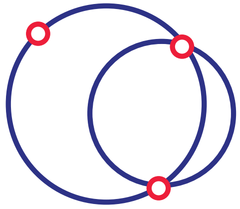

OTESSA

Open/Technology in Education, Society, and Scholarship Association

Association pour l'Ouverture/Technologies en Éducation, dans les milieux Scolaires et dans la Société.

OTESSA Journal

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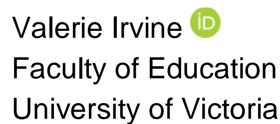
Editorial:
Evolving Our Scholarly Practice


Valerie Irvine
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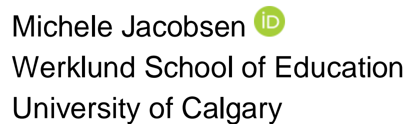
Michele Jacobsen
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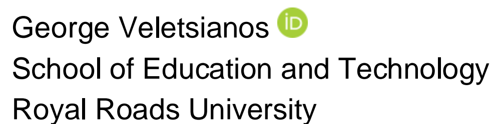
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Keywords: educational technology, online learning, open education, digital learning, digital scholarship, digital pedagogy, open scholarship, scholarship, editorial

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Introduction

Our second issue of the Open/Technology in Education, Society, and Scholarship Association (OTESSA) Journal falls quickly on the heels of our first as a result of so many great submissions to our OTESSA conference in 2021 and from the 2020 pivot. We started up as an association, a conference, and a journal during a pandemic and witnessed so much disruption, pain, and inequity within our own community. We are committed to finding ways to engage and support diverse voices and diverse ways of expressing scholarship. We recognize that many members of our community are beholden to traditional scholarship requirements, with text being the primary means of communication and double-blind peer review; however, we are committed to support different approaches within one journal. While one submission may emphasize research via data collection and analysis with double-blind peer review, another may focus on publishing what was previously a critical blog post and choose an open review process (where both the author and reviewers are identified to each other). We also can support various media formats on our journal system, offering new ways to engage our readers, so they can also be listeners and viewers of our content. We support a leadership approach that serves the community and are open to hearing from our community as to what next steps can look like for our journal in the coming months and years.

As we are a new and determined start-up association, we welcome educational organizations and responsible corporations and non-profits to sponsor our work. Our goal is to reduce the barriers to participation in our conference, through reduced fees and participation grants, and to increase support for our journal for direct submissions via general or special issues in our near future. On our OTESSA Association website, we encourage you to share our information on Becoming a Sponsor with your institution. With greater institutional support, there is less need to draw from individuals, creating a more just and equitable means for participation in our conference.

I (Veletsianos) teach a graduate level course that focuses on the history and foundations of our field. One of the assignments in that course aims to introduce learners to people and ideas in the field by inviting students to write a short biography of a person. In that assignment, I include this short note:

> …keep in mind that as in many other fields of study, the contributions of women, indigenous people, people of colour, and people from marginalized communities often remain invisible…This situation impacts all of us because any work that helps us improve the ways we teach, learn, and develop education is important work. There are 'hidden' histories in educational technology that are not part of the dominant narrative, and thereby people who remain invisible even though they do significant and valuable work. To get a sense of this issue for our field, prior to beginning your research take a few minutes to read Un-fathomable: The Hidden History of Ed-Tech by Audrey Watters . In this assignment, therefore, I'd like you to think deeply about your choice. Who will you choose to shine a light on?

You likely make similar efforts toward equity, inclusion, diversity, and decolonisation in your courses. Perhaps you go through your reading list and investigate whether you include scholarship from individuals outside of North America? Or ensure that women are well-represented? The question that we faced as editors was: How do we extend such thinking to the

editing and publishing process for a journal that aspires to do something other than perpetuating the status quo?

Some of the steps we have taken early on include the following:

- We support the Inclusive Design Research Centre's definition of inclusion as "the full range of human diversity with respect to ability, language, culture, gender, age, and other forms of human difference." Our goal is to support inclusion; we recognize that this is an ongoing process and communication is core to continue to listen and evolve our practices accordingly
- We challenge the barriers caused by inflexible deadlines, making them flexible.
- Send encouraging communication to our authors, when they missed deadlines, to let them know the door is held open to them to publish anytime they complