic community, and, um, and God bless you if you're willing to take the plunge. I haven't, I'm not quite that desperate yet. [Participant laughs.] (George, S27)

Geri, however, "took the plunge" and created an OER textbook for one of the courses she facilitated. She evaluated several traditionally published textbooks and found a few chapters in

each textbook that met her needs. Eventually Geri "developed multiple resources that were on the [learning management system] in little chapters or units" (S8). This gradual process of accumulating information became the foundation of the OER textbook. She asked students for feedback as she created material (S44) and received technical help and CC and copyright advice from her university's OER librarian (S10, S48). The result was a textbook that contained eight chapters and is over 200 pages in length.

Not all OERs were as large as Geri's textbook. For example, John created videos that he described as scenarios. He likened the videos to "painting a picture of the incident" that provided the foundation for his problem-based learning approach to education (S12). John's videos were larger and more involved than Melanie's approach to OER creation. She cautioned, "I don't want you to imagine that these are like large tomes and they are bigger than they are" (S13). She often posted links to material, but "if I'm not finding it elsewhere, I'll write the thing down in a [web] page. If you print it out, it would be, like, a few pages long" (S13).

Paul recounted that he was forced to create an OER homework system because the provincial government mandated that educators "can have a required textbook, but you can't have any required [ancillary] materials [that students must purchase] that are marks-based" (S9). Aligning a traditionally published textbook with the included homework system forced students to purchase a new textbook as opposed to renting one, purchasing a used or previous edition, or choosing not to purchase a textbook for a course. Paul collaborated with a colleague and "instigated the first version of … a homework system for physics. So, what this did was it replaced the necessity for having the publisher's homework system" (S9). The system worked so well that "I decided to build an astronomy homework system, too" (S14). Creating questions for

the homework system was fairly easy as he used the questions from previous midterm exams. Thus, over the last 10 years, he has created 40 new questions each year (S57).

Although these are just a few instances of OER creation, it is clear that each educator approached creation from a personal perspective. Some educators, such a Geri and Paul slowly accumulate information and eventually built or augmented their OERs, whilst other educators created and shared smaller OERs, which either filled information gaps or provided vital information for students to use in their courses.

Use of OERS. Educators used OER textbooks in a variety of ways, such as Eric who does not "integrate [the OER textbook] directly into my teaching. It's mostly, as I said, a reference for those students that need that support, and I would defer to this then in my meetings with students" (S30). Paul used one of the adopted OER textbooks in a similar fashion: "To me it's supplementary to the lecture component and whatever other resources I'm making available to them" (S21). Similarly, Melanie also provided her students with a link to "three online textbooks that are available to them to reference" (S6). Michelle noted that she used online resources, such as videos, to help students understand material (S3), but she used the OER textbook as it was laid out. "Chapters build upon each other within the textbook itself. And so, I don't actually go from the beginning to the end. I kinda pick and choose, but I sort of pick and choose in chronological order" (S16). Stephanie used "a lot of pop culture humour [in the videos] because it sort of grounds it for them. Um, anything that's going to create conversation" (S6). George used more than one OER textbook, and reported he used this second book because it was "truly a Canadian edition" (S24). He found the traditionally published textbook created by American publishers simply replaced the names of American companies with Canadian companies to create Canadian editions of the same textbook (S24); however, these textbooks

"still teach all the American laws, which drives me bananas" (S24). Indeed, he was grateful to find a "contextually appropriate book that I don't have to go through and say, 'Okay, chapter 6, forget all of that. Here's the Canadian legislation'" (S24). Finally, Eric curated and shared a number of OER resources that were outside of his discipline (S53). He believed "students aren't getting the knowledge or skill sets I feel are important elsewhere in their time at [the university]" (S62). Therefore, he shared short PDFs on several topics, such as web literacy, science communication, and social psychology with his students, which "kind of stepped outside of what many of the science students are expecting from the course, or from a science course" (S62).

Teaching Material

Each educator utilized OERs and nonOER materials that apparently aligned with their approach to teaching and met the needs of their students. Educators used a variety of resources to successfully meet these needs. The above section provided many examples of participants' lived experiences with OERs, such as the homework system, textbooks, and videos, but participants also revealed that OER quality and up-to-date teaching materials are important aspects to choosing and using OERs.

OER Material. Bruce found that "OERs are a much better calibre, to be honest with you, of material" (S1). Although he was not sure of the OER creation process, he believed OERs were created "more on a consensus or working, or sharing, or information as you develop. And, as a consequence, you probably get a resource that's easier for a broader spectrum of people to understand" (S23). Interestingly, George maintained a similar point of view to describe his chosen textbook: "Instead of trying to hit an extremely broad audience, the textbooks that I've adopted are focused on what I want and what my students need for this particular course" (S3).

Seemingly, the collaborative approach to OER creation may provide students with an easier means of understanding the topic, and also give the textbooks a sharper focus.

Paul noted that one of the OER textbooks he adopted was “nicely laid out” and “it looks very professional” (S32); however, he noted there are quality problems. “We’d love to be fully OER if possible, but the textbook [for another course] wasn’t good enough” (S113). This poor quality was also mentioned by Emma, who previously reviewed and edited an OER textbook. She recalled, “I was not impressed with the level of content that was being conveyed. And the writing style, I was not a fan of as well” (S11). Nonetheless, when a colleague suggested they adopt a different OER textbook, she thought it was a good idea (S11). Unfortunately, Emma quickly found “It doesn’t have the production value that I would like to have” (S11). She noted problems with low quality graphics, and “there have been mistakes in the open resource that I have not been happy about, that have caused confusion” (S11). Additionally, Emma found “sometimes the terminology is not consistent throughout” (S11). which is imperative in a chemistry textbook. Emma believed “the quality isn’t there” (S11). For example, the graphics were confusing because “there is a figure 1 in every chapter” as opposed to figure 4.4 being in chapter 4 (S23). Although Emma and her colleagues modified the textbook, she remained unhappy with it, giving it a grade of a B-, or in the B range. “But I know that with the textbook, off-the-shelf, that I can purchase or have the students purchase, I’m going to get an A+ product or at least it’s an A product, right?” (S31).

There appeared to be a variance in the OER quality, particularly with science OER textbooks. Eric noted his adopted science textbook was of high quality (S40), however, Paul adopted one OER textbook that he felt was of good quality, but he refused to adopt an OER textbook for a different science course because of the OER’s poor quality (S113), whilst Emma’s

science textbook did not meet her standards. Indeed, she found the OER science book she edited and the one adopted by her science department were both of poor quality (S11).

Timely and relevant teaching material were important to these educators. Emma realized that chemistry traditionally published textbooks have not changed significantly over the years, but new topics are added. She said that traditionally published textbooks published 20 years ago likely did not include chapters on environmental chemistry and other topics, such as LED lights, were approached differently, explaining, "the basic principles are still there, but maybe those things were left out of a first-year textbook in 1995" (S43). Similarly, Eric found the OER textbook he used "doesn't change so dramatically between editions (17)" but nonetheless appreciated

> the fact that it's frequently updated, you're reading it and you're like, "Okay, I heard about this on the news just, you know like a couple of months ago and here it is in the textbook." Um, so I think that feeling of that you're, you're connected with a reference that isn't dry and dusty but it's accessible. It's up to date. (Eric, S35)

Paul noted that with astronomy "it's very important to stay modern because the field is changing so rapidly. And so, it was a very modern [OER] textbook" (S20). Such updates were often met with surprise from the participants, such as George, who found the authors completed "updates on it, which is incredible" (S1), and Melanie, who, during the interview, asked me to open a link to an OER textbook she has on her course website. The update was less than a week old. "Oh, really?" she said, sounding surprised. "Oh, so it got automatically updated. That's nice. They put it back on the same link" (S46).

Such updates seemed to occur more often with OERs than traditionally published textbooks because of OERs' flexibility. Authors can easily make changes to the original

textbooks and post it online for others to see immediately. Additionally, some educators may use an OER as the foundation and update the sections of an OER textbooks as they see fit. The ability for authors and users to quickly update material appears to be an advantage OERs have over nonOERs.

NonOER Materials. Participants also used nonOERs, particularly traditionally published textbooks and linked to copyright material. Two participants said they continued to use traditionally published textbooks. Michelle, who adopted an OER textbook for her writing course, used a traditionally published textbook for "sentence grammar kind of stuff" because the OER textbook did not include this type of information (S3). Paul, who could not locate a quality OER textbook for one of his courses, used a $200 traditionally published textbook (S11). He admitted that "I don't end up using most of it" in the course (S93). He estimated he did not use "maybe 50 per cent of these chapters" (S93). Paul was aware that some students would not purchase the book but believed this was not a hindrance to these students because "I'm a great teacher and I'm providing so many resources from my lecture notes to this homework system to, you know, if you have to go to the library to look up one or two things in the textbook" (S94). Thus, multiple access points to the information were provided to students to help them pass and excel in the course.

Other participants acknowledged using links to copyright material. Melanie bluntly justified, "I access whatever I can link to, if I feel it's the right material for the students" (S27). Michelle disclosed she shared links to a series of videos created by Samford University in the United States, that are aimed at first-year university students to help with their study skills. Additionally, she linked to YouTube videos to augment the material in the OER textbook for individual students "who needs help in a certain area" (S46). Paul used links to "supplemental

resources like articles, and videos, and that sort of thing" (S36). He curated useful links that "I've kind of built up over time" and also links to "well-known agencies like NASA or Space or Nature, or some of those larger magazines" (S42), such as the science page on BBC News website. Finally, George created a "library" folder for each course in the learning management system where he posted links to "free books, free text, free whatever articles I can find" (S1). He seemed not to differentiate between copyright material available on the internet and OERs.

John believed the internet is "a wonderful library" that provided information for students "to actually build their own understanding" using the "fullness and the richness of the internet" (S7). Indeed, this wealth of information allowed students to "compare a number of different sources so we get a diversity of views, we get access to a diversity of viewpoints that the students need to actually parse so that they can make sense of what's actually out there" (S7). It is for this very reason that John did not use textbooks. He explained, "this textbook conception, open or not, has got to go in favour of a vast library that is available and accessible to all through an open internet" (S20). Although this may seem an extreme vision, it appeared these participants' teaching materials were selected based on their individual philosophical underpinnings.

Focus on Teaching

Several codes emerged that highlighted the participants' facilitation practices. These practices often stem from their teaching background and belief systems, such as their educational philosophies. Relationships, particularly community of practice, appeared in many of the interviews and were also closely aligned with teaching. Finally, the university often affected the teaching focus, particularly for educators with heavy workloads and time constraints.

Facilitation. There was an undeniable link between how the participants facilitated and their philosophical underpinnings. Whether using traditionally published textbooks or linking to online material, participants appeared to choose the materials that aligned with their teaching practice and teaching/educational philosophy. Participants shared their education philosophies, which appeared to engage students in the information and provided the opportunity apply a constructivist philosophy, which John views as "learner-driven" where "teachers do not direct the learners, but rather act to facilitate learning" (S2). For example, Melanie presented "students with opportunities to think about the material in ways that are creative" (S1) and focused on providing on-going opportunities for her "students to think their way to solutions in a guided way" (S2). Similarly, Stephanie viewed herself as "more of a coach than instructor" (S2) as opposed to a "content-based teacher" (S1). To this end, she intentionally created thought-provoking OER videos to make students feel "a little uncomfortable" (S7), which allowed her students to explore topics from several points of view. This aligned with John's approach, who viewed "collaborative teamwork" amongst students as a requirement to "creating opportunities to capitalize on the development of social skills" that allowed for a "diverse variety of perspectives" with the goal of students building "a deep understanding of concepts as well as the processes used to assist in learning" (S2).

This educational perspective evolved over the decades. Eric reflected that "we've seen a paradigm shift in education since the '80s," which affected his approach to teaching (S116). When I asked Eric, "Do you teach how you were taught," he replied emphatically, "I hope not." Eric elaborated that his experiences as a high school student were "absolutely horrible" until he had a specific science teacher "and she totally turned me around" (S116). Ultimately, he reflected on how that teacher and the teaching/learning experience affects his teaching practice,

leading him to ask himself "What do I do? How do I teach? And how do I try to reach students? Am I effective in doing that and what are the barriers there? And how can I change that?" (S116). One barrier he identified was the increasing cost of education, particularly the steep price of traditionally published textbooks. This led him to eventually adopt an OER textbook. Eric was also driven by a social reform perspective (S94), which views "education as a means of solving society's problems and for moving society forward" (Winch & Gingell, 1999, p. 181).

Although Emma did not specify her educational philosophy, she was "engaged in this world of education" (S49) and noted that she never achieves "a sweet spot" in teaching because "we are working with people and people are never the same" (S40). This change was foundational to experiment with her lesson plans and courses "just to see how it goes" (S40). She constantly strives for improvement, which was often done through reflective practice. Emma concluded, "I think a lot about teaching and the advantages and the disadvantages of approaches to that" (S49). Similarly, George added, "I consider teaching as my profession. I profess to educate" and viewed OERs as "one tool in a whole box" of educational strategies (S1), ultimately seeing OERs as a tool to "assist the students in learning" (S7).

Finally, Victoria created "authentic opportunities" for students to "demonstrate their knowledge that they can use beyond the classroom" (S4). Indeed, Victoria valued her students' personal experiences and background and "shapes" assignments to their "professional growth as well as their academic growth" (S4). Ultimately, this allowed students to discuss relevant assignments in interviews or place the assignments on their résumé, which allowed for "multiple uses out of all the energy they've put into their paper" (S4).

Relationships. Stephanie reported fostering a "really relationship-based approach" to teaching and prioritized creating relationships with students and amongst students (S1) whilst

maintaining “professional boundaries” (S2). Such relationships were foundational to Eric’s approach to teaching. “It’s all about a community of practice,” he explained. This community of practice “doesn’t start and stop with entering and leaving the classroom” (S97). Indeed, he regarded his faculty and department as integral to community building. Additionally, Eric considered BCcampus as part of the OER community of practice “whether you’re in BC or not” as it helped with the “wider community of practice around education and people using OERs” (S108). Finally, Eric perceived Twitter as a once “great resource for educators” but it was “harder and harder to have meaningful conversations with educators than it was in the past” because of the “noise” that has become prevalent over the last few years (S108).

George also searched on the internet “looking for people who are willing to share … in-class exercises or little mini cases” (S4). Although he has met with some success, he wished he could find academics teaching similar courses, but believed this is unlikely because “we don’t even talk to people who are teaching research methods in other faculties [at the same university], never mind other universities” (S19). Nonetheless, this was not Geri’s experience who collaborated with her colleagues, resulting in “more buy in from the other instructors” when she completed writing the OER textbook (S17). Stephanie surrounded herself “with people who know more than I do so that I can learn,” which she admitted was “sometimes scary because you’re judged at the university” (S87). Still, she was of the mindset that “it’s okay to ask for help” from her trusted colleagues (S87). Stephanie also carried this mindset into the classroom, where she encouraged other educators not to “be afraid to make mistakes in front of students. Tell them that you are learning just like they are” (S85). Victoria also considered her students as contributors to the community of practice. Indeed, she encouraged her students to be active participants in a “broader learning community” (S5) and place their thoughts in blogs, using CC

licenses, to "support the growth of the professional community as a whole," which allowed them to "demonstrate their knowledge and also their leadership" within the professional community (S5).

University Influence. Ultimately, facilitation, educational philosophies, and relationships blended together as there appeared to be little, or at least porous, boundaries separating each. The various approaches to teaching were personal choices, but universities also impacted educators' approach to facilitation, which influenced educators' use of OERs. Specifically, workload and time appeared to be linked. Many participants expressed lack of time and the amount of time required to work with the open resources as obstacles to their OER use. Geri, who worked at a comprehensive university, explains, "I'm a full-time teaching professor. I teach eight courses per year. I don't have a lot of time for all this extra work" (S12). Geri underestimated the amount of time needed to create her OER textbook. "I didn't know how much work was going to be involved to start off with," she recalled. "I didn't know how much time it was going to end up taking. It took more time than I thought it would" (S56). Even though she enlisted the help of one of the university's librarians, she noted it "took a lot of creativity" to find the time to complete the book (S30). Geri elaborates:

> I basically subsidized it myself in some ways because, um, I found that my teaching load was too heavy, especially because I had some personal stuff happen, you know, some family stuff happened. So, I wanted to take a bit of a lighter teaching load. So, I did that, but I had to take a pay cut. So, I agreed to take a .75 or .8 position for a year. (Geri, S30)

Additionally, she received two grants, with "up to $10,000 in grant money" (S31). These funds were used "to finalize the book" and allowed her "to pay someone to create some content and stuff," which saved her some time (S17). Even so, "the grant may have covered a quarter" of her

decrease in pay (S40). This may seem an unsatisfactory solution to Geri's obstacle, but she enjoyed working on the textbook, saying:

> I love doing it. I mean there were times where I just, I would just spend a whole week, like anytime that I wasn't teaching, I was free, I'd be writing this textbook, like six, eight hours a day. Just working on it. (Geri, S15)

Melanie, who worked at a primarily undergraduate university maintains websites with granular OER she created, noted:

> So, this [website] is a pretty low level of development. There are no hyperlinks or anything else in there. It's a flat document. That's what we call it. I don't get a lot of time to develop these things. Just creating these notes in the first place is a labour on top of all my other labours so it's not a highly developed webpage. (Melanie, S19)

In addition to creating these small OERs, she also spent time locating resources for her courses. "The first time you teach it's just an **enormous** [participant's emphasis] amount of work," recalled Melanie. "It's an enormous amount of work anyway" (S36).

This is a similar experience by Stephanie, who created open videos for her courses. She noted that time was a challenge because "It takes time to source the stuff. It takes time to create the stuff. And that's always a barrier" (S38). She hired a work/study student to help save her time, and explained, "I have her do the content. I gave her the scripts. I did all the voice overs. And she was really, really good with the graphics. And so, it worked out really, really well" (S23).

John admitted that creating videos required the knowledge of several technologies and "learning how to make use of those kinds of pieces was originally a bit of a challenge," adding he did not have time to "personally create" all the videos for the 24 courses in the program he

oversees (S24). Seemingly, some educators may not have these technology skills and must use what little time they have to upgrade their skill set. Victoria acknowledged that "technical know-how" was a "big additional burden" and even if the educators had a "full skill set," using technology to modify or create OERs took "a lot of extra time" (S43).

Emma found the OER textbook her department adopted lacked information, which led to modifying the OER. "I've had to write chapters for it and put in a lot of time and effort into doing so," she explained (S11). "Not just me but other, other faculty members as well." In addition to writing content, Emma also worked on "editing and copying and pasting and cutting bits out of things that I found from the internet" (S11). This editing included reviewing other educators' contributions to the OER textbook to ensure the "writing and the flow to be at least consistent" with the content she contributed (S36). Her eye for detail included correcting inconsistent fonts and chemistry words not commonly used in spell checker programs, including "conjugations of the same word. So, polymer, polymerize, polymerase, you get different versions of that word and sometimes the conjugations of the words get missed" (S36). Emma felt the time and effort put into modifying the OER textbook adopted by the department was not a good "exchange" for a free textbook (S11). "One of my major objections is that whilst it's called an open resource, and it's free to the students, it's not free to the faculty" (S18). She clarified, "this has cost me time, and energy, and effort" because she had to "fix mistakes" in the OER textbook or explain topics "in greater detail" in the classroom because the OER textbook did not provide sufficient details (S18).

Additionally, Emma and other educators in her department wrote chapters for the OER textbook to bring it up "to the level that we would like to see it at. It's still not at the level I'd like to see it at" (S11). In sum, Emma felt "we're reinventing the wheel" (S11) because traditionally

published textbooks already existed that met the needs of the courses and the students and did not require her time and effort to modify. She viewed it as a somewhat arduous task. “I don’t want this to be a work in progress for the next, like, the rest of my career, right?” (S42). She remained somewhat hopeful that “Maybe it’ll get to a point where I’m like, ‘This is cool. We’re good. We don’t need to change it anymore’ … But it feels like it’s going to be forever before we get there” (S40).

Even though Victoria received funding and worked with a team of experts, time was a factor in the amount of work the OER required. She recalled:

> But the more we got into and doing that, again, we got busy too, and it’s just like, “Listen. We have limited time, money, and resources. We need to take care of what we need for our people first, which is getting it ready for our students, um, first.” So, going and having it at, you know, the most accessible, easiest to share back an OER, that’s added time. It’s the same thing when we’re talking about “Yeah, you should create a Pressbooks version and you should also create an ePub version.” That’s extra time and then when it gets busy, you’re trying to, you know, deliver a course, um, you can lose sight of some of those things. So, um, that can be time consuming. (Victoria, S25)

For Stephanie, the time and effort put into creating OER videos was acknowledged by the university when she placed links to all the videos I created” (S21) in her tenure binder “because it demonstrated her contributions to teaching (S62). She noted the university welcomed “creative pieces,” but accepting digital artifacts “is new to academia” and remains outranked by “black and white academic papers,” even though “my data is on video” (S62). This, though, was not Geri’s experience. A traditionally published textbook company could have published the textbook she created and her “department would have given me a lot of points towards my

meritorious" (S30). Publishing through a traditional publisher would have "checked a lot of boxes, but I don't know if they [the university] will do that with this [OER textbook]. I don't know if they will see that as the same calibre of work" (S30). Victoria met with a similar problem, and noted, "Self-publishing an OER book doesn't look good on your C.V. Go and publish something from some publisher. That looks better [on the C.V.]" (S46).

OER Support

Some of participants acknowledged they needed or sought out support to modify or create OERs. Some support was available within the universities, whilst funding support was offered by some universities but also from external sources. The supports expressed by participants appears to be vital to their OER modification and creation processes.

Universities. Within the university structure some participants elicited assistance from librarians, some received funding, whilst others received funding for work/study students. Geri and Victoria sought out help from librarians. Geri recalled the librarians "really did a lot of work on this and really helped me out a lot. It wouldn't have happened without their help" (S9). They helped her stay "on track" and kept "me moving" (S12), in particular with creating some of the visuals used in the book. Importantly, Geri did not always like the librarian's feedback and sometimes felt frustrated (S81), but noted this librarian specialized in copyright, and guided Geri away from using copyrighted material (S48). Victoria asked her university's librarians for help and found they do not employ a specific OER librarian, instead they had a "librarian that supports each discipline" (S51). Although they normally "search for articles and books," Victoria's librarian also searched for royalty-free images but added "it's not the librarian's job" as this belongs to a graphic designer's duties "to go and find the **right** [participant's emphasis] royalty-free image that's going to get here, in this part of this chapter" (S35).

Other Supports. Geri also noted "the librarian, whose job it is to make this happen, is your new best friend" (S81) and even "helped me put that grant together, too" (S31) to secure funding from the university and from BCcampus. This gave her "some funding to finalize the book. I was able to pay someone to create some content and stuff" (S17). Similarly, Victoria received a $300,000 grant from eCampusOntario to create a new program design and courses (S42). She admits "we had lots of money" to create a team of technical experts to work on the course modification project (S42). Victoria noted that "an individual faculty member" would not have received such support from experts at the university without funding in place (S33) and the project "wouldn't have happened at all" without funding (S49). Indeed, lack of funding impacted smaller projects than textbook creation and course modification. John, who created OER videos, shared that the Accessibility for Ontarians with Disabilities Act (AODA) mandated that "every video that has an audio component actually needs to be transcribed as well" (S14). This quickly became an issue "because we don't have funding anymore" (S16), but fortunately, YouTube includes closed captioning, which allowed "us to get around the requirements of the accessibility legislation" (S14). Victoria added that provincial politics played a part in the OERs. "We didn't even know if they [eCampusOntario] were going to exist" after the 2018 Ontario provincial election (S57). Fortunately, the provincial government considered OERs "as a way to reduce cost across the province" because "it doesn't cost as much for students to complete their postsecondary education" (S58). Seemingly, this reduced costs because students drew "less from OSAP [Ontario Student Assistance Program], and they're in less need" (S58).

Finally, two educators hired work/study students to assist with OER production. John hired a graduate student to "look at this whole idea of [video] transcription" (S15), whilst Stephanie hired a student for video production. "I have her do the content," she recalled. "I gave

her the scripts. I did all the voice overs. And she was really, really good with the graphics" (S23). In this capacity Stephanie viewed herself as a director who has "kind of a vision" (S23) and had the skill of "knowing how to shape" the videos (S24) and "knowing what I want to see in them" (S23). For the voice over, she explained "my talking is very personal" (S24), presumably to help her strengthen her relationship to the students and the student's relationship with the material.

Student Focus

It is not a surprise that all participants engaged in OERs because of their students' needs; however, some participants revealed obstacles with the eBook version of OER textbook. Nonetheless, the students' needs were often revealed as the dominant reason participants moved away from paid-for educational resources, primarily for financial reasons. Some participants also encouraged their students to create and share their OERs with the wider community.

Students' Needs. Three of the seven participants who used OER textbooks expressed eBooks are not optimal for students' learning experiences. Michelle noted her OER textbook could be "a little better laid out, visually" (S43). She recognized that textbooks about teaching and learning English as a subject "are very text heavy. It's hard not to be" (S43). Nonetheless, "they could have made better use of columns, for example, or headings. Those kinds of things that help students' sort of stratify or classify what level of information they're looking at. How it's associated with other things" (S43). Michelle was also not pleased with the textbook visual appeal. "Visually, there's not a single diagram that I can think of in the entire textbook, never mind an image, or picture. There's not a single diagram in the text, which there could be" (S43). She added "even in English [as a subject] … there are some things you can explain with a diagram," which "provides a better learning, a deep learning" (S43).

These layout issues were evident in her online and book and the printed version; however, many of her students did not print the entire textbook and read it primarily from the screen, which caused additional layout challenges. For example, Michelle suggested Pressbooks format in landscape and not in portrait layout so an entire page can fit comfortably on a computer screen. She recognized "You can back it out so that a screen can be the page, but then you have small type. Like, the font size ends up being fairly small" (S43). Michelle added "not everybody has good eyesight. For my own, personal reason, because I'm getting older and my eyesight's getting worse, I'd like to have page sizes that fit my computer screen" (S43). It was not merely eyesight that fortified her beliefs. "I think for an online OER, that ought to be a standard thing. It sort of makes sense" (S 43). Michelle then provided an analogy from her teaching career:

> When I'm teaching my students business writing, for example, sending a business email, one of the guidelines that I give my students is that an email should not be longer than the screen. You should always try … In the old days we would teach students that when they're writing a letter, that a letter should be on one page. You shouldn't have to turn the page. And I think the same thing is true for the screens. I think the textbook ought to be a screen size page. That's um, I mean it doesn't cost anymore to have more pages when it's online, right? It's only when you print it that it's more expensive. So, I think they ought to have taken more time in the setting up of the textbook. (Michelle, S43)

Emma and Victoria also expressed the challenges of working with eBooks. Specifically, Emma assigned chemistry problems located at the end of each chapter. Students "go back and forth between the problem that you're trying to work on and some information [from] earlier in the textbook, it's very tricky to, like, go back and forth between those two things fluidly" (S14). Emma acknowledged "I've been brought up with books a lot and I use them a lot and I use them

as references a lot" (S15). She then showed me one of her physical textbooks and said, "I've got all of these tabs in here, and I can easily turn to, like, quantum mechanics or … to solids, yeah, it's a little bit further down" (S16). She easily thumbed through her textbook, saying "I also have a spatial memory for where things are" (S14) and this is part of the tactile experience of having a physical textbook as opposed to PDF. She explained:

> There is a memory that comes with using it. And this is the familiarity that someone will gain by using the same bound piece of work over and over, through many years, right? So, when I say, it's like talking to an old friend, consulting an old friend, and you need to learn something, it really is. Like, I have sticky notes in all of my pages, and I can immediately go to a figure I need to find to show a student because I've thumbed through the text enough times to know that, right? (Emma, S14)

Emma concluded by saying "with a PDF file, that's pretty hard. You have to remember that it's on page 470 or look through the list of your bookmarks" (S14), but also acknowledged "maybe I haven't learned how to build that same spatial awareness in a PDF, but I feel that you almost can't" (S15). She admitted to struggling with PDFs, particularly with "flipping through, and even just being able to fan through pages, and, like, just catching glimpses of pictures of things that you might be familiar with. It's impossible in a PDF file" (S15).

Victoria agreed with many of Emma's comments, and stated "lots of people don't like the digital versions. They have challenges with the digital versions" (S69). Victoria expressed three specific challenges to eBooks: locating and annotating passages, forcing digital resources on students, and PDFs are not user friendly for students with learning disabilities (S69, S71, & S72). Similar to Emma, Victoria declared:

> It's harder to study from digital versions because the page constantly moves. As opposed to when you're reading on static pages, you read something that is in the top right-hand corner. You kind of remember that, physically, where it was, and be able to go back to that. But it's also that if you have a printed copy, and literally when I go there, you go there to write notes that go along with that. (Victoria, S69)

Indeed, notes, or annotations were also an obstacle because, in Victoria's experience, "you can go and highlight things. But it's like, 'Oh, yeah. I wanted to put a comment here. I wanted to put a sticky note here.' You lose that" (S72). These, though, seemed small inconveniences compared to Victoria's conviction that educators were "forcing students into, 'You're going to learn this way. These are your only options'" (S72). She believed this is unacceptable particularly "when it's not easily accessible and even printable" (S72). This is true to all students, but the challenge may be a barrier to some students, such as those with dyslexia. Victoria explained that "reading with a highlighter is really helpful" (S69) for these students because "it literally shows you what you've already completed" (S70). She clarified the student is

> not sort of jumping, jumping around as, as much. The ability to circle, and highlight, and underline things, it isn't necessarily, the act of highlighting, underlining, circling things, and making notes, that's a metacognition that really supports learning. And if you don't do that, you're less likely to do that when you're working in a digital format. Especially, like, in Pressbooks, that okay, yeah, it's digital, but it's not easy to go and add notes to. (Victoria, S71)

Conversely, Eric was surprised when I mentioned some participants remarked they encountered difficulties with PDF annotations (S67). He observed that all students have "a tablet or a little laptop" in the classroom and they were "working frantically with PDFs, and they're

busy annotating and highlighting, and writing their own notes" (S68). He noted Apple "provides a lot of markup tools in its PDF reader" allowing students to highlight and annotate directly on the PDFs (S73).

Apple laptops and other products may be beyond the financial reach of some students, such as Michelle's students who had a number of financial challenges as they attempted to upgrade their skills before applying for their first university courses. "One or two of my students do have their own laptops," she recalled, "but most of them do not have laptops" (S41). She explained, "my students are not wealthy," with "lives [that] are a little bit more demanding" (S42). For example, all but one of her students have "young kids that they're having to deal with in terms of childcare and in terms of getting to school and other school activities" (S42). This socioeconomic status provided these students with a disadvantage that other students may not encounter or at least encounter to such an extent. Michelle added that some students may have a computer they share with their family, but one of her students "actually does assignments and stuff on his phone" (S41). Like her other students, this student could use a computer at the library or in the classroom, which was equipped with computers (S42).

Indeed, students' finances were the "primary reason" Michelle and the other participants adopted OERs (S11). Bruce rationalized, "I use OER every chance I get because I think costs are already high enough for students" (S1) and he looked for OERs "first of all in order to reduce costs" (S1). This was not lost on the students. "It's amazing," said Bruce, "how often you give out an OER and everybody smiles" (S23). Eric explained that many of his students "have crippling debt that will follow them into their working lives" (S94) and he refused to add to their debt load by requiring them to "buy a $180 textbook for a four-month course" (S94). This cost seemed low compared to the computing science courses Melanie's upper-level students were

required to pay, saying her students refused to purchase “required textbooks that cost two, three, or four hundred dollars” (S4). The price of textbooks, particularly when students are taking multiple courses, impacted their entire lives. Paul asked, “Why put someone in a situation where they’re choosing between, you know, buying a textbook legally or having enough money to eat well, or something like that?” (S9).

As an alternative, George briefly explored the price for students to rent eBooks, and noticed they are “cheap, but they’re not really satisfactory” (S1) because they were still an added cost to students. Similarly, Eric did not consider course packs as an alternative because “all that costs money ultimately to the students” (S103)

Geri recalled one of the problems with textbooks was that she needs three different traditionally published textbooks to cover the material she wants her students to learn and understands she “can’t get students to buy all three [traditionally published text] books because that’s ridiculous” (S6). This was echoed by Paul, who estimated he used “maybe 50 percent of these chapters” in the $200 traditionally published textbooks he used for one of his courses (S93); however, he provided “many resources” so students could still pass the course (S94). Indeed, he said he was “honest with them. ‘You don’t have to buy this textbook. You should buy this textbook if you think you need it’” (S96). Even Emma, who did not have a positive experience with the adopted OER textbook, appreciated the textbook “is free for the students” (S11) and she “can see the advantage for students who only take this for a year and never move on in chemistry. It definitely decreases the financial barrier to coming to university” (S32).

Victoria shared two powerful recollections with how students’ financial burden affected her. She recounted a story of when her colleague wrote a traditionally published textbook

> published for the course that we jointly taught, and did I want to use it for my sections of the course? And he sent me a copy of it. And I looked at it and I thought, "Ah, it's okay." And I looked at the size of it and I'm like, "This can't cost more than $45 and I think it will be a decent resource." And for me, a good textbook is something that people will keep … after they've completed the course. So, I'm like, "Ah, it's okay. This is supporting my colleague. So, whatever. I'll do it." But, when the book got to the bookstore, it was ninety-something dollars. Um, and I'm like, "This is crazy. This book is not worth $90. I don't want the students to have an economic burden." Um, so I went, I think I put two or three copies on reserve [in the university's library], and I would tell the students then, "Okay, here are our readings. And here, if you want to buy a textbook, that's great, but if you don't want to buy the textbook, here's how, if you plan your time well, that you can just use the reserve copies and not have to pay for the textbook." And then I got yelled at by the bookstore. Because they weren't selling as many copies as they thought they would. "Oh, what are you talking about? "There's 300 people in the course. Why did we only sell, you know, 50 textbooks?" (Victoria, S8, S9)

Victoria, though, continued using traditionally published textbooks, but only if "I think it's a great book and students have told me, 'Yeah, it's a great book.' That they want to keep through their career. So, I don't mind" (S10).

Victoria continued her story with a description of an event that occurred in her university's bookstore during the same year as the traditionally published textbook written by her colleague:

> I walked into the bookstore and saw — well, it wasn't one of my students, but it was [a student in the same program] — who was crying. Crying her eyes out. And when I asked

> her if she was okay. And she said, "I can't afford a textbook and now I'm going to fail. And I'm not going to be successful." Like, she spiraled when she went in there and saw how much the textbooks cost and thought that her whole academic program would change because of that. And it's like, you don't need to put students through that. So, that's what changed my perspectives about textbooks. (Victoria, S10)

Students' needs go beyond mitigating their financial barriers. For example, Paul's open homework system provided students with flexibility. The system "gives the students much more options" including not purchasing the traditionally published textbook, purchasing a previous edition, or using the textbook available at the university's library (S 9). Flexibility was also important to participants because they may need to adjust their facilitation practices depending upon who their students were. Stephanie embraced change, saying, "depending on the class in front of you, you have to change things in the middle of the road" (S24). She provided an example saying perhaps "they're all engineers or half of them are commerce students, so I need something that's not in my comfort zone" (S24). Although she admitted it was "challenging," her classes were "very constructivist. And that's why it changes" (S24). She divulged that different sections of a class "could have a totally different group of faces in there and a totally different set of needs" (S24).

Involving students appeared to help these participants increase student engagement. Geri gave her students a survey to help her understand if her OER textbook met their needs. She asked questions such as "Which sections did you find useful?" "Did you read them all?" "Which ones did you read?" "Which ones didn't you read?" And "Did they help you meet the learning objectives?" (S44). Geri received "overwhelmingly positive" feedback from her students and provided her with a powerful tool that ensured the OER textbook met the students' needs and

helped engage them in the material (S44). Stephanie used pop culture references to engage her student in her videos. “It’s important because it makes people laugh” (S19), she explained. She went on to say laughter made it “real to them” and “a little bit more tangible to them” (S19). Eric went beyond the textbook, videos, and even the classroom to engage his students. He occasionally secured a satellite connection to scientists onboard a research vessel allowing his students “to talk directly to scientists” and gave the scientists an opportunity to “talk about the equipment and the research they’re doing” (S91). His students were engaged because they saw firsthand how the classroom material was directly applied in practice and in research. Victoria succinctly sums up the participants’ attitude: “They’re putting students first, right?” (S46).

Students and OERs. Not all OERs the participants reflected upon were created by educators. Indeed, some participants encouraged their students to create and share OERs. This was a form of engagement and allowed students to contribute to the growing online body of knowledge. Stephanie encouraged student creativity and individual assignments. “If you want to learn,” she explained, “you can show me, particularly in your assignments, you can do something that’s publicly accessible and freely available to your colleagues as well” (27). Stephanie strongly believed educators need to help “students become critical consumers of OERs” because they “assume that it’s right because OERs mean accessible to everybody” (S12). She concluded with, “I could go on Wikipedia and change world history if I want” (S12). This aligned with Eric’s practice of giving several short BCcampus publications to his students, such as a pocketbook titled “Web Literacy,” to help students fill gaps in their overall “knowledge or skill sets I feel are important” (S62).

Participants' OER Advice and Suggestions

I asked each participant "what advice, or lessons learnt, do you have, from using OERs, that you would like to share with other educators who are thinking about using, or sharing or creating OERs?" and received overall positive responses along with several cautions.

Bruce enthusiastically advised educators to "Grab it. Every time. Every time it comes, grab it" (S27). Paul adds, "it's just about giving it a try. You don't know until you try it and then thinking every year about kind of growing it. You know? That's the easiest thing. Don't try to do everything at once" (S112). Stephanie voiced similar advice, saying, "Jump. Jump in. Try it" (S85), but added educators must overcome the fear of perfection:

> Make some mistakes. Don't be afraid to make mistakes in front of students. Tell them that you are learning just like they are. That nobody can be, no one is, like, **the** [participant's emphasis] leading person who knows everything. It's impossible to know everything when things are changing fast and like every day something new is up that we don't know how to do. So, taking a philosophy of beginner's mind, which is actually a martial arts concept. Beginner's mind is like knowing nothing. The emptiness piece is important. And, and keeping an open mind, and more importantly, an open heart, so that your students can share with you what's working for them. (Stephanie, 85)

Victoria suggested "just search before … you're thinking about utilizing a resource, do a search for what's available for that OER" (S74) Geri concurred, adding,

> There are sections in my book that I basically just copied and pasted from other OERs and acknowledged that I do so. And maybe edited a little bit to meet my needs, my students' needs. Um, but there's a lot out there. And people are happy to share. That's why they put it out there, right? So, see what's out there, first of all. (Geri, S80)

Eric suggested looking in the BCcampus textbook repository, but noted BCcampus was also a community of practice:

> Spend some time on BCcampus, whether you're in BC or not. It's a great community. There's frequent events, both [in the province of BC] in terms of connecting educators. They run an annual postsecondary educator conference. There's always little workshops about using OERs. Troubleshooting, using, creating, modifying. All of that stuff. There's something happening every week in BC. It might not be local, but it's out there. Some of that stuff is webcast as well. So, if you can't join them in person you can tune in on your laptop, and you're good to go. So, I think that's a huge thing, just knowing that that's out there. And then the wider community of practice around education and people using OERs. For me, a lot of that kind of personal learning environment extends into Twitter, which has become a little bit problematic in the last [participant laughs], well since 2016. It used to be like drinking from a fire hose and now it's like wading through a sewer. [Both laugh.] (Eric, S108)

Eric found Twitter useful and has evolved," but "is more of a devolution really" since 2016 (S108). He explained that "nuggets" of useful information were harder to find (S108), but encourages

> educators to get on Twitter and join the frequent ed [education] chats that happen on there. That's great. It will connect you with still mostly North American, but international too to a certain degree, so, educators from all over and some of the challenges they're facing and some solutions that are coming from different people. (Eric, S108)

Similar to Eric's advice, George suggested educators look at "BCcampus, which is fantastic" (S26). He cautioned educators not to attempt to modify MOOCs (massive open online courses),

saying they are “tricky” because they “are just packaged up old courses that still, um, use the same textbook approach. So, I didn’t find them helpful. Even the exercises, I didn’t find that helpful” (S27). George also used online forums to discover OERs, adding that educators should “just be prepared to spend a lot of time at the computer. You’d become very good friends with Google. I use a number of different search engines because I want to see results from all of them” (S27). Additionally, George suggested the university’s librarians were also helpful, recognizing “They know where the collections are, and they know who’s offering what” (S27).

Finally, Emma, who did not have a good experience with the OER textbook adopted by her department, was much more precise with evaluating OER textbooks prior to adoption. She advised “Make sure the book’s for you. Make sure the bones are substantial enough that you are happy with it right off the bat” (S45). Emma went on to suggest educators “consider carefully all of the angles. All of the advantages and disadvantages” of the OER (S45). However, adoption may lead to modifying the OER, which she noted is time consuming:

> Think about how often you want to participate in re-making the book, if you want to at all. Maybe you’re just happy with providing some resources and you’re happy in your own way of teaching, where you supplement a lot anyways, and the students really don’t need the book, or they use the book as a secondary resource, which is basically what my students will use the book for. Maybe it’s okay. So, but consider the time investment and the energy investment that they have towards the book. (Emma, S45)

Overall, Emma called OER adoption a “value choice” that needs careful consideration (S46), particularly for physical science OER textbooks:

> I would also check that the standard, and the level of questions, practice questions and examples are to the level of difficulty and challenge that you would like. And if you are

> keen on having answers for those, like, find out if there are answers available because if not then you have to generate your own, which we had to do. Yeah, it's largely a value choice. So, just like anything, approach it carefully. Um, you may not be able to go back once you have adopted an open book because the impetus of money seems to be, it can be very loud. But, at the same time, consider carefully what you want in a textbook; what it is a textbook should do and what things you can gain from using this open source. (Emma, S46)

Regulatory Styles

Self-determination theory's organismic integration theory focuses on internalization and integration of motivation, which are viewed through the four external motivation regulatory styles of external, introjected, identified, and integrated. Replacing organismic integration theory's intrinsic regulatory style with the tripartite taxonomy provided a detailed lens through which the rich descriptions provided by participants were viewed.

External Regulation

Only one of the 11 participants reflected on episodes that indicated they were "motivated by and depended upon external reward or punishment" (Ryan & Deci, 2017, p. 184). Paul was forced to abandon using the publisher's homework system because of Ontario government legislation. Paul explained, "You can have a required textbook, but you can't have any required materials that are marks-based" (Paul, S9). He kept the traditionally published textbook because the quality was superior to the OER textbook but instead of abandoning using a homework system as an assessment tool, Paul and his colleague chose to create an open homework system. Paul likely would not have created the open homework system without the legislation, but his predisposition in favour of OERs and reluctance to abandon using homework systems may have

contributed to his motivation to create the open system. This indicates that varies regulatory styles are applicable to a person's OER motivation because Paul had previously adopted an OER textbook without any threats of compliance. This is supported by Ryan and Deci who "assume substantial within-person variation in regulatory style within and across developmental epochs" (p. 199). They elaborated that "transitions between styles of regulation for a particular behavior can proceed out of sequence" (p. 199), which explained why individual participant's motivation in this study were not fully categorized in one regulatory style on the continuum for their OER experiences.

Introjected Regulation

Ryan and Deci (2017) described introjection as a "demanding and controlling force" that is internalized with a sense of "should" or "must" (p. 185). Only one of the 11 participants voiced reflections that appear as introjected. Emma and her colleagues adopted an OER textbook, but the textbooks did not meet the department's standards and many educators contributed to re-writing sections, copyediting, and upgrading graphics. Nonetheless, Emma felt pressured to continue using the OER. "I don't like it, but other faculty members are satisfied with it and that is probably why …" Emma paused for thought and carefully chose her words. "I can't make a strong enough argument. Like, I think we're split kinda somewhat in the middle, right? But we've already produced this and contributed our time to this." Emma then acknowledged "It's likely hard to walk away from, although if you tell me tomorrow that we are just not going to use it, I'd be like, 'Great. Let's find something else'" (Emma, S34).

Emma's continued use of the OER textbook, and refraining from voicing her objections to the book, indications she was avoiding disapproval from others and felt she must continue using the OER textbook. This is confirmed by Ryan and Deci's theory that introjection aligns

with projection, stating "individuals often project their self-approval or self-disapproval onto others, imagining that these others will approve or disapprove of them conditionally as a function of the target behavior or outcome" (2017, p. 186). Thus, the perceived focus is somewhat external but internalize and is "a bit more enduring form of extrinsic motivation than is external regulation" (Ryan & Deci, p. 185). However, Emma's situation was not entirely negative because, according to Ryan and Deci, "individuals will typically carry out the actions without external prompting and will thus be more likely to gain the group's acceptance and approval" (p. 189). This further indicated these individuals will "likely feel more personally and socially efficacious" (p. 189) but they remain in "conflict" and may have "underlying resentment that accompany controlled behavior" (p. 190).

Identification Regulation

According to Ryan and Deci (2017), identification is somewhat internalized, and is "more autonomous or volitional" than the aforementioned external and introjected regulations (p. 188). In this study, all 11 participates recalled instances where they acted out of "belief in the personal importance or perceived value of the activity" (Ryan & Deci, p. 188).

Participants often mentioned the personal importance of using OERs in their teaching practices. For example, Geri said "I was never happy about making students buy" textbooks (S5), indicating she consciously valued using OERs for the benefit of her students. Melanie explained these values were of personal importance: "It's [Creative Commons] important because, philosophically, what I've seen is textbook companies, like publishers, making a lot of money and I know a lot of people in academia who write textbooks, and for them it's not about the money" She elaborated saying education is "about this project that we're all engaged in, which is appropriate education for the next generation of learners" (S14). This was echoed by

Eric, who shared, “I don’t like students paying for texts. I have … I just recoil from that idea. I think it’s a scam, to be quite honest. [Both laugh.] So, that is a big driver for me for adopting OER. It’s just the cost to the student” (S95).

Such statements align with these educators’ personally held values, which sometimes focused on the cost of traditionally published textbooks but also aligned with the importance of having up-to-date material. Stephanie noted the videos she created “get old very quickly” so she “sort of reserve the right to bring stuff in that, I just saw it yesterday” (S24). At Bruce’s university, the value was firmly on teaching, saying the educators in his department “focus on teaching, not on publishing. There’s a focus on sharing the resources to teach. Not on publishing. Not necessarily building your name based on that. It’s building your name based on the teaching and the improvement of teaching” (S27). These participants’ reflected lived experiences aligned with Ryan and Deci’s assertation that in the identification regulatory style an individual’s relation is to the “value and behavior and the congruence of the valued behavior with respect to this or her own needs, goals and values” (2017, p. 188).

Not all participants had personally held values in favour of OER use, and just as with participants who are in favour of OERs, the motivation is somewhat internal. For example, Emma, who no longer wanted to use the OER textbook because of its lower quality, asked “It’s a very value-based choice, right?” when comparing a traditionally published textbook to the perceived lower quality open textbook. “Would you rather get something for free that’s okay, or would you rather pay for something and have it be really good? Something that you want to keep.” Emma paused for thought and added, “so, it’s that piece of quality and how much you value that. So, for me, I value that quality” (S31). Emma later said she wanted an OER textbook “that is reliable and useable” (S41), which further reinforced her personally held value.

Integrated Regulation

This final regulatory style used in this study was the "most autonomous form of extrinsic motivation" (Ryan & Deci, 2017, p. 188). These researchers suggested individuals who "achieved" integration "experience a more wholehearted endorsement of the behavior or value and an absence of conflict with other abiding identifications" (p. 188). All but one of the 11 participants uttered statements that align their OER use of integrated regulation. Importantly their behaviours appeared fully incorporated and they repeated their behaviour. For example, John said sharing the OER videos he created "online is a no-brainer from my perspective" (S11), which is ingrained in fully in his constructive teaching practices. He recalled using traditionally published textbooks but noted "I've come 180 degrees from textbooks to standardized textbooks that were not open to this use of OERs, open pedagogy, and open tools" since the mid 1990s (S26). John's lived experiences indicates a transformational process that resulted in the congruence of his educational values and attitudes.

The 10 participants appeared to have some degree of integrated regulation. Even though they remained externally motivated, they nonetheless assimilated the values and needs of OERs, which was fully self-endorsed. For example. George noted "OERs are sort of one tool in a whole box" and he considered himself to be "one of the resources that [students] have" (S1). George also reflected on repeated actions, and acceptance of time searching additional resources, which indicated "self-congruent decision making" (Ryan & Deci, 2017, p. 189). He continuously searched for resources to support his teaching practices. "It's become sort of an automatic habit of time," he explained. "I don't actually get the summers off because I spend it online looking for new exercises" (S4), even though George described the OER textbook he adopted as "better quality in terms of teaching value or learning value than stuff that's commercially available"

(S21). It appeared that using OERs and searching for exercises were congruent with and fully incorporated into his teaching practices.

Overall, the participates' motivations fell along the length of the regulatory continuum. For example, one participant was forced to abandon a homework system, which was an external regulation, but he saw the value of creating an OER homework system, which was an identified regulation. Additionally, this participant adopted an OER textbook, which was an integrated regulation. Importantly, participates in this study made statements that often fell into identified and integrated regulations, which are more internalized than external and introjected regulations. This appeared to indicate that as a whole, participants in this study found OERs to be personally important, they had fully incorporated their OER behaviours, and OERs were congruent with their teaching practices.

Intrinsic Motivation

Intrinsic motivation appeared to a lesser degree than the four extrinsic motivation regulatory styles. Stephanie and Geri were the only participants who made statements that appeared in the tripartite taxonomy. According to Vallerand et al. (1992) intrinsic motivation refers to doing an activity for the "pleasure and satisfaction derived from participation" (p. 1004). Using OERs as an example, participants who were extrinsically motivated adopted, modified, and/or created OERs for the sake of others, whilst intrinsically motivated educators worked with OERs for themselves. Vallerand et al. clarified that intrinsic motivation *to know* is related to the constructs of intellectually intrinsic curiosity, curiosity, and exploration. Stephanie noted creating OERs videos "help students and it helps me to learn" (S83), indicating mutual benefit and the willingness to learn more about the technology and OERs as foundational to working with the resources. This is also evident with a pedagogical learning mentor who she

turned to for help, which she said had “helped me learn, like, an exponential amount” (S83). Similarly, Geri found “the initial stages were a bit frustrating” when working with Pressbooks. She found the software “a bit of a learning curve, but I eventually figured it out” and even stated she “enjoyed working on it” (S37). Learning the technology was clearly challenging, but she appeared to be intrinsically driven to learn how to effectively use the technology.

A hallmark of intrinsic motivation *toward accomplishment* is an individual’s “focus on the process of achieving rather than on the outcome” (Vallerand et al. 1992, p. 1005). Only Geri appeared to engage in OER creation for the sense of accomplishment. She used the words “creative” and “creativity” several times when she reflected on her experiences. “It’s a creative outlet for me,” she recalled. “It’s not just writing text, right? There’s a lot of visuals and a lot trying to think of creative ways to explain things to students who are very visual” (S47). She explained, “I was surprised at the things I could do, though. I was surprised how visually interesting I could make this textbook. So, that was a lot of fun for me, sort of playing with those types of things” (Geri, S57). This indicated a congruence between meeting the student’s educational needs and satisfying Geri's need to create and challenge herself when engaging in OER creation, giving her a feeling of accomplishment and satisfaction. Geri acknowledged “there are places [in the textbook] that can become more robust” (S77), adding the textbook is a continuous work in progress as she tried to improve its quality. Geri added the textbook “wasn’t a static thing” and she was “just adding stuff. Changing stuff. All the time. Even during the class” (S45). Geri felt a sense of satisfaction and accomplishment with creating the textbook, saying, “I’m really proud of it and I hope that it ends up being useful to more than just us” (S73).

Geri also achieved the intrinsic motivation *to experience stimulation*, which Vallerand et al. (1992) describe as reaching “peak experiences” and full immersion in the experience for

"sensory pleasure, aesthetic experiences, as well as fun and excitement" (p. 1006). The authors correlated this to Csikszentmihalyi's flow theory (p. 1006). Succinctly, flow is a "prototypical experience of intrinsic motivation" where a person is immersed in an activity typified when "action and awareness merge in a single beam of focused consciousness." Crucially, it is a "fit between the skills of the self and the challenges afforded by the environment" (Csikszentmihalyi & Rathunde, 2014, p. 24). This appears to be Geri's experience when she reflected on creating the OER:

> I love doing it. I mean there were times where I just, I would just spend a whole week, like anytime that I wasn't teaching, I was free, I'd be writing this textbook, like six, eight hours a day. Just working on it. And some of it was just, like, tedious work, like getting the figures right or redesigning a figure because that figure doesn't show up very well or whatever, and just little things like that. (Geri, S15)

Apparently, challenges were seen as obstacles that could be overcome with persistence. Her high level of engagement may also indicate she found overcoming obstacles was at times a fun challenge that may have increased her engagement in the activity. This brought about feelings of excitement once they were overcome. Additionally, Geri appeared to feel a continuous sense of accomplishment as she continued to write. Such a high sense of accomplishment likely nourished her intrinsic motivation to experience stimulation. Finally, her recollection of working on the textbook at every opportunity indicates an intrinsic motivation that is beyond pursuing OERs for students' needs, to satisfy her own learning goals, or attempting to surpass her previous accomplishments. Her behaviour was fully internalized for the inherent satisfaction and enjoyment of the work.

The reflected lived experiences of participants imply OER use was somewhat and highly internalized because controlled orientations of external regulation and introjected were rarely identified. Indeed, only educators who created OERs appeared to achieve intrinsic motivation *to know*, *to accomplish*, and *to experience stimulation*. It is important to recognize this does not imply participants who adopted and/or modified OERs were not passionate about OERs. Indeed, all participants fully incorporated some aspect of working with OERs into their behaviours, signifying high internalization of their educational practices, with the exception of one participant who did not want to continue using the OER textbook.

Motivation and OER Challenges and Affordances

The lived experiences of participates had several challenges and affordances that affected their motivation (see Table 7). Importantly Emma stated, "it's free to the students, it's not free to the faculty" (S18), which indicated the hidden costs to educators. Specifically, participants noted that adopting OERs does not affect their time or workload, but participants who modified and/or created OER stated time the resources affected their time. OER adopters did not face prominent challenges, but the good quality of traditionally textbooks may deter some educators from searching for OER textbooks, even though participants found searching for and evaluating OER textbooks took about the same amount of time as evaluating a traditionally published textbook. Participants who adopted OER did not state they felt increased pressure on their workload or time because of their use of OER.

Participants who modified OERs were challenged with time, which was exacerbated when using Pressbooks, as they needed to upgrade their skillset and learn this technology. The time required to learn how to use Pressbooks and the time to modify the OERs appeared to increase pressure on these participants' workloads. Hidden costs to OER modification likely also

Table 7

Lived Experiences of the Motivational Challenges and Affordances

	Motivational Challenges	Motivational Affordances
OER Adopters	Poor quality of OER textbooks	Good quality OER textbooks
	Good quality traditionally published textbooks	Ease of locating quality OER textbooks
OER Modifiers	Pressbooks	Funding
	Propriety technology mixed with OERs	Up-to-date teaching material
	Time needed to modify	Legal rights to modify the resources
OER Creators	Pressbooks	Create resources specifically for their students' learning needs
	Time needed to create	Funding

include collaborating with colleagues, which either the university pays for or the educators volunteer their time. An additional hidden cost includes either acquiring the skills or hiring technical experience to extricate OER elements created with propriety software. Only one participant received funding to modify their OERs, and seeking funding was not prevalent amongst the modifiers. Applying for funding also takes away from teaching duties, which increase pressure on the educators' workloads.

Participants who created OERs also felt the pressure of time. Two participants found some relief when they received funding, and two others hired work/study students to help with creating OERs. One participant sought assistance from a librarian to complete the funding process. This hidden cost again indicates that OERs are not free as the time needed to complete the process is ultimately paid for by universities. Nonetheless, these participants sacrificed their personal time to create resources that specifically met the needs of their students.

Together, these motivational factors indicate the educators who modify and/or create OERs must find congruence with their personally held values of assisting students with the amount of unpaid time they can devote to the resources. educators need to increase their technology skillsets to achieve their OER goals. Arguably support staff, such as librarians, employed to assist educators and students, but some universities apparently do not have librarians dedicated to OER and copyright. Seeking assistance from these librarians increases their workload and adds to Emma's observation that OERs are not free. Ultimately, educators who adopt, modify, and/or create OERs face numerous challenges that must be weighed against the potential value to students and educators alike.

Summary

Participants shared a wide range of lived experiences with the OERs they reflected upon during the interviews. All participants found challenges that hindered their ability to modify, and/or create OERs, but they all continued to use OERs, even though one participant did not want to continue working with the chosen textbook. Seven of the 11 participants talked about OER textbooks whilst others discussed creating videos, modifying a course, and creating a homework system. With the one exception, all participants reported a positive experience with the OERs, even though they faced a variety of modification and creation obstacles with the OERs. Key findings indicate OERs were adopted, modified, and/or created to assist both students and educators. Participants acknowledged OERs helped mitigate students' financial burdens and the resources were often up-to-date or could be updated quickly. Indeed, the students' financial burden appeared was the dominant motivation to adopt OERs into participants' teaching practices. Importantly for the participants, OERs aligned with their teaching approaches and individual philosophical underpinnings. These two findings provided ample motivation participants needed to overcome challenges encountered throughout their OER experiences, particularly the amount of time and work required to modify and create OERs. Additionally, interviewees reported technology affordances and challenges when modifying and creating OERs, but not when OERs were adopted. The challenges often targeted issues with Pressbooks, but also included working within a learning management system, and having the technical expertise to create the OERs.

In sum, this study uncovered three key findings:

- Participants were motivated to use OERs primarily to ease student's financial burdens and to have up-to-date teaching and learning material.

- Participants who modified and created OERs were often challenged with lack of time.
- Pressbooks was a challenge for these participants even though these professors appear to have good digital technology skills.

These participants' motivations to engage with OERs appeared highly internalized as OERs were fully incorporated as participants repeated these behaviours and they aligned with their personally held values. Only educators who created OERs appeared to achieve intrinsic motivation *to know*, intrinsic motivation *to accomplish*, and intrinsic motivation *to experience stimulation*.

The explication of the interviews indicated that OERs had a solid place in these participants' OER facilitation practices. Importantly, these findings add to the body of knowledge and will aid future OER researchers by providing meaningful and realistic recommendations to changes in teaching practices.

Chapter 5: Discussion and Implications

This study explored how OER educators teaching in Canadian public universities in the 2018-2019 academic year perceived and described their lived experiences and reflections with adopting, modifying, and/or creating OERs. First-hand narratives are needed to help researchers gain a greater understanding of challenges educators may encounter when working with OERs. The results revealed three key findings. First, all participants were initially motivated to include OERs in their teaching practices in an effort to mitigate students' financial burdens. Second, participants who modified and/or created OERs were challenged by the lack of time to work on the OERs, particularly as OER modification and creation added pressure to their teaching loads. Finally, participants who modified and/or created OER textbooks were challenged with using Pressbooks. This chapter begins with answering the two research questions that guided the study, followed by a discussion of the findings as viewed through the theoretical framework.

How do Educators Describe and Perceive Their Experiences With Obstacles to Using OERs?

As discussed in the literature review, OER users often reported discoverability, copyright comprehension, and confusing OERs with digital resources as obstacles to OER use (i.e., Belikov & Bodily, 2016; de los Arcos et al., 2014; Jhangiani et al., 2016; Masterman & Wild, 2011; White & Manton, 2011; Xu, 2018). Interestingly, this study's participants did not mention these three obstacles. A possible explanation is the type of resources participants used. For example, participants in this study who adopted OERs searched for open textbooks and open courses, whereas Jhangiani et al.'s participants predominantly searched for videos and images (p. 16). To gain a clear understanding of discoverability issues, future researchers may consider asking participants to rate a series of potential obstacles on a Likert scale and compare those

ratings with searching in different OER environments, such as YouTube, BCcampus, and eCampusOntario. Additionally, participants may have different search strategies depending upon the type of resource needed. For example, this study's participants who searched for open textbooks in only two repositors, BCcampus and eCampusOntario, whereas Jhangiani et al.'s participants search the internet, as these repositories do no house open images and videos. Researchers could also examine OER adopters' search strategies. This may provide some evidence of OER adopters' digital literacy skills when they search for a variety of OERs.

The perceived poor quality of OERs continues to be an issue for some educators (Belikov & Bodily, 2016, p. 242; McAndrew et al., 2012, p. 6; McGill, 2014, Table 1). This was consistent with this study's findings, where three participants reflected on the poor quality of OER textbooks. The perceived poor quality may deter some educators from further using OERs; however, most adopters in the study were pleased with the quality. This suggests there may be some variability or improvements in the number of higher quality resources available, at least in some disciplines. Participants overwhelmingly reported positive experiences with OERs, with the exception of one participant who modified an open textbook. All OER adopters reported no obstacles and stated they will continue using OERs. Additionally, participants who created OERs were not deterred from using OERs in the future. Ten of the 11 participants tolerated the obstacles and remained motivated by the core value of mitigating students' financial burdens. Conversely, one participant wanted to stop using OERs, but acknowledged the importance of the positive impact OERs had on students' finances.

How do Educators who Have Implemented OERs Describe and Perceive Changes to Their Educational Practices?

It is unclear whether using OERs changed the participants' educational practices. Five participants stated their practices changed, whereas five expressed their practices had not changed, and one participant did not directly reply. It may be difficult to capture data specific to changes in practice because teaching practices evolve over time and through various avenues, such as lived teaching experiences, reflections on student feedback, and exposure to different facilitation methods. Narrative research design may be considered as a method to capture changes in teaching practices as narratives allows participants to describe stories about their experiences. Future researchers may also consider a mixed methods multiphase longitudinal design, particularly if participants are it the early stages of their academic careers. Blumberg (2013) added that educators require "different kinds of instruction" throughout their university careers (p. 3), which is often supported by professional development workshops and seminars offered by teaching and learning centres (Grabove, et al. 2012, p. 5). Changes in teaching practices may be incremental and gradually influence educational views. Such cumulative advances in practice may not be discernible unless a researcher's focus is solely on teaching practice evolution. Conversely, participants who reported no changes in their educational practices may have begun their education careers with a teaching philosophy that aligns with open practices and a student focus. Wade et al. (2014) suggested that autobiographical memories may not be accurate (p. 28), which may indicate the unreliability of participants reporting changes in their teaching practices over several years or decades.

Core Value: Mitigating Students' Financial Burdens

The body of knowledge examining challenges and affordances to OER use has increased over the last 10 years, but only a few studies have explored university educators' motivations (i.e., Lantrip & Ray, 2020; Mishra, 2017b). Nonetheless, this study fully supported previous

research that found mitigating student's financial burdens was a core value that motivated educators to adopt, modify, and/or create OERs (Allen & Seaman, 2016, p. 10; Jung et al., 2017, p. 127; McKerlich et al., 2013, p. 95; Santos-Hermosa, 2014, p. 243, Table 2). The motivation is congruent with OER educators' awareness of the heavy financial burden some students face in postsecondary education. The participants' reported consistently and continually adopting, modifying, and/or creating OERs. Fully incorporating these behaviours is indicative of subsuming the core value of mitigating students' financial burdens. Furthermore, the core value seemed to resonate emphatically with these participants, affecting their ability to tolerate demands, such as the lack of time. Additionally, the core value may diminish perceived challenges, such as learning new digital technologies.

Challenged by the Lack of Time

In the literature, the lack of time is often reported as a challenge for full-time OER educators who modified and/or created OERs (Clements & Pawlowski, 2012, p. 12; McGill, 2014, Table 2; Ovadia, 2019, p. 83). This study's results concur. Other researchers suggested paid leave or reducing course load could help OER educators (Jhangiani et al., 2016, p. 33; Taylor & Taylor, 2018, "Linking solutions with challenges" section; Wild, 2012, p. 6). These two recommendations seem unlikely as the monetary costs of implementing OERs is then shifted to universities. For example, universities may need to hire sessionals or teaching assistance to cover the paid leave and reduced course load. Some participants in this study actively searched for and obtained assistance with their OER endeavours, such as librarians, collaborating with colleagues, and hiring work/study students, which appeared to sustain their motivation for their projects. This is a departure from previous studies, which did not report working with others as an affordance.

Collaboration, or gaining assistance, may indicate resourcefulness by OER educators when faced with challenges they are motivated to overcome. Collaboration may also provide a sense of teamwork, which may fortify their motivation. Participants who voluntarily engaged with OERs, and had the autonomy to later reject OERs, appeared to sustain their OER use. This indicates universities and colleagues may introduce and encourage OER use, but these educators likely will not have sustained uses of the resources or fully engage in OER modification or creation unless they internalize the importance of OERs. However, colleagues and the universities may act as gateways OERs if educators are encouraged to seek them out without the pressure to modify the resources.

Challenges with Pressbooks

All three of the participates who modified or created textbooks reported challenges using Pressbooks. Although not a large sample, the difficulties these participates experienced may point to usability problems with Pressbooks. Very little research appears to exist that explores Pressbook use (McGrath, 2018, p. 45) particularly for postsecondary education (West, 2019, p. 234). Pressbook's founder, Hugh McGuire, acknowledged the software is best used with text-based heavy books. McGuire stated the Blurb self-publishing platform is better for image-heavy books (Rooney, 2015, para. 16), but Blurb provides "locked" page layout in EPUB3 format (Blurb, n.d.), which does not allow for user modification. Pressbooks was the only challenging technology reported by participants in this study. In contrast, previous studies reported technology as an issue in general (see Armellini & Nie, 2013, p .16.; Cox & Trotter, 2017, p. 152; McAndrew & Farrow, 2013, p. 69; White & Manton, 2011, p. 18) without naming specific technologies or types of digital technologies.

Pressbooks requires XML coding knowledge to format the content. XML is often beyond the knowledge base of many educators, which may deter some OER educators from modifying and/or creating textbooks. Conversely, some educators may immerse themselves in learning Pressbooks because of their intellectually intrinsic curiosity (intrinsic motivation *to know*). Further, according to the tripartite taxonomy, intrinsic motivation may include mastery (intrinsic motivation *toward accomplishment*), for example, gaining a very good working knowledge of the software, or working with the software because it is engaging and fun (intrinsic motivation *to experience stimulation*). Achieving these types of intrinsic motivations will impact the amount of time available for other responsibilities. Nonetheless, the core value remains for intrinsically motivated OER educators, who will likely seek out assistance to complete the projects. It remains improbable that educators, who use Pressbooks and feel real or perceived pressure to modify or create OER textbooks, will sustain the motivation to engage with OER textbooks at that level. These educators have not internalized their motivation to engage with OERs, unlike those who consciously value OERs. This may indicate the requirement to learn how to effectively use Pressbooks may result in some educators disengaging from the modification or creation processes. Educators may experience increased motivation if they collaborate with Pressbooks knowledge holders, such as librarians, colleagues, the teaching and learning centres, or work/study students. Collaboration with experienced Pressbooks users may decrease the amount of time needed to modify and/or create these OERs, which may alleviate some of the pressure and frustration educators experience when using Pressbooks.

Recommendations for Further Studies

Using reflective lifeworld research provided rich descriptions of the phenomenon, with each participant sharing their unique perspectives by reflecting on their lived experiences.

However, memory can be unreliable. Alternatively, an ethnographical design could be used to observe participants when engaged with OERs. Researchers can then follow up with interviews, thus reducing the potential for participants to report faulty reflections. Nonetheless, additional phenomenological interviews will contribute to the rich descriptions of OER use and continue to create a foundation for other researchers to base new studies on.

I employed convenience sampling, augmented with snowball sampling, in the first stage of recruitment. This was not successful as only seven educators completed the interview process. Future research may consider compiling a list of all educators from the universities' websites and directly contacting educators. Purposeful sampling was later employed, but this method would not have yielded sufficient participants if used without convenience sampling. Future researchers should consider purposeful sampling, but they could ask peers and colleagues to assist with recruitment to increase the potential number of participants.

The phenomenological interview questions yielded important insights, but in hindsight, directly asking about motivation would have deepened the understanding of why some educators were able to mitigate obstacles. Future researchers may wish to explore motivation vis-à-vis OER affordance and obstacles.

The combined self-determination theory's regulatory styles and the tripartite taxonomy provided insights into OER educators' motivations, however, self-determination theory questionnaires (Center for Self-Determination Theory, n.d.) could be administered to participants prior to conducting indepth interviews. Using these questionnaires will provide greater depth of understanding and assist with aligning the motivation results with other studies that employ self-determination theory. Another avenue of study is to discover how, or if, the allegiance to the core value, or OERs, changes after projects are completed. Also, determining if the core value is

sustained over multiple OER projects needs to be explored, particularly as challenges continue to exert pressure on educators' time.

Different research designs could be employed to gain a different perspective on OER use. For example, researchers could adopt exploratory sequential design. This mixed method begins with quantitative data collection, then two rounds of qualitative data collection with the same participants over a period of time (Creswell & Plano Clark, 2011, p. 82). Exploratory design allows for a deeper comparison of obstacles, affordances, and, if using self-determination theory's regulatory styles, comparison of changing motivation over a length of time. The second interviews could provide additional depth as the questions are emergent based on results from the first interview. However, time is required to analyze these data. It may also be difficult to recruit participants for such a sustained data collection process.

Finally, research is needed to clarify the digital technology challenges OER educators face. It is not clear which technologies educators were challenged with and why they find them challenging. For example, participants stated Pressbooks is a challenging technology, but more research is required to explore these challenges and possible time-saving alternatives.

Recommendations to Practice

All three participants who modified and/or created textbooks voiced their frustrations with difficulties with text, layout, and graphics when using Pressbooks, but none appeared to be aware of alternatives to Pressbooks. They may not have been aware that Pressbooks is not recommended for graphics-heavy textbooks (Rooney, 2015, para.) and they could modify or create OER textbooks using MS Word, Apache OpenOffice (https://www.openoffice.org/), LibreOffice (https://www.libreoffice.org/), and LaTeX. LaTeX is a free and open software used to publish technical and scientific documents (LaTeX, n.d., para. 1). BCcampus and

eCampusOntario house open textbooks created and shared with these technologies. Therefore, I recommended OER educators explore the types of documents repositories make available and work with a technology they believe is suitable for their needs.

Time constraints remains a challenge for OER educators, but seeking help, such as from librarians or hiring work/study students, appeared to help sustain motivation to continue with the OER projects. Working in collaboration with colleagues is likely beneficial from a community of practice perspective, in addition to dividing the workload, which will save time. Furthermore, applying for funding to pay for help, actively engaging in the resources available at the university, and looking online for job aids, are solutions that will diminish the pressure.

Data collection was completed 18 months prior to the COVID-19 pandemic, which abruptly moved all Canadian postsecondary courses and classes to online learning environments. Prior to the pandemic, teaching and learning centres could have better prepared educators by communicating the usefulness of OERs to educators and offering OER workshops. The increased awareness may have been useful to help educators search for resources to augment required readings. This opportunity remains for teaching and learning centres to help educators find and use engaging online learning resources. This is fortified by a 2020 Ontario Confederation of University Faculty Associations study that reported 62% of students (n = 502) and 76% of educators (n = 2208) felt that "online learning has negatively impacted the quality of university education in Ontario" (p. 3), mainly because of the lack of interaction and engagement (pp. 4-5). This study found the core value was mitigating students' financial burdens, but COVID-19 may have shifted this to increasing student engagement. Providing a variety of learning materials may increase engagement; therefore, augmenting paid-for resources with OERs could decrease the reliance on paid-for resources.

Universities could further support OER educators by increasing digital storage space for OER curation and creating open repositories for educators to upload resources. Ideally, these resources would be shared with other repositories, particularly BCcampus and eCampusOntario. The Canadian OER repository landscape will begin to fragment if resources are only stored at individual instructions, resulting in increased discoverability issues for educators.

Finally, results from this study found collaboration with peers or obtaining help appeared to sustain the motivation to continue modifying or creating substantial OERs. Departments could create OER communities of practice to leverage knowledge and technical skills. This would decrease the amount of time individual educators need to invest in OER modification and/or creation. Technical support, particularly with Pressbooks, should be made available through the teaching and learning centres or libraries. Or, as some participants in the study found, hiring work/study hiring students with technical abilities saves educators' time. Therefore, universities could further support OER educators with funding to hire work/study students.

Theoretical Contributions

This study combined self-determination theory's regulatory styles with the tripartite taxonomy, which has yet to be employed by researchers studying OER use. This study answers the call from Carbonneau et al. (2012, p. 1175) who suggested further studies combine self-determination theory and the taxonomy to continue testing the three types of intrinsic motivation. This theoretical construct assisted with prompting questions during the interviews and provided a sharper lens to view intrinsic motivation. Indeed, this study found the core value of mitigating students' financial burdens was the initial motivation for OER use, but the initial motivation appears to be replaced by specific intrinsic motivation as illustrated by the tripartite taxonomy. This supports the taxonomy's inclusion in self-determination theory as this finding may not have

come to light without inserting the tripartite taxonomy into self-determination theory. However, other intrinsic motivation models, frameworks, and taxonomies could also be used in conjunction with self-determination theory, which may lead to further insights in to OER modification and creation.

Indeed, researchers continue to refine intrinsic motivation (i.e., Martela et al., 2019) whilst Ryan and Deci (2020) acknowledge that "most intentional behaviors" have multiple motivations, such as an individual who is simultaneously intrinsically and externally motivated (p. 3). But Ryan and Deci do not segment intrinsic motivation beyond the three attributes of interest, enjoyment, and inherent satisfaction (p. 2). Since its inception in 1992, the tripartite taxonomy appeared in a limited number of studies, which may indicate researchers prefer alterative frameworks to augment self-determination theory, or they are unaware of this Canadian contribution to self-determination theory. Nonetheless Ryan and Deci recognize self-determination theory relies on "incremental theory expansion" (p. 7), which could include the tripartite taxonomy. Vallerand et al. (1992) suggest Csikszetmihalyi's flow theory of peak experiences is aligned with the taxonomy's intrinsic motivation *to experience stimulation* (p. 1006). This indicates other motivational theories could be included in self-determination theory's intrinsic regulatory style.

Further research using self-determination theory to gain additional insights into OERs will augment the growing body of educational technology research. Additionally, future self-determination theory researchers may find replacing self-determination theory's board intrinsic regulatory style with the taxonomy provides precise levels to gain a deeper understating of intrinsic motivation.

The results of this study support the tripartite taxonomy's inclusion in self-determination theory's regulatory styles. The three types of intrinsic motivation provided further insights into levels of motivation, but it remains unclear how and why some educators, who have strongly internalized the core value, are not consistently intrinsically motivated. Further stratification of the taxonomy may be required.

Contributions to Research

This study adds to the growing body of the few qualitative motivation studies that examines postsecondary educators who use OERs. The results identified educators adopted OERs to mitigate students' financial burdens, which supported qualitative OER research (Allen & Seaman, 2016, p. 7; Santos-Hermosa, 2014, p. 243; Weller et al., 2015, p. 358). Similarly, these results supported several quantitative studies that reported that lack of time was an obstacle for some educators (Andrade et al., 2011, p. 102; de los Arcos et al., 2015, p. 24; Jhangiani et al., 2016, p. 19).

Limitations

This study provided insights into OER use by 11 educators teaching at four universities in two provinces and it is therefore not possible to generalize the results beyond this study's participants. The participants reflected on their lived experiences, which may not represent the experiences of educators in other universities, faculties, or departments. The self-selected sample does not include OER educators who may have rejected OERs or interpreted the invitation to participate in this study as only for educators who had positive experiences with OERs. Recruitment began with convenience sampling, with department chairs asked to forward the emailed invitation to all educators in their department. Invitations to participate were emailed at the beginning and the end of the winter semester. This was timed to avoid interviewing whilst

educators were engaged in grading. It is not known how many invitations were forwarded. Purposeful sampling was also employed, with invitations emailed to professional contacts halfway through the summer semester. I have limited professional contacts outside of BC and Ontario, so recruiting from other provinces and territories was problematic. It is not known if the locations of the universities affected the study's results. Notably, the two provinces are also home to two prominent open textbook repositories. It remains unknown if educators in other provinces and territories are also familiar with these repositories.

Self-selected participants may have either a strong opinion of OERs or have a high level of interest in OERs. These educators are more apt to participate in studies such as this one. As this study found, time is a valuable commodity for educators, and some educators may not have had the time available for an hour-long interview, follow up emails, and reviewing and approving their anonymized interview transcript.

The survey's self-reported data appeared to be problematic. The average age could not be determined because broad age ranges were used as opposed to exact ages. Additionally, some tenured participants stated they taught a very high number of courses per year. These participants may have misinterpreted the question and provided the number of courses taught over the last three years, or they reported the correct number, but they are not involved in research.

I was challenged with employing a phenomenological methodology because of RLR's bridling requirement. Bridling requires me to remain patient whilst exploring relationships in the data and waiting of the essence to emerge. I practiced this during the piloting phase of the project, but Dahlberg et al. (2008) notes even experienced researchers can easily "fall into the trap of seeing what they 'wish' to see, which is not necessarily conscious act" (p. 242). It may be possible that I interpreted the phenomenon through my own lived experiences even though I

attempted to bridle my preconceptions. I used Dahlberg et al.'s three criteria for evaluation of tentative interpretations: interpreting only actual data, there should no other strong interpretations to explain the same data, and no contradictions in the data (p. 288). Additionally, data analysis of phenomenological transcriptions was problematic because the nuances and inflections of the voices carry meanings that are difficult to accurately capture in a written transcript.

Participants shared OERs artifacts during the interviews, but these artifacts were not included in the data analysis. RLR data collection and analysis includes only three types of data: narratives, interviews, and fieldwork and observations, and does not provide guidance to analyze and synthesize artifacts within the whole-parts-whole process. Observations were eliminated because observing an educator over a course of days or weeks may only yield a few instances of educators interacting with OERs. RLR narratives were not considered for this study as they are often used when a "limited amount of data" is required, such as small descriptions of a specific event (Dahlberg et al., 2008, p. 178). This study does not meet these criteria, particularly as the OERs used by this study's participants occurred throughout their teaching practices.

In this study, participants reflected on their lived experiences with five types of OERs (online course, textbooks, websites, and videos), which made the OERs difficult to compare and contrast. Future researcher may wish to focus on one type of OER.

Conclusions

Mitigating students' financial burdens is important to many educators, and for some, this is the motivation that began their OER journey. Results from this study suggest educators face several challenges when modifying and creating the resources, but not with OER adoption. Broadly, these results suggest that some educators remain motivated to continue using OERs and tolerate the challenges even as they place additional pressure on their time. This illustrates the

importance of fully incorporated behaviours, as these behaviours (OER adoption, modification and/or creation) and the motivation to continue were congruent with their core value of mitigating students' financial burdens. All educators in this study reported this value, indicating an intrinsically held value that is capable of withstanding challenges and perhaps fortifying their resolve to tolerate the challenges, particularly the lack of time. This supports the essential meaning of the phenomenon, which is understood as a device rooted in educators' motivation to support students beyond the classroom. This study calls on other researchers to build on these results, with further qualitative studies, in an effort to gain a clear understanding of the lived experiences of educators who encounter OER challenges.

Finally, understanding the role motivation plays in OER uptake and continuance may inspire some educators to experiment with OERs. As one participant stated, "I think the biggest lesson is that it's not that hard. Yes, it's going to be more work, but I think the pay-off far exceeds the amount of additional work that it takes to get OER into the classroom" (Paul, S102).

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Appendices

Appendix A: Literature Review Search Strategy and Article Management

Broad reading around the topics of educational approaches and OER began in late 2014. Searching, reading, and reviewing research articles, and eBooks soon followed. This was later augmented with Google searchers for grey literature and white papers. I primarily used the UVic Summons 2000 database, and EBSCOhost research databases (Academic Search Complete). I employed a Boolean search strategy with my preliminary search terms, which were *open educational resources*, *OER*, and *andragogy*. Secondary searchers were conducted to narrow the field and discover Canadian research; thus, the words *Canada*, *professor*, and the phrase *higher education* were used in conjunction with the primary search phrases. Additional search phrase included *OER* AND *higher education, OER* AND *repositories*, *open educational resources* AND *higher education,* and *open educational resources* AND *repositories.* The phrases *faculty professional development* and *teaching and learning centres* were also used. I also retrieved articles found when reading the references of research articles, and I noted prolific OER authors and subsequently searched for their relevant articles and eBooks.

All database searches had the following search criteria: peer reviewed, available online, English language, and published within the last 10 years. The 10-year limit was chosen because of the rapid changes in educational technology that have affected OERs; however, understanding the history of OER was also important. My reading uncovered pertinent historical documents, such as 2002 UNESCO (United Nations Educational, Scientific, and Cultural Organization) Forum, which I used sparingly in the literature review. These searches rendered a large number of articles that were not related to my study; therefore, the following exclusion terms were used: *nursing*, *medical*, *medicine*, *China*, *India*, and *engineering*.

Additionally, information was retrieved from regular Google searches using the terms *OER* AND *higher education, OER* AND *Canada,* and *OER AND universities.* These three search terms were also used with *open educational resources* substituting *OER,* thus I was able to locate OER information that was journalistic in nature. I also vigilantly searched several Canadian media outlets for OER and Canadian news about universities. These online media outlets were CBC News, The Globe and Mail, The National Post, CTV News, The Tyee, and Huffington Post Canada. There is a strong and prolific group of educators who share their OER educational technology insight on blogs. I am a regular reader of the following blog writers: George Veletsianos (veletsianos.com), Stephen Downes (downes.ca), Terry Anderson (virtualcanuck.ca), Audrey Watters (hackeducation.com), Martin Weller (edtechie.net), and Tony Bates (tonybates.ca). I also regularly read a number of education websites, such as University Affair, Faculty Focus, EDUcasue, Academic Matters, The Conversation, and Inside Higher Ed. Finally, I frequently visit several OER specific websites, such as the Global OER Graduate Network, Creative Commons, BCcampus, OER Knowledge Cloud, OER Commons, and Open Education Consortium.

For research articles, I reviewed the title and brief description of each article, and I opened articles that appeared to align with my research topics. I further ascertained the relevance of articles after reading the abstract and the methods section. I saved articles I believed could contribute to my research. Pertinent information from these articles, such as key words, research design, APA reference, and the abstract, was saved to a spreadsheet to allow for manageable retrieval of both information and the article. Reviewing this information allowed me to evaluate each article at a secondary level. Notes were made in the spreadsheet to indicate each article's usefulness to this project and how the article could be useful. The spreadsheet was useful for

spotting trends, such as an apparent lack of theoretical framing in OER papers, and likenesses in research design; however, I found it difficult to work within the confines of the spreadsheet as it grew in size.

To better manage the growing number of papers in my collection, all articles and eBooks were moved into appropriately titled subject folders. Each article was later read with excerpts removed and placed into Word documents based on the excerpt's theme. A citation followed each excerpt. Word documents were then placed into one of the following folders: *Andragogy*, *OER and Andragogy*, and *OER*. Some folders, such as the OER folder, had numerous subfolders, such as one for barriers to OER and another for study recommendations. Finally, once an article or chapter from an eBook had all relevant quotes removed, its APA reference was added to a master list. This prevented duplication and allowed me to easily find, copy, and paste the reference into the paper when needed.

Appendix B: The Number of Participants in Phenomenological Studies of Postsecondary Educators

Many studies exist that have examined how university professors approach teaching or their teaching techniques; however, phenomenologists have yet to agree upon a number of participants. This is logical as each study will yield unique insights and the insights will be as varied as the participants. Additionally, looking for a specific number fuels the desire to borrow from qualitative researchers who have the tradition of placing numerical value on many aspects of their research.

Searching for relevant journal articles began with employing the Summons 2.0 search function on the UVic Library website. Additionally, EBSCOhost research databases ERIC and Academic Search Complete) were also used. I used a Boolean search strategy with the search terms “phenomenology,” used in conjunction with AND “higher education,” AND “university,” and AND “professor. All database searches included the following search criteria: peer-reviewed, available online, English language, and published between January 1, 2008 and October 1, 2018. The five-year limit was chosen because of the rapid changes in educational teaching practise, particularly for the area of online delivery even though this was not a focus of the research. Even with a narrow inclusion, the search rendered a large number of articles that were not related to my study. The title and abstract or each article in the search were read. If article used transcendental, descriptive, hermeneutic, IPA, RLR or other type of phenomenological methodology, as per Finlay’s description, (Finlay, 2008 as cited in Vagle, p. 51, 2014) then the methodology section of the article was reviewed to determine its suitability for this study. Articles were discarded if the purpose of focus of the study included the following:

- Academic advising (as the topic)
- Administrators (as participants or as the topic)
- Counselors (as participants)
- Deans (as participants)
- Leadership (as a topic)
- Mental health (as a topic)
- Only one participant was included in the study
- Parenting (as the topic)
- Phenomenology (philosophy)
- Policy (as the topic)
- Phenomenography (as the methodology)
- Retirement (as the topic)
- Service by faculty (as the topic)
- Students (as participants), and
- Teacher education (as the topic).

The Summons 2.0 search yielded 500 results each for the search terms "phenomenology," used in conjunction with AND "higher education," AND "university," and AND "professor. Many articles appeared in more than one search. A limitation of employing Summons 2.0 is the maximum number of papers available is 500 articles per search. Each search was sorted by relevance to yield the most useable results. The Academic Search Premier search revealed 71 results, the ERIC search revealed three results. In an effort to uncover further articles, the following keyword searches were also employed in Academic Search Premier:

- "phenomenology" AND "university professor," which did not yield any results

- “phenomenology” AND “postsecondary education,” which did not yield any results
- “phenomenology” AND “post-secondary education,” which did not yield any results, and
- “phenomenology” AND “university teachers,” which did not yield any results.

At the conclusion of the search, 1571 articles appeared and examined with 48 articles downloaded and further examined. Seven articles were then dismissed because the papers did not state phenomenology as the theory or a methodology, combined grounded theory or other qualitative research designs with phenomenology, and the research used only themselves as the study participants. An additional seven articles were removed because these studies did not state the type of phenomenology employed. From the remaining 35 studies, five were removed because a phenomenology tradition was not stated. One study was also removed because it provided a broad description of interpretative phenomenology but did not practice phenomenology. With 29 studies remaining, seven were dismissed because they did not explicitly examine the lived experiences of participants or ask participants to reflect on their experiences on the research topic. These remaining 22 articles were scrutinized for the purpose of removing articles that employed phenomenology at a high level. Ten were dismissed for various reasons, such as inconsistent use of phenomenology, mixing various traditions, and not describing how phenomenology was applied to the study, leaving 12 studies suitable to determine the average number of participants in phenomenology studies (see Table 8).

Table 8

Phenomenological Studies of Postsecondary Educators

Authors	Title	Type of phenomenology	Number of participants	Type of participants	Notes
Bakley & Broadersen, 2018	Waiting to become: Adjunct experiences at multi-campus community college	Descriptive	7	Part-time community college faculty	Bracketing; discusses Husserl; used epoché
Bedenlier, 2017	Internationalization within higher education and its influence on faculty: experiences of Turkish academic staff	Moustakas	6	Faculty at a university	Only for data analysis; a separate description of the "what" and "how" of the experiences was written (Moustakas, 1994)
Blackmon, 2015	The pixelated professor: faculty in immersive virtual worlds	Hermeneutic (van Manen)	10	Faculty from colleges and universities	Qualitative coding to analyze the data and ascertain the various "structures of experience (van Manen, 1990)
Ferencz, 2017	Shared perceptions of online adjunct faculty in the United States who have a high sense of community	Transcendental (Moustakas)	14	Online part-time faculty	Bracketing; Moustakas's 1994 data analysis steps
Humphreys, 2012	Developing student character: community college professors who share power	Moustakas	7	Faculty at a community college	Bracketing; Moustakas's 1994 data analysis steps
Landrum et al., 2017	Why teach? A project life-world approach to understanding what teaching means for teachers	Giorgi and Garza (the Dallas approach)	4	Faculty at a university	Discusses Heidegger; hermeneutic analysis
Lee et al., 2014	Taking a leap of faith: redefining teaching and learning in higher education through project-based learning	Giorgi & Moustakas	8	Faculty at a university	Created thick descriptions for faculty participants; not sure if this follows Giorgi's steps
Lindberg, 2018	Lecturers' lived experiences of guiding reflective seminars during nursing education	RLR (Dahlberg, et al.)	8	Faculty at a university	Discusses Merleau-Ponty and Husserl; follow RLR for data analysis

Authors	Title	Type of phenomenology	Number of participants	Type of participants	Notes
Oyelana et al., 2018	Learner-centred teaching in a non-linear-centred world: An interpretive phenomenological study of the lived experiences of clinical nursing faculty	Interpretative (Finlay, 2014)	10	Clinical nurse faculty	Uses Finlay for data analysis
Sloan & Bowe, 2015	Experiences of computer science curriculum design: a phenomenological study	Hermeneutic (van Manen)	12	Faculty at a university	Provides description of van Manen's approach; looks to Smith for reduction; supports data analysis with van Manen citations
Veletsianos & Kimmons, 2013	Scholars and faculty members' lived experiences in online social networks	Dahlberg et al.	3	Faculty at a university	Mixed different phenomenological approaches for data analysis; practiced bracketing
Wood et al., 2016	Changing professional identify in the transition from practitioner to lecturer in higher education: an interpretive phenomenological analysis	Interpretative (Smith & Eatough, 2012)	10	University lecturers; included the researcher as a participant	Used IPA for data analysis
Total			*99 M* = 8.25		

Appendix C: Survey Questions

1. A definition of OERs is as follows: “Open educational resources are materials that are used, modified, shared, and/or created to support education that may be used under Creative Commons or public domain licenses.” Within the context of this definition, have you used, modified, shared, and/or created OERs in the last three semesters?
   [yes/no] [No = end survey]
2. A definition of OERs is as follows: “Open educational resources are materials that are used, modified, shared, and/or created to support education that may be used under Creative Commons or public domain licenses.” Within the context of this definition, select every action you performed with one or more OERs in the last three semesters.
   a. Modified
   b. Shared
   c. Created
3. A definition of OERs is as follows: “Open educational resources are materials that are used, modified, shared, and/or created to support education that may be used under Creative Commons or public domain licenses.” Within the context of this definition, what types of OERs have you included in your teaching practice in the last three semesters? (Check all that apply.)
   a. I have not used OERs in the last three semesters [end survey]
   b. Open textbooks
   c. Videos
   d. Images (i.e., photos and graphics)

e. Sounds/podcasts

f. Open course materials (i.e., assessments, lectures, and lesson plans)

g. Other: Explain

4. How did you share your OERs?

    a. With my students

    b. With peers within the university

    c. Posted the resource(s) online openly for others to use

    d. I did not share any OERs

5. Please indicate the total number of years of teaching experience you have in all postsecondary institutions.

    a. Less than 1 year

    b. 1 to < 2 years

    c. 2 to < 5 years

    d. 5 to < 10 years

    e. 10 to < 15 years

    f. 15 or more years

6. Please indicate your current rank at the university

    a. Professor

    b. Associate professor

    c. Assistant professor

    d. Teaching faculty

    e. Lecturer/instructor

    f. Other:

7. Please indicate your current type of employment.
    a. Tenured
    b. Probationary/tenured track
    c. Limited-term
    d. Part-time/sessional
8. How many courses did you teach in the last three semesters? [Enter number only]
9. In what university do you teach [Fill in the blank]
10. In what faculty/department/program do you teach? [Fill in the blank]
11. Over the last three semesters, did you teach full-time or part-time? [F/T or P/T]
12. What type of delivery methods did you use over the last three semesters?
    a. Fully online courses
    b. Fully on-campus or in the community (face-to-face)
    c. Blended course delivery (online activities combined with classroom instruction in the same course)
13. Are you …?
    a. Female
    b. Male
    c. Non-binary
14. Preferred pronoun
    a. She
    b. He
15. What age range do you fall within?
    a. Less than 30 years old

b. 30 to < 40 years old

c. 40 to < 50 years old

d. 50 to < 60 years old

e. 60 to < 70 years old

f. 70 years old or older

16. Thank you for completing the survey. Based on your responses you may be contacted to participate in a one-hour interview. Please provide your name and email address if you wish to participate in an interview.

Thank you for completing the survey. Based on your responses you may be contacted to participate in a one-hour interview. Please provide your name and email address if you wish to participate in an interview.

Appendix D: Interview Questions

Interview Introduction and Opening Comments:
(I turn on the recorder) Thank you for taking time to meet with me. I would like your permission to turn on the recorder to capture our conversation. As I mentioned when I arrived, my name is Janet Symmons and I am a Ph.D. candidate at UVic, where I am researching the lived experiences of educators who have adopted OER into their teaching practice. Last week, I emailed you the informed consent form to review before our interview. I have two copies with me here, and if you choose to participate in this interview, I'd like you to sign a copy for each of us, one of which you will keep. At the bottom of the second page, you'll see the section called Future Use of Data. Please ensure you initial whether or not you consent to future data use. Do you have any questions or concerns about the informed consent? (In ensure all questions are answered to the participant's satisfaction before continuing.) Just a reminder that you are free to withdraw your participation at any time during the interview or ask for the information you provide in this interview not to be used in the study. You are also free to stop the interview at any time to ask for a break. Also, your name, university, and other identifiers mentioned in the interview will be changed so that you are anonymous in the report. (The participant signs one copy, which I retain, and the participant keeps a copy for their records.) Finally, the information you provide today will be used for my dissertation. I am hopeful that the information that you and other participants share with me will help me understand your personal experiences working with OERs and any barriers you have encountered. The purpose of my phenomenological study is to uncover how educators teaching in BC public universities in 2018 overcame impediments to OER adoption. I have a few questions for you, which I also emailed to you last week. These will be used to guide our conversation. Do you have any questions about what I have just said or the purpose of this interview? (I commence the interview when the participant is ready to begin.)

General Questions	
1. Tell me about yourself and your approach to teaching. 2. Tell me about how you came to be using OERs in your teaching	**Additional prompts if needed:** • Tell me more… • Can you elaborate… • Why did you begin using OERs? • Why is using OERs important to you?
Questions about OER artifact/s	
Primary Questions Please choose one of the OERs you brought with you today 1. Tell me a bit about the OER your brought with you today 2. Did you find it, modify it or create it?	**Follow-up questions:** [Use these if these things have not been discussed in response to main questions] • Tell me more… • Can you elaborate…

IF OER created:
 	
1. Tell me about your experiences creating it?
2. Looking back on your experiences with this OER, would you change anything another time?
3. Was your experience with this OER similar to other experiences with OERs?
	• Tell me more…
	• What was that like
	• Tell me more:
	  ○ about your experiences creating it
	  ○ on difficulties you ran into
	  ○ on things that helped you
	  ○ on surprises your encountered
	• Why create rather than modify or share an existing OER?

IF OER modified:
 	
1. Tell me about your experiences modifying it?
2. Looking back on your experiences with this OER, would you change anything another time?
3. Was your experience with this OER similar to other experiences with OERs?
	• Tell me more…
	• What was that like
	• Tell me more:
	  ○ about your experiences modifying it.
	  ○ on difficulties you ran into
	  ○ on things that helped you
	  ○ on surprises your encountered
	• Why modify rather than create and OER or share an existing OER?

<table>
<tr><td>IF OER was a shared resource:
1. Tell me about your experiences finding and sharing it?
2. Looking back on your experiences with this OER, would you change anything another time?
3. Was your experience with this OER similar to other experiences with OERs?</td><td>• Tell me more…
• What was that like…
• Tell me more:
○ about your experiences sharing it.
○ Who did you share with?
○ How did you share it?
○ on difficulties you ran into
○ on things that helped you
○ on surprises your encountered
• Why share rather than create an OER or modify an existing OER?</td></tr>
<tr><td colspan="2">Closing questions</td></tr>
<tr><td>1. Why do you continue using OERs in your teaching practice?
2. How has using OERs changed your teaching practice?
3. What advice or lessons learnt would you like to share with other educators who may want to explore using, modifying, and creating OERs?
4. Is there anything else you want to share or add?</td><td>• Tell me more…
• What was that like…</td></tr>
<tr><td colspan="2">Interview Conclusion:
“Thank you for taking this time to meet with me to discuss your experiences. This has been very helpful, and I am sure it will be helpful for future instructors who may consider using OERs in their teaching practice.”
“I will transcribe our conversation in the coming weeks and email you the transcription for your approval. If you can think of anything else you’d like to add, please feel free to add it to the end of the transcription. I’d be happy to send you a completed copy of my research if you’re interested.” (Turn off audio recorders.)</td></tr>
</table>

Appendix E: Ethics

University of Victoria | Research Administration Information System

Human Research Ethics Standard Application #18-1005

A. Research team

1. Principal investigator (faculty, faculty supervising a student or post-doctoral researcher)

Principal Investigator is a faculty member, adjunct professor or sessional instructor. For more information please see the annotated guidelines.
If the project has more than one Principal Investigator (other than you) or more than one Principal Applicant, their names should be listed under section A.3 Research Team Members.

PI name
Valerie Irvine

PI department
PI department. If more than one department, the department you are doing the research for.
Curriculum & Instruction

PI position
PI position at UVic
Faculty

2. Principal applicant (students & post-docs)

For further information about the distinction between the Principal Investigator and Principal Applicant, please see the annotated guidelines.
A Principal Applicant is an undergraduate student, graduate student or post-doctoral fellow who will be the lead researcher (for their thesis, dissertation, project, etc.) for this study. A Principal Applicant will be granted "View and edit" access by default, and will receive notifications related to the study. If the project has more than one Principal Applicant, the additional individuals should be listed under section A.3 Research Team Members.

Does this application have a principal applicant (UVic student or post-doc conducting this research for their academic degree)?
Yes

PA name
[redacted]

PA email
[redacted]

PA department
Curriculum & Instruction

PA position
PhD student

PA phone
[redacted]

PA graduate secretary's email (if the principal applicant is a graduate student. Leave blank otherwise.)

PA graduate secretary's email (if the principal applicant is a graduate student. Leave blank otherwise.)

[redacted]

Is the principal applicant conducting this research for their academic degree at UVic?

Yes

3. Research team members

Individuals and organizations involved in conducting your research. This includes co-principal investigators, additional principal applicants, co-investigators, other UVic students, assistants (paid or unpaid), community organizations, and clients. Team members listed will have "no access" to application as a default. You cannot assign access to team members without Netlink ID. If they need a Netlink ID go to the Affiliate Identity Management System and click on the 'Sponsor' tab to start the process. Once you get the Netlink ID you have to re-enter their name and give access permission to the application.

List all current research team members (including any UVic students or research assistants who will use the received data or biological materials to fulfill UVic thesis, dissertation, or academic requirements) and assign level of access to the application. Inclusion here satisfies only UVic institutional requirements. If you grant "View and Edit" access to more than one person, be aware that the system will not notify users if and when others are making edits to the application.

DO NOT add the PI or PA to this table as that will cause technical permission issues.

Access: ✎ View and edit project 👁 View only ✉ Receive notifications $ Contribute funding

Name	Email	Role in the project	Institutional affiliation	✎	👁	✉	$
David Leach	[redacted]	Committee member	University of Victoria	☑	☐	☐	☐
Allyson Hadwin		Committee member	University of Victoria	☑	☐	☐	☐

B. Project information

1. Project title

Title for your research project. You may not submit two applications with the same title.

A Phenomenological Study of University Educators Who Use Open Educational Resources in their Teaching Practice

2. Anticipated duration of the project

a. Anticipated start date for recruitment/data collection

The approximate start date to begin recruitment and data collection for your project should take into account the time it will take to complete and submit this application form and the period of four to six weeks required for ethical review. It is a violation of University of Victoria policy to begin recruitment and data collection before receiving HREB ethics approval.

Upon approval; September 2018

b. Anticipated end date for your research project

An approximate end date for recruitment and data collection.

January 2020

3. Is this application linked to one that has been recently submitted to the UVic Human Research Ethics Board?

No

4. Geographic location(s) of the study

Canada

5. Keywords to categorize your research

Open educational resources | OER | Self-determination theory | Phenomenology

C. Project funding

1. Have you and/or research team members (their names must be listed under section A. Research team) applied for or been awarded funding for this project?

This information is used to permit the release of funds and to ensure proper reporting of research ethics approval to funding agencies. Please ensure the information in this table is correct.

No

2. Will this project receive funding from the US National Institute of Health (NIH)?

No

3. If you are a faculty member and have indicated above that you have applied for external funding, have you submitted a Research Application Summary Form to the Grants or Contracts unit in the Office of Research Services?

You must submit a research application summary form to the grants or contracts office every time you apply for external funding. Provide explanation, if you haven't done so.

Not applicable

Comments

D. Multi-jurisdictional research

1. Does the proposed research require Research Ethics Board (REB) approval from one (or more) of the institutions that are part of Research Ethics BC (REBC), listed below? If your answer is 'yes' or you are unsure, please STOP completing this form and contact HRE office as soon as possible.

Effective January 1, 2019, research ethics applications for all studies that involve UVic and one or more institutions listed below, must be submitted through the Provincial Research Ethics Platform (PREP), and can no longer be submitted through UVic-RAIS. If your study involves one or more institutions listed below, please contact HRE office ethics@uvic.ca, 250-472-4321 or 250-472-4545 for more information, before proceeding with the rest of the application.

Harmonization (a single coordinated review with the other institution(s) listed) may apply if you will be conducting research under the auspices of any of the institutions listed (involving staff, patients, health records, sites and/or recruitment through their sites, including recruitment via poster placement), as well as when members of your research team consist of faculty, staff and students from the BC institution(s) listed below. Please check with UVic HRE office if you are not sure whether your study will need to go through harmonized review.

No

a. If you answered "yes" to question D.1, please check all the REBC research ethics boards involved in this research

- ☐ University of Northern British Columbia
- ☐ University of British Columbia - Clinical Research Ethics Board (CREB)
- ☐ University of British Columbia - Behavioural Research Ethics Board (BREB)
- ☐ University of British Columbia - Okanagan
- ☐ BC Cancer Agency
- ☐ Children's and Women's Hospital
- ☐ Providence Health Care
- ☐ Simon Fraser University
- ☐ Island Health
- ☐ Fraser Health
- ☐ Interior Health
- ☐ Northern Health

☐ Vancouver Coastal Health

☐ First Nations Health Authority

☐ British Columbia Institute of Technology

☐ Thompson Rivers University

☐ Langara College

2. Does the proposed research require Research Ethics Board (REB) approval from other ethics board(s) not part of REBC?

No

3. If you have answered "yes" to question D.1 and/or D.2 above, please indicate your role in multi-jurisdictional research project (Check all that apply)
If you answered "Yes" to question D.1 please STOP completing this form and contact HRE office ethics@uvic.ca, 250-472-4321 or 250-472-4545 as soon as possible.

☐ Recruiting Participants

☐ Collecting data

☐ Analyzing data (with or without identifiers collected by you and/or your UVic research team members)

☐ Analyzing data that contain identifiers: data to be collected by non-UVic research team members as outlined in this application

☐ Analyzing data that does not contain identifiers: data to be collected by non-UVic research team members as outlined in this application

☐ Dissemination of results via publications, reports, conferences, internet, etc.

☐ Other

4. Additional information

Direct contact with potential participants will be initiated via emailing the invitation to participate to the principle investigator's personal and professional contacts, contacting potential participants through social media, and verbally extending invitations in person. It would also include asking contacts in the Canadian higher education community of target interest to forward the invitation to those they consider a good fit with the inclusion criteria.

E. Other approvals and consultations

1. If additional request(s) for permission/approval are required please complete the section below (check all that apply)

Other approvals and consultations	Yes, approval uploaded	Yes, will provide as received	No approval required
a. School district, superintendent, principal, teacher			☑
b. Health authorities outside BC involving staff, patients, health records, sites and/or recruitment through their sites (including recruitment via poster placement)			☑
c. Other regional government authority			☑
d. Community group (e.g. formal organization, informal collective)			☑
e. UVic Biosafety Committee approval			☑
f. Other approval			☑

Please upload proof of having made request(s) for permission or any permission/approval documents that you received. Please forward approvals upon receiving them. Be assured that ethics approval may be granted prior to receipt of external approvals.

Supporting documents

RRUREBApproval-Symmons.pdf *(Other approval, Name: RRU REB Approval-Symmons, Version: Version 1)*; May 12, 2019

Comments

Approval from VIU and RRU was received prior to data collection at those institutions. VIU did not provide a certificate of ethic approval but did send an email from the REB with a protocol number ([redacted]) with an expiration date of December 2, 2019. Unfortunately, recruitment did not yield the anticipated number of participants. Using purposeful sampling, potential participants will be located through the researcher's personal and professional contacts and via social media and not through the universities in which they work. Therefore, this new recruitment method does not require approval from other universities' ethic boards.

F. Scholarly review

1. What type of scholarly review has this research project undergone?

☐ External peer review (e.g. granting agency)

☑ Supervisory committee or supervisor - required for all student research projects

☐ None

☐ Other

G. Researcher(s) qualifications

1. In light of your research methods, the nature of the research, and the characteristics of the participants, what training, qualifications, or personal experiences do the principal investigator, the principal applicant, and/or your research team members have?
E.g. research methods course, language proficiency, committee experience, training on the equipment to be used.

The principal applicant has been involved in five research projects since 2001, taught three college research courses, mentored undergraduate students in two university research courses, is currently an associate researcher with the ElLab at the University of Ontario Institute of Technology, and has successfully completed three doctoral level research courses and two master's level research courses.

H. Research Involving the First Nations, Inuit and Métis Peoples of Canada

The TCPS2 (chapter 9) is designed to serve as a framework for the ethical conduct of research involving Aboriginal (including First Nations, Inuit and Métis) or Indigenous peoples, regardless of where they reside or whether or not their names appear on an official register. Its purpose is to ensure, to the extent possible, that research involving Indigenous peoples is premised on respectful relationships and encourages collaboration and engagement between researchers and participants.

This Policy acknowledges the role of the community in shaping the conduct of research that affects First Nations, Inuit, and Métis peoples. The nature and extent of community engagement should be determined through discussion with, and under the advisement of, the relevant community, taking into account relevant characteristics and protocols and the nature of the research.

The University of Victoria Indigenous Plan recognizes that research with Indigenous communities or involving Indigenous peoples must be conducted in a respectful and culturally appropriate manner, following protocols regarding entering community sites, engaging with communities, Elders and Knowledge Keepers, acknowledging cultural knowledge and cultural property, and disseminating research findings.

1. Conditions of the research

a. Will you be conducting research that is situated on any of the following kinds of lands or waterways: First Nation reserves, Indigenous settlements, Indigenous lands under self-government agreements, territories with Indigenous land claims agreements, or other lands designated by Federal, Provincial, or local governments as Indigenous territory?

No

b. Do any of the criteria for participation include belonging to an Indigenous nation, community, group of communities, or organization, including urban Indigenous populations?

No

c. Does the research seek input from participants regarding Indigenous cultural heritage, cultural practices, artifacts, Indigenous or traditional knowledges, or distinct characteristics of Indigenous experience or reality?

No

d. Will Indigenous identity or membership in an Indigenous community or group (e.g. Métis Nation) be used as a variable for the purposes of analysis?

No

e. Will the results of the research make specific reference to Indigenous communities, homelands and/or waterways, peoples, languages, histories or cultures?

No

2. Indigenous engagement

a. Processes and protocols for engagement differ across communities, organizations, committees, and groups, as well as across different research contexts. Describe the process that you have followed with respect to Indigenous engagement.
Include any documentation of collaboration (e.g. formal research agreement, letter of approval, email communications, advisory committee, mentorship, etc.) and the role or position of those consulted (e.g. Elder, Knowledge Holder, governing body, Chief, etc.), including their names, if appropriate.

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b. Explain how Indigenous community members will be meaningfully involved throughout the research process, from research design to knowledge sharing.
Outline the plan, as developed with the community, for the outcomes of the research, including research data ownership, sharing, storage, and governance.

c. If you have answered "yes" to any of the questions in H.1 but have not yet engaged with the community, committee, organization, or group, please explain why not and outline how you plan to conduct a study that respects Indigenous communities and participants in the absence of prior engagement.

3. Comments

I. International research

1. Will this study be conducted in a country other than Canada?

No

J. Description of research project

1. Briefly describe in non-technical language

a. The research objective(s) and question(s)

The objective of this study is to explore how Canadian public universities educators who use open educational resources (OERs) perceive and describe their lived experience and reflections with using, sharing, modifying and/or creating OERs. There are two guiding research questions for this study: 1) How do educators describe and perceive their experiences with barriers to using OERs? 2) Upon reflection by OER educators, how do they describe and perceive their changes to their andragogical practices?

b. The importance and contributions of the research

Providing first-hand narratives from OER adopters answers the call from scholars for a deeper understanding to overcoming OER impediments. This may assist educators with OER adoption and may be useful to universities' teaching and learning centres and librarians when preparing guides or support material for potential OER adopters. The study will contribute to the growing OER literature and begins filling the gap in the literature concerning OER adoption through recounting the descriptions of successful OER adopters. The study's findings and recommendations may provide useful insights to educators, assist with expanding educators' OER use, or incorporate other technologies into university educators' teaching practices

c. If applicable, provide background information or details that will enable the Research Ethics Board to understand the context of the study when reviewing the application

OER are often digital resources used to support education. Examples of OERs are videos, photos, PDFs, quizzes, textbooks, and lesson plans that are not copyrighted, are in the public domain, or are licensed through Creative Commons for reuse. Generally, these resources are freely accessed, free of cost, and may be reused, modified, shared, and retained by anyone. OER is a global movement with Canada, the United Kingdom, South Africa, and the United States leading the efforts. British Columbia is one of the leading proponents of OER. Canadian and international researchers have collected quantitative data to identify a plethora of challenges to OER adoption but do not provide sufficient insights into how these barriers may be overcome. Furthermore, researchers have yet to adequately explore how some university educators have met and experienced these barriers.

K. Recruitment

1. Participant details

Provide details of your participants

a. Briefly describe the target population(s) for recruitment

Ensure that all participant groups are identified (e.g. group 1 - teacher, group 2 - administrators, group 3 - parents).

The targeted populations for this study are full- and part-time university educators who use, share, and/or create OERs to augment their face-to-face and/or online teaching practices. These educators must be employed at Canadian publicly funded universities during the 2018-19 and/or 2019-20 academic years.

b. Why is each population or group of interest?

Only university educators are able to provide insight into their personal use of OERs.

c. What are the salient characteristics of the participants for your study (e.g. age, gender, ethnicity, class, position, etc.)?

List all inclusion and exclusion criteria you are using.

The demographics of university educators in Canada are varied. Some educators may be part-time and employed by a university while pursuing a Ph.D.; therefore, some participates may have a master's degree, but this would be the lowest level of education participants have acquired. The principal applicant will not select or seek participants from specific races, genders, ethnicity, or class. The participants will reflect the general population of university educators located and employed at Canadian universities; therefore, all genders, races, cultures and ethnicity will be included in this research.

d. What is the desired number of participants for each group?

The minimum number of participants is nine and the maximum is 15.

2. Recruitment and process

Provide details of your recruitment process

a. List all source for information used to contact potential participants

E.g. personal contacts, listserves, publicly available contact information, etc. Clarify which sources will be used for which participant groups.

There is only one group of participants: Educators who are employed at Canadian publicly funded universities during the 2018-19 and/or 2019-20 academic years. Potential participants will be contacted via personal contacts, publicly available social media contact information, and publicly available work email addresses.

b. List all methods of recruitment

E.g. in-person, by telephone, letter, snowball sampling, word-of-mouth, advertisement, etc. If you will be using "snowball" sampling, clarify how this will proceed (i.e. will participants be asked to pass on your study information to other potential participants?). Clarify which methods will be used for which participant groups.

The researcher will email invitations to potential participant who she knows personally and professionally. These contacts will be Canadian university educators and appear to meet the inclusion criteria. Further recruiting methods will include contacting educators through social media. These potential participants will be emailed the invitation to participate. Furthermore, the researcher will verbally extend invitations to participate when meeting educators in person. This will be followed up with an email containing the invitation and link to the survey. Additionally, snowball sampling will also be employed. At the conclusion of an interview, participants will be asked if they know of other Canadian educators who meet the inclusion criteria and may be interested in participating in the study. The participant will be asked to forward the letter of invitation and snowball letter to potential participants. Snowball sampling will also include recruiting through the researchers contacts who work in Canadian universities. The contacts will be asked it they know of Canadian educators who use, modify, or create OERs and may be interested in participating in the study. Again, the contact will be asked to forward the letter of invitation and snowball letter to potential participants.

c. If you will be using personal and/or private contact information to contact potential paticipants (as stated above), have the potential participants given permission for this, or will you use a neutral third party to assist you with recruitment?

Note that this is not a concern when public and/or business contact information is used.

For purposeful sampling I will not ask permission in advance as I am familiar with these people professionally and personally, and I will contact them directly from the contact information I have for them. Snowball sampling will be used to recruit potential participants. These potential participants will receive a letter of invitation and the snowball sampling letter of invitation from a third party, such as the recently interviewed participant or personal/professional contact. The researcher will not know the names or contact information of the potential participants nominated by the third party. Publicly available work email addresses and social media contact information will also be used to recruit participants.

d. Who will recruit/contact participants?

E.g. researcher, assistant, third party, etc. Clarify this for each participant group.

The researcher will be the only person recruiting participants, except in cases of snowball sampling where participates may forward the study invitation

e. List and explain any relationship between the members of the research team (including third party recruiters or sponsors/clients of the research) and the participant(s) (e.g. acquaintances, colleagues)

Complete section 3 (Power relationship) if there is potential for a power relationship or a perceived power relationship (e.g. instructor-student, manager-employee, etc.). If you have a close relationship with potential participants (e.g. family member, friend, close colleague, etc.) clarify the safeguards that you will put in place to mitigate any potential pressure to participate.

The potential for a power relationship or perceived power relationship may occur if educators who are current students receive an invitation to participate. To mitigate any perceived bias or potential power relationship, potential participants will be asked for their name and email address at the end of the survey. If a current student's name appears, the researcher will contact the potential participant via email and thank them for their interest in the study, but state their participation will not be required. Any data they provided in the survey will be deleted and not used in the study. Additionally, I will not recruit or contact current students to participant in the study.

f. In chronological order (if possible) describe the steps in the recruitment process

Include how you will screen potential participants, where applicable. Consider where in the process permission of other bodies may be required.

Permission to recruit participants will commence upon approval for this study from the University of Victoria's HREB. Once approval is received, the researcher will email contacts employed at Canadian universities who possibly use, modify or create OERs. The email will include the letter of invitation, which includes a link to the survey. The steps, outlined below, will them be followed. The researcher will also review her Twitter and LinkedIn contacts for potential participants. The Canadian educators who appear to meet the study's criteria will be contacted and asked if they use, modify, or create OERs, and if they do use OERs, if they would like to participate in an OER study. The letter of invitation will be emailed to the potential participants who reply and indicate they meet the inclusion criteria. The steps, outlined below, will them be followed for potential participant recruited by email or social media.

1. The first page of the survey contains the informed consent. Potential participants are informed that proceeding to the survey indicates they agree with informed consent and participation in the study.
2. The final question asks for participants name and email address. The researcher will contact these participants via email to schedule an interview.
3. The informed consent form will be emailed to the participant two days prior to the interview, along with the interview questions, and an interview reminder. For online interviews, the participant will be asked to email the researcher that they have received and read the informed consent form and they agree to participate in the study. At the set interview day and time, the researcher will provide the participant with two copies of the informed consent form. The participant will be asked to sign one copy of the form, which will be retained by the researcher. The interview will begin once the participant has signed the informed consent form.
4. At the conclusion of the interview, participants will be asked if they know of any educators employed in Canadian universities who currently use OERs and may be interested in participating in the study. If they do know educators who appear to meet the study's inclusion criteria, the researcher will email the participant the letter of invitation and snowball letter to forward to the potential participant.

Educators who are recruited in-person through happenstance, such as at networking events, will be asked if they uses, modifies, or creates OERs. If so, they will be asked to participate in the study. The steps, outlined below, will them be followed.

1) If the participants wishes to be interviewed immediately, a link to the survey will be provided. Upon completion of the survey, the potential participant will be given the informed consent form and be given time to read through the form, ask any questions, and sign the form. A list of interview questions will also be given to the participant.
2) At the conclusion of the interview, participants will be asked if they know of any educators employed in Canadian universities who currently use OERs and may be interested in participating in the study. If they do know educators who appear to meet the study's inclusion criteria, the researcher will email the participant the letter of invitation and snowball letter to forward to the potential participant.

Please upload all the supporting documents relevant to the recruitment methods identified in this section
Examples of supporting documents: email recruitment script, poster, invitation letter, etc. Where draft versions are uploaded please ensure that final versions are submitted when available. If final versions differ significantly after you have obtained research ethics approval, you will need to submit a Request for Amendment.

Supporting documents

Email to Professional:Personal Contact V 1.0.docx
(Recruitment document, Name: Email to professional contacts, Version: Version 1); June 24, 2019

Snowball Letter of Invitation v3.0.docx
(Recruitment document, Name: Snowball Letter of Invitation v3.0, Version: Version 3); May 27, 2019

Letter of Invitation v 1.1.docx *(Recruitment document, Name: Letter of Invitation, Version: Version 1)*; December 4, 2018

3. Power relationship (dual-role and power-over)

If you are completing this section, please refer to the guidelines for ethics in dual-role research for teachers and other practitioners and the TCPS2, article 3.1 and article 7.4.

Are you or any of your co-researchers in any way in a power relationship, including dual-roles, that could influence the voluntariness of a participant's consent? Could you or any of your co-researchers potentially be perceived to be in a power relationship by potential participants?
Examples of "power relationships" include teachers-students, therapists-clients, supervisors-employees and possibly researcher-relative or researcher-close-friend where elements of trust or dependency could result in undue influence.

No

L. Data collection methods

1. Data collection methods

Use the following sections in ways best suited to explain your project. If you have more than one participant group, be sure to explain which participant group(s) will be involved in which activity/activities or method(s).

a. Which of the following methods will be used to collect data? Check all that apply

☑ i) Interviewing participants

- ☑ In person
- ☑ By telephone
- ☐ Conducting group interviews or discussions (including focus group)
- ☑ Using web-based technology

Explain web-based technology

> The researcher's UVic video conferencing account (BlueJeans) will be used to conduct interviews, if it is not possible for interviews to take place at the participant's university or at the request of the participant. BlueJeans is a U.S. company and video conferencing is routed through the United States. Camtasia, which is installed on the researcher's computer, will be used to record the video of the interview and the researcher's personal digital audio recorder will record the audio. The participant has the option of not appearing on camera. Only the audio recording will be be transcribed and used for the purpose of the study. Additionally, a handheld digital audio recorder will also record interviews as a backup in the event of technical issues with Camtasia. Participants are asked to share examples of OERs during the interview. The video portion will capture the images of the OERs, which will be referred to and analyzed in the study. Recorded video conferences are stored on the researcher's computer. The participant consent form will state: "Please be advised that this research study includes data storage in the U.S.A. As such, there is a possibility that information about you that is gathered for this research study may be accessed without your knowledge or consent by the U.S. government in compliance with the U.S. Freedom Act. "

Supporting documents

> Interview Questions.docx *(Data collection instrument, Name: Interview questions, Version: v1.0)*; July 31, 2018

☑ ii) Administering a questionnaire or survey

- ☐ In person
- ☐ By telephone
- ☐ Email
- ☐ Mail back

If using a web program with a server located in the United States (e.g. SurveyMonkey), or if there are other reasons that the data will be stored in the US (e.g. use of US-based cloud technology, sharing data with US colleagues, etc.),you must inform participants that their responses may be accessed via the U.S. Freedom Act. Please add the following to the consent form(s): "Please be advised that this research study includes data storage in U.S.A. As such, there is a possibility that information about you that is gathered for this research study may be accessed without your knowledge or consent by the U.S. government, in compliance with the U.S. Freedom Act."

- ☑ Web-based
- ☐ Other

☐ iii) Administering a computerized task (describe in section L.1b and/or upload documents)

☐ iv) Observing participants. In section L.1b describe who and what will be observed. Include where observations will take place. If applicable, upload an observational collection sheet for review.

☑ v) Recording of participants and data

- ☑ Audio
- ☑ Video

How are the video images going to be used?

- ☑ Images used for analysis
- ☐ Images used in disseminating results (include release to use participant images' in consent materials)

☐ Photos or slides

☑ Note taking

☐ Flipcharts

☐ Data collection sheets (upload)

☐ Other

Refers to information/data that was originally gathered for a purpose other than the proposed research and is now being considered for use in research (e.g. patient or school records, personal writings, lesson plans, etc.).

☐ vi) Using human samples (e.g. saliva, urine, blood, hair)

☐ vii) Using specialized equipment/machines (e.g. ultrasound, EEG, prototypes, etc.) or other (e.g. testing instruments that are not surveys or questionnaires)

☐ viii) Using other testing equipment not captured under other categories

E.g. artifacts, paintings, drawings, photos, slides, art, journals, writings, etc.

☑ ix) Collecting materials supplied by, or produced by, the participants

Please specify

Participants are asked to bring three OERs they have used, shared, modified and/or created to the interview. These artifacts may include Internet links to artifacts they have posted online and artifacts they are currently creating or modifying and not yet publicly available. Artifacts could include videos, PDFs, lesson plans, audio recordings, or photos/graphics.

Refers to information/data that was originally gathered for a purpose other than the proposed research and is now being considered for use in research (e.g. patient or school records, personal writings, lesson plans, etc.).

☐ x) Analyzing secondary data or secondary use of data

☐ xi) Other

b. Provide a sequential description of the procedures/methods to be used in your research study

Be sure to provide details for all methods checked in section L.1. Clarify which procedures/methods will be used for each participant group. Indicate which methods, if any, will be conducted in a group setting. List all of the research instruments and interview/focus group questions, and append copies (if possible) or detailed descriptions of all instruments. If not yet finalized, provide drafts or sample items/questions.

Online survey
1. The survey contains 15 questions and will take approximately five minutes for participates to complete
2. The first page of the survey will contain the informed consent form. Potential participants will be informed that proceeding to the survey indicates they agree with informed consent and participation in the study.
3. The final survey question will ask participants to provide their name and email address if they wish to be contacted for an interview to discuss their experiences with using OERs in their teaching practices.

For face-to face interviews:
1. Interview will be approximately one hour in length. The audio will be captured using the researcher's personal digital audio recorder
2. Participants will be asked to read and sign a copy of the informed consent form prior to beginning the interview. The participant will retain a copy of form consent and the researcher will retain the signed copy
3. The researcher will transcribe the interviews and each participant will be assigned a pseudonym. A copy of the transcript will be sent to the participant after the interview to ensure accuracy and to add or clarify any points. Participants will then email the verified transcript back to the researcher.

For telephone interviews:
1. Interview will be approximately one hour in length. The audio will be captured using the researcher's personal digital audio recorder
2. Participants will be asked to reply via email stating they have received the informed consent form, have read the form, and agree to participate in the study. The verbal consent will also be capture on the audio device.Participants are asked to sign the informed consent, scan it, and email a copy to the researcher.
3. The researcher will transcribe the interviews and each participant will be assigned a pseudonym. A copy of the transcript will be sent to the participant after the interview to ensure accuracy and to add or clarify any points. Participants will then email the verified transcript back to the researcher.

For video conferencing interviews:
1. Interview will be approximately one hour in length. The video conference will be held on BlueJeans and recorded using Camtasia. The audio will be captured using the researcher's personal digital audio recorder
2. Participants will be asked to reply via email stating they have received the informed consent form, have read the form, and agree to participate in the study. The verbal consent will also be capture on the audio device. Participants are asked to sign the informed consent, scan it ,and email a copy to the researcher.
3. The researcher will transcribe the interviews and each participant will be assigned a pseudonym. A copy of the transcript will be sent to the participant after the interview to ensure accuracy and to add or clarify any points. Participants will then email the verified transcript back to the researcher.

c. Where will participation take place for each data collection method/procedure?
Provide specific location (e.g. UVic classroom, private residence, participant's workplace). Clarify the locations for each participant group and/or each data collection method.

The survey is an online data collection instrument. Interview data collection will preferably take place in each participant's university office. If the educator shares their office with other people, an empty classroom or meeting room will be booked in advance. Alternatively, the participant may request that the interview be conducted online. This will be accommodated using the researcher's UVic video conferencing account (BlueJeans). It is up to the participant to ensure privacy at their location if the interview is conducted online. For the online interviews, the researcher will be located in her private office to ensure privacy during the interview.

d. For each method, and in total, how much time will be required of participants?
Clarify this for each participant group, each data collection method, and any other research related activities.

In total, approximately 1.5 hours are required from each participant to complete this study. This includes completing the online survey, participating in the one-hour interview, and participants reviewing their interview transcripts.

e. Will participation take place during participants' office work/hours or instructional time?

Yes

Please indicate whether permission is required (e.g. from workplace supervisor, school principal, etc.) and how this will be obtained

By signing the informed consent form and agreeing to participate, it is assumed that participants are using their personal time or have sought consent from their workplace supervisor. This is stated in the informed consent form.

2. Data collection materials checklist

Data collection methods checklist

☐ Standardized instrument

☑ Survey

☐ Questionnaire

☑ Interview and/or focus group questions

☐ Observation protocols

☐ Other

Please make sure that you have uploaded all the documents relevant to this section. Add any other documents that you think may be relevant to this section.
Where draft versions are appended please ensure that final versions are submitted when available. If final versions differ significantly after you have obtained research ethics approval, you will need to submit a Request for Modification.

Supporting documents

Survey Questions.docx *(Data collection instrument, Name: Survey questions, Version: v1.0)*; August 2, 2018

M. Possible benefits, inconveniences, and risks of harm to participants

1. Benefits

Identify any potential or known benefits associated with participation and explain below
Keep in mind that the anticipated benefits should outweigh any potential risks.

☑ To the participants

☑ To society

☑ To the state of knowledge

Please explain

Possible participant benefits include the opportunity to express their experiences and perceptions of OERs used their teaching practices. This may enable the participants to realize their professional evolution and technological proficiencies. Reflection on their current OER practices may help to further their understanding of how OERs have impacted their teaching practices and personal teaching philosophy. Changes in teaching practices and teaching philosophy may result in to learners' increased engagement and understanding of topics and information presented in the classroom. The education community, specifically those involved in OER, may gain information through participants' insights that may be used to enhance their knowledge and practice about processes and techniques to overcome OER use by university educators. This study may be useful to university librarians and those employed at teaching and learning centres that provide support and professional development to educators. Upon dissemination, this study will contribute to the growing OER literature and begins filling the gap in the literature concerning OER adoption through recounting the descriptions of successful OER adopters.

2. Inconveniences

Identify and describe any known or potential inconveniences to participants
Consider all potential inconveniences, including total time devoted to the research.

Up to 1.5 hours will be required from each participant who completes the entire study, including completing the online survey, participating in the interview, and reviewing the interview transcripts. The researcher will schedule interviews at the convenience of the participants.

3. Level of risk

The TCPS 2 article 6.12 definition of "minimal risk research" is as follows: 'Research in which the probability and magnitude of possible harms implied by participation in the research is no greater than those encountered by the participant in those aspects of their everyday life that relate to the research.'

Based on this definition, do you believe your research qualifies as 'minimal risk research'?

Yes

Explain your answer with reference to the risks of the study and the vulnerability of the participants

There is minimal risk to participants. Participants may worry about their degree of OER proficiency when compared to other educators.

4. Estimate of risks of harm

Potential risks of harm	Very unlikely	Possibly	Likely
a. Emotional or psychological discomfort, such as feeling demeaned or embarrassed due to the research	☑		
b. Fatigue or stress	☑		
c. Social risks, such as stigmatization, loss of status, privacy and/or reputation	☑		
d. Physical risk such as falls	☑		
e. Economic risks (e.g. job security, salary loss, etc.)	☑		
f. Risk of incidental findings (see article 3.4 of the TCPS 2 for more information)	☑		
g. Other risks	☑		

Consider the inherent foreseeable risks associated with your research protocol and complete the table below by selecting the options that best fit the potential risks listed below. Be sure to take into account the vulnerability of your target population(s) if applicable.

If other risks, please specify

5. Possible risks of harm

If you indicated in item 4 (a) to (g) that any risks of harm are possible or likely, please explain below

a. What are the risks?

I.e. elaborate on risks you have identified above.

Although the risk is low, participants could feel embarrassed about their inability to overcome certain OER barriers or proficiency with OERs.

b. What will you do to try to minimize, mitigate, or prevent the risks?

The researcher will ensure participants' confidentiality to decrease the psychological risks to participants.

c. How will you respond if the harm occurs?

I.e. what is your plan?

It is very unlikely a participant will feel harmed when discussing how they use, modify and/or create teaching resources. They will be directed to the university's copyright librarian if they have questions about licensing open resources.

d. If you have indicated that there is a risk of incidental findings in item 4 (f), please outline your proposed protocol for information and/or action

If a participant discloses they use copyright materials or confuse OERs with copyright materials, the participants will be asked to make an appointment with the university's copyright librarian.

e. If one of your participant groups could be considered vulnerable, please describe any specific considerations you have built into the protocol to address this

Participants in this study do not meet the criteria to be considered vulnerable.

6. Risk to researcher(s)

Does this research study pose any risks to the researchers, assistants and data collectors?

No

7. Deception

Will participants be fully informed of everything that will be required of them prior to the start of the researcher session?

Yes

If not, complete the Request to use Deception form on the ORS website

N. Incentives, reimbursement and compensation

1.Is there any incentive, monetary or otherwise, being offered for participation in the research (e.g. gifts, honorarium, course credits, etc.)?

No

2. Is there any reimbursement or compensation for participating in the research (e.g. for transportation, parking, childcare, etc.)?

No

3. Explain what will happen to the incentives, reimbursement or compensation if participants withdraw during data collection or any time thereafter

E.g. compensation will be pro-rated, full compensation will be given, etc.

Not applicable

O. Free and informed consent

Consent encompasses a process that begins with initial contact and continues through to the end of the research process.
Consult article 3.2 of the TCPS 2 and appendix V of the guidelines for further information.

1. Participant's capacity (competence) to provide free and informed consent

Capacity refers to the ability of prospective or actual participants to understand relevant information presented about a research project, and to appreciate the potential consequences of their decision to participate or not participate. See the TCPS 2, chapter 3, section C, for further information.

Identify your potential participants (check all that apply)

a. Competent

☑ i) Competent adults

☐ ii) A protected or vulnerable population (e.g. inmates, patients)

☐ iii) Competent youth aged 13 to 18

☐ iv) Competent children under 13 (who are able to provide fully informed consent)

b. Non-competent

☐ i) Non-competent adults

☐ ii) Non-competent youth

☐ iii) Non-competent children (young children and/or children with limited abilities to provide fully informed consent)

2. Means of obtaining and documenting consent and/or assent:

Check all that apply
When completing this section make sure that you consider all of your participant groups, upload copies of relevant materials and complete section O3.

☑ Signed consent

Upload consent form(s) in section O.5 or section S - see template.

☐ Verbal consent

☑ Letter of information for implied consent (e.g. anonymous, mail back or web-based survey)

Upload information letter in section O.5 or section S - see template.

☐ Signed or verbal assent for non-competent participants

☐ Other means

☐ Consent will not be obtained

☐ Signed consent from the parents/guardians for youth/child participants

☐ Information letters for the parents/guardians of youth/child participants

3. Informed consent

Describe the exact steps (chronological order) that you will follow in the process of explaining, obtaining, and documenting informed consent

Ensure that consent procedures for all participant groups are identified (e.g. group 1 - teachers, group 2 - parents, group 3 - students). Be sure to indicate when participants will first be provided with the consent materials (e.g. prior to first meeting with the researcher?). If consent will not be obtained, explain why not with reference to the TCPS 2 articles 3.5 and 3.7.

Invitations to participate in the study will include a description of the study and its purpose. A copy of the informed consent form will be attached to the email. When a potential participant clicks on the link to the online survey, they will be greeted with the informed consent form. Potential participates will be told that continuing with they survey establishes their agreement with the informed consent form.

Participants who provide their name and email for the purpose of participating in an interview will be contacted via email. In the email the researcher will reiterate the purpose and description of the project. In-person interviews will take place at the educator's university. The informed consent form will be emailed to the participant two days prior to the interview, along with the interview questions, and an interview reminder. The participant will be asked to review the informed consent form prior to the interview. At the set interview day and time, the researcher will provide the participant with two copies of the informed consent form. The participant will be asked to sign one copy of the form, which will be retained by the researcher. The interview will begin once the participant has signed the informed consent form.

For telephone interviews, the informed consent form will be emailed to the participant two days prior to the interview, along with the interview questions, and an interview reminder. The participant will be asked to email the researcher that they have received and read the informed consent form and they agree to participate in the study.

Online interviews will take place using the researcher's UVic video conferencing account (BlueJeans). The informed consent form will be emailed to the participant two days prior to the interview, along with the interview questions, and an interview reminder. The participant will be asked to email the researcher that they have received and read the informed consent form and they agree to participate in the study.

Participants who are recruited in-person, such as at a networking event, will be given a copy of the informed consent. Adequate time will be given for them to read the form and ask any questions prior to beginning the interview. The participant will be asked to sign one copy of the form, which will be retained by the researcher. The interview will begin once the participant has signed the informed consent form.

4. Ongoing consent

Will your research occur over multiple occasions or an extended period of time (including review of transcripts)?

Yes

Describe how you will obtain and document ongoing consent

If consent procedures differ for each group or activity, please clarify each group or activity that you are referring to.

Participants will be made aware that they may withdraw from the study when presented with the interview transcripts for verification. This is also stated in the informed consent.

5. Participant's right to withdraw

Article 3.1 of the TCPS 2 states that participants have the right to withdraw at any time and can withdraw their data and human biological materials.

a. Describe what participants will be told about their right to withdraw from the research at any time (i.e., who to contact and how)

If compensation is involved, explain what participants will be told about compensation if they withdraw. If you have different participant groups and/or different data collection methods, clarify the different procedures for withdrawing as necessary.

Participants will be told prior to the interviews they have the right to remove themselves and all survey and interview data from the study at any time. This information is also in the informed consent form. The suggested means of contact is via email, so the request is documented. Requests to withdraw from the study will be honoured and all data provided by the participant will be destroyed. There will be no consequences for withdrawal and the participant will be thanked for their interest in the research.

b. What will happen to a person's data if they withdraw part way through the study or after the data have been collected/submitted?

If applicable, include information about visual data such as photos or videos. If you have different participant groups and/or different data

collection methods, clarify the different procedures for withdrawing as necessary. Ensure this information is included in the consent documents.

☐ Participant will be asked if they agree to the use of their data

☑ It will not be used in the analysis and will be destroyed

☐ It is logistically impossible to remove individual participant data (e.g. anonymously submitted data)

☐ When linked to group data (e.g. focus group discussions), it will be used in summarized form with no identifying information

Please make sure that you have uploaded all the documents relevant to this section. Add any other documents that you think may be relevant to this section.
Where draft versions are appended please ensure that final versions are submitted when available. If final versions differ significantly after you have obtained research ethics approval, you will need to submit a Request for Modification.

P. Anonymity and confidentiality

1. Anonymity

Anonymity means that no one, including the principal investigator, is able to associate responses or other data with individual participants.

a. Will the participants be anonymous in the data gathering phase of research?

No

b. Will the participants be anonymous in the dissemination of results (be sure to consider use of video, photos)?

Yes

2. Confidentiality

Confidentiality means the protection of the person's identity (anonymity) and the protection, access, control and security of their data and personal information during the recruitment, data collection, reporting of findings, dissemination of data (if relevant) and after the study is completed (e.g. storage). The ethical duty of confidentiality refers to the obligation of an individual or organization to safeguard entrusted information. The ethical duty of confidentiality includes obligations to protect information from unauthorized access, use, disclosure, modification, loss or theft.

a. Are there any limits to protecting the confidentiality of participants?

Yes, there are some limits to the researcher's ability to protect the confidentiality of participants (check all that apply)

E.g. focus groups. The researcher cannot guarantee confidentiality.

☐ Limits due to the nature of group activities

The nature or size of the sample from which participants are drawn makes it possible to identify individual participants (e.g. school principals in a small town, position within an organization).

☐ Limits due to context

The procedures for recruiting or selecting participants may compromise the confidentiality of participants (e.g. participants are identified or referred to the study by a person outside the research team).

☐ Limits due to selection

E.g. legal or professional.

☐ Limits due to legal requirements for reporting

E.g. when there will be data storage in the United States. When using USA based data instruments and data storage systems researchers are responsible for determining if this applies.

☑ Limits due to local legislation such as the U.S. Freedom Act

☐ Other

b. If confidentiality will be protected, describe the procedures to be used to ensure the anonymity of participants and for preserving the confidentiality of their data (e.g. pseudonyms, changing identifying information and features, coding sheet, etc.)

If you will use different procedures for different participant groups and/or different data methods be sure to clarify each procedure.

Participants' name and contact information will be collected. Pseudonyms will be assigned to each participant to protect the confidentiality of the participants. Similarly, the names of the university will be substituted with an alphanumeric indicator, such as University C5, and University G9, when universities are referred to by named during the interview. If a participant states the name of a department, whether or not the participant belongs to that department, an alphanumeric indicator, such as Department S8 or Department L2 will be used in the transcript and subsequent report. Personal identifiers of the participants or any colleagues named during the interviews will not be referenced in the final report of this study. If a particular point needs to be referenced in the final report, the pseudonym will be used to protect the identity of the university, department, participant, and/or colleagues. A transcriber will be hired and required to sign a confidentiality form.

c. If there are limits to confidentiality indicated in section P.2.a, explain what the limits are and how you will address them with the participants

If there are different procedures for different participant groups and/or different data collection methods, be sure to clarify each procedure.

Q. Use and disposal of data

1. Use(s) of data

a. What use(s) will be made of all types of data collected (field notes, photos, videos, audiotapes, transcripts, etc.)?

The data collected from participants will be used in the researcher's dissertation. Survey data and interview transcript excerpt may be used in the final report. Data may also be used in a secondary study that examines the data, using an alternative theoretical framework. Similar to the primary study, the secondary and tertiary studies will maintain the participants' confidentiality through the use of pseudonyms and alphanumeric indicators for departments and universities.

b. Will your research data be analyzed, now or in future, by yourself for purposes other than this research project?

Yes

Indicate what purposes you plan for this data and how will you obtain consent for future data analysis from the participants

E.g. request future use in current consent form.

The researcher will ask participants if their anonymized data can be preserved for future data analysis by other researchers (i.e., graduate students and faculty members) who sign a statement of confidentiality. This will be described in the consent form. Participants will also have an option to decline further use of the interview data.

c. Will your research data be analyzed, now or in future, by other persons for purposes other than explained in this application?

Possibly

i) Indicate whether the data will contain identifiers when it is provided to the other researchers or whether it will be fully anonymous

Note that 'fully anonymous' means that there is no identifying information, links, keys, or codes that allow the data to be re-identified.

Only anonymized data will be preserved for future data analysis by other researchers (i.e., graduate students and faculty members).

ii) How will you obtain consent from the participants for future data analysis by other researchers?

If the data will be transferred in fully anonymous form, this request for future use can be made in the current consent form. If the data will contain identifiers or links/keys/codes for re-identification, consider requesting permission to contact the participants in the future, to obtain consent for the use of the data at that time.

The informed consent states "Consent is ongoing unless you [the participant] contacts the research and asks for your data and materials to be removed from the study." Additionally, the informed consent asks participates to indicate if they allow for future use of their anonymous survey and interview data. The informed consent form includes the researcher's email address and phone number. They may contact the research to withdrawal their consent at any time.

2. Commercial purposes

Do you anticipate that this research will be used for a commercial purpose?

No

3. Maintenance and disposal of data

Describe your plans for protecting data during the project, and for preserving, archiving, or destroying all the types of data associated with the research (e.g. paper records, audio or visual recordings, electronic recordings, coded data) after the research is completed:

a. Means of storing and securing data

E.g. encryption, password protected computer files, locked cabinet, separation of key codes from raw data etc.

All computerized information, will be stored on the researcher's encrypted hard drive and external backup drive in her home office. The computer and external drive are password protected, and the office is locked when the researcher is not present.

b. Location of storing data

Include location of data-storage servers if using web-based technology.

The survey instrument (Survey Monkey) requires web-based storage and data collection. Survey data will be downloaded upon completion of the recruitment phase of the study. The survey data will then be deleted from web-based storage. Online interview will use BlueJeans, a video conferencing software. BlueJeans does not store or record video conferences. Camtasia, an audio/video recording software, will be used to record the interviews. Camtasia is installed on the researcher's computer and recordings are stored on the researcher's computer. The data will be stored in the reearcher's locked home office on an encrypted computer and external backup hard drive, both of which are password protected and not accessible to others.

c. Duration of data storage

If data will be kept indefinitely, explain why this is necessary and state whether the data will contain identifiers or links to identifiers.

Digital transcripts of the audio and video recordings will be retained for 10 years after the final reported in published.

d. Methods of destroying or archiving data

If archiving data, please describe measures to secure or protect the data. If the archiving will involve a third party (e.g. library, community agency, Aboriginal band, etc.) please provide details.

Digital data, including audio, video, transcripts, and all notes stored on the researcher's computer and backup drive will be deleted. The researcher will shred physical hard copies of the transcripts

4. Dissemination

How do you anticipate disseminating the research results? (check all that apply)

- ☑ Thesis/dissertation/class presentation
- ☑ Presentations at scholarly meetings
- ☑ Internet (students: most UVic theses are posted on 'UVicSpace' and can be accessed by the public)
- ☑ Media (e.g. newspaper, radio, TV)
- ☑ Directly to participants and/or groups involved

  Indicate how (e.g. report, executive summary, newsletter, information session)

  Upon conclusion of the study, participants will be contacted and asked if they would like a PDF copy of the final report. Participants may also request a PDF of the executive summary

- ☑ Published article, chapter or book
- ☐ Other

R. Conflict of interest

1. Apart from a declared dual-role relationship (section K.3), are you or any of the research team members in a perceived, actual or potential conflict of interest regarding this research project (e.g. partners in research, private interests in companies or other entities)?

No

S. List of uploaded documents

Review the document requirements list and the uploaded documents to ensure that you have all the applicable documents. Make sure to remove all duplicates. Upload appendices as individual documents, instead of clustering appendices under one attachments. Incomplete applications and applications with incorrectly uploaded appendices will not be reviewed. You will be notified in this case.

App. version	Section	Descriptive name	File name	Type of document	Date uploaded	File ver
V3.0	K.	Email to professional contacts	Email to Professional:Personal Contact V 1.0.docx	Recruitment document	24-Jun-2019 3:11:38 PM	Ver 1
V3.0	--	Confidentiality	Confidentiality.doc	Other	24-Jun-2019 2:21:10 PM	ver 1
V3.0	K.	Snowball Letter of Invitation v3.0	Snowball Letter of Invitation v3.0.docx	Recruitment document	27-May-2019 4:30:05 PM	Ver 3
V3.0	E.	RRU REB Approval-Symmons	RRUREBApproval-Symmons.pdf	Other approval	12-May-2019 3:19:31 PM	Ver 1
V3.0	--	Modification form request	18-1005_Irvine_Modification_2018-12-03.pdf	Other	4-Dec-2018 11:32:53 AM	Ver 1.0
V3.0	K.	Letter of Invitation	Letter of Invitation v 1.1.docx	Recruitment document	4-Dec-2018 11:32:52 AM	Ver 1
V3.0	--	Modification approval certificate	18-1005_Irvine_Modification_CoA_2018-12-03.pdf	Other	4-Dec-2018 11:32:51 AM	Ver 1
V3.0	--	Snowball Letter of Invitation V 2	Snowball Letter of Invitation V2.docx	Recruitment document	23-Sep-2018 1:29:41 PM	Ver 2
V3.0	L.	Survey questions	Survey Questions.docx	Data collection instrument	2-Aug-2018 6:45:32 AM	v1.(
V3.0	--	Statement of Confidentiality	Statement of Confidentiality.docx	Other	2-Aug-2018 6:39:24 AM	v1.(
V3.0	--	Rejection email	Rejection Email.docx	Recruitment document	2-Aug-2018 6:37:18 AM	v1.(
V3.0	--	acceptance email	Acceptance Email.docx	Recruitment document	2-Aug-2018 6:36:42 AM	v1.(
V3.0	--	Snowball letter of invitation	Snowball Letter of Invitation.docx	Recruitment document	2-Aug-2018 6:33:33 AM	v1.(
V3.0	--	Participant informed consent - interview	Participant Consent Form - Interview.docx	Consent/assent form	2-Aug-2018 6:07:58 AM	v1.(
V3.0	--	Participant consent form - Survey	Participant Consent Form - Survey.docx	Consent/assent form	2-Aug-2018 6:06:40 AM	v1.(
V3.0	L.	Interview questions	Interview Questions.docx	Data collection instrument	31-Jul-2018 6:52:59 PM	v1.(

T. Signatory/Departmental sign-off

Select the Chair/Director/Dean or their designate to sign-off on this application for submission. Once signed-off, the application will be submitted to the Human Research Ethics Board for review.

By signing-off the application, the signatory is affirming that adequate research infrastructure is available for the conduct and completion of this research project.

Signatory name

[redacted]

Appendix F: Snowball Letter Invitation

NOTE: At the conclusion of the interview, participants were asked if they know other educators who use OERs and may be interested in participating in the study. If they do know such a person, the following letter of invitation will be forwarded to the interview participant who will be asked to send the invitation to their colleague.

My name is Janet Symmons, and I am a PhD candidate at the University of Victoria. You are receiving this letter from a colleague because you might be interested in participating in a study that examines the experiences of university educators as they use open educational resources.

Your involvement would include answering a 15-question survey and participating in a one-hour interview, either in person or online.

The purpose of the study is to explore how OER educators teaching in Canadian public universities in the 2018-2019 academic year perceive and describe their lived experiences and reflections with using, sharing, modifying and/or creating open educational resources.

Please contact me if you are interested in participating and would like more information about the study. You may contact me by email [redacted] or by phone [redacted]

Thank you for your consideration.

Regards,

Janet Symmons, Ph.D. candidate

Faculty of Education

University of Victoria

Appendix G: Letter of Invitation

Do you use open education resources (OERs) in your teaching practice?

The purpose of the study is to explore how university educators who use OERs, teaching in BC public universities in the 2018-19 academic year, perceive and describe their lived experiences with barriers to OER adoption.

Who is eligible?

- All university educators teaching at the University of Victoria, Royal Roads, and Vancouver Island University.
- Educators of all ranks and employment types (tenured, probationary/tenured track, limited-term, and part-time/sessional educators).
- Educators in all faculties and departments.
- Educators who use, share, modify and/or create OERs for their teaching practice.

What will you be asked to do?

- Complete a short 14-question survey that asks about your teaching practice and OER use. The survey should take about five minutes to complete.
- Participate in an interview where you will be asked questions about your experiences with barriers to OERs adoption and what motivates you to use OERs. The interview will be approximately one hour in length and audio recorded.

Compensation

No compensation will be provided for participating in the study, although your participation would be greatly appreciated and add much value to the scholarship and practice of teaching and learning.

If you are interested in participating in the study or if you have any questions, please contact:

Janet Symmons, Ph.D. candidate, University of Victoria

Email: [redacted]

Appendix H: Participant Consent Form

University of Victoria

Participant Consent Form

You are invited to participate in this study, which explores university educators' lived experiences with open educational resources (OERs). This research is being conducted by Janet Symmons, a Ph.D. candidate with the Department of Curriculum and Instruction at the University of Victoria as part of the requirements of her Ph.D. in education. Janet may be contacted at [redacted] or by phone at [redacted]. Dr. Valerie Irvine, of the Department of Curriculum and Instruction, supervises this research. You may contact Dr. Irvine at [redacted] or by phone at [redacted]

Purpose(s) and Objective(s) of the Research

The purpose of this phenomenological study is to explore how educators who use open educational resources while teaching in BC public universities perceive and describe their lived experience and reflections with barriers to open educational resources adoption.

Importance of the Study

Providing first-hand narratives from OER adopters answers the call from scholars for a deeper understanding to overcoming OER barriers. This may assist educators with OER adoption and be useful to universities' teaching and learning centres and university librarians who may use these findings and recommendations when preparing guides or support material for potential OER adopters. The study contributes to the growing OER literature and helps fill the gap in the literature concerning OER adoption. The study's findings and recommendations may provide useful insights to educators who wish to explore or expand their OER use or incorporate other technologies into their teaching practices.

What is Involved?

If you consent to voluntarily participate in this research, your participation will include completing an online survey and an interview at your office or other location near you. The survey takes approximately five minutes to complete. The duration of the interview is approximately one hour. The researcher will invite you to submit any further resources or artifacts related to OER in your teaching practices. Alternatively, if you prefer an online interview, it will be conducted using UVic's video BlueJean video conferencing software. Both the audio and video will be recorded, but only the audio transcription will used for the study. The survey application (Survey Monkey) and online interview video conferencing software are based in the United States. *Please be advised that this research study includes data storage in the U.S.A. As such, there is a possibility that information about you that is gathered for this research study may be accessed without your knowledge or consent by the U.S. government in compliance with the U.S. Freedom Act.*

Voluntary Participation and On-Going Consent

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw your consent at any time prior, during, or after the interview process. You may stop the interview at any time, request a break from the interview process, leave the room, ask the researcher to leave, stop the recording, and/or request the interview data not be used in the study. There will be no consequences for withdrawing from the study. You will be given an opportunity to review and contribute to your interview transcript. Consent is ongoing unless you contact the researcher and ask for your data and materials to be removed from the study. By signing the informed consent form and agreeing to

participate, it is assumed that participants are using their personal time or have sought consent from their workplace supervisor.

Benefits & Risks

Possible benefits to you include the opportunity to express your experiences and perceptions of OERs used in your teaching practices. Reflecting on OER practices may help your understanding of how OERs impact your teaching practices. The education community may gain insights used to enhance knowledge and practice about processes and techniques to overcome OER use by university educators. The study's results and findings may be useful to university librarians and the teaching and learning centres. Participation in this study should cause minimal inconvenience to you. There is a very low risk that you could discover a practice that is against copyright law. If this happens, you will be advised to talk to the university's copyright librarian if you have open resources licensing questions.

Anonymity and Confidentiality:

You will not be anonymous to the researcher as we will meet for an interview, but the researcher will protect your identity during the recruitment, data collection, reporting of findings, dissemination of data, and after the study is complete. Your data will be presented anonymously using a pseudonym. Keeping this data stored on an encrypted hard drive will protect your confidentiality and the confidentiality of your data. Only the researcher will have access to the identifier list.

Dissemination of Results and Use and Disposal of Data

The dissemination of the research results will include the dissertation presentation, dissertation archiving on UVicSpace, presentations at scholarly meetings and conferences, published articles in scholarly journals or chapter of a book, and directly to participants. The data will be held for 10 years to allow for dissemination and in the event the changing landscape prompts the need to reexamine the findings. The data may also be combined with other data and be used for future data analysis in collaboration with other researchers (i.e., graduate students and faculty members) who sign a statement of confidentiality. The digital data, including audio, video, transcripts, stored on the principal investigator's computer and backup drive will be deleted after 10 years. Physical hard copies of the transcripts will be shredded.

Contacts:

Janet Symmons (researcher) and Dr. Valerie Irvine (supervisor) may be contacted regarding this study. Contact information for these individuals can be found on the first paragraph of this consent form. You may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca).

Signed Consent:

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers, and that you consent to participate in this research project.

_____	_____	_____
Name of Participant	*Signature*	*Date*

A copy of this consent will be left with you, and a copy will be taken by the researcher.

Future Use of Data

I consent to the use of my data in future research: _____ (Participant's initials)
I **do not** consent to the use of my data in future research: _____ (Participant's initials)
I consent to be contacted in the event my data is requested for future research: _____ (Participant's initials)

Appendix I: Transcriber Confidentiality Agreement

A Phenomenological Study of University Educators Who Use Open Educational Resources in their Teaching Practice

- Confidential Information

The **Phenomenological Study of University Educators Who Use Open Educational Resources in their Teaching Practice** Research Project hereby confirms that it will disclose certain of its confidential and proprietary information to their interview transcriptionist, **[Transcriptionist's name].**

Confidential information shall include all data, materials, products, technology, computer programs, specifications, manuals, software and other information disclosed or submitted, orally, in writing, or by any other media, to **Janet Symmons** by **[Transcriptionist's name]**.

- Obligations of Transcriptionist

A. **[Transcriptionist's name]** hereby agrees that the confidential **Phenomenological Study of University Educators Who Use Open Educational Resources in their Teaching Practice** research study and is to be used solely for the purposes of said study. Said confidential information should only be disclosed to employees of said research study with a specific need to know.

[Transcriptionist's name] hereby agrees not to disclose, publish or otherwise reveal any of the Confidential Information received from **Janet Symmons**, research assistants or other participants of the project to any other party whatsoever.

B. Materials containing confidential information must be stored in a safe location so as to avoid third persons unrelated to the project to access said materials. Confidential Information shall not be duplicated by **[Transcriptionist's name]** except for the purposes of this Agreement.

- Completion of the Work

Upon the completion of the work and at the request of **Janet Symmons**, **[Transcriptionist's name]** shall return all confidential information received in written or tangible form, including copies, or reproductions or other media containing such confidential information, within ten (10) days of such request.

At _____ option any copies of confidential documents or other media developed by **[Transcriptionist's name]** and remaining in her possession after the completion of her work need to be destroyed so as to protect the confidentiality of said information. **[Transcriptionist's name]** shall provide a written certificate to Owner regarding destruction within ten (10) days thereafter.

With his/her signature, **[Transcriptionist's name]** shall hereby adhere to the terms of this agreement.

_____

Signature and Date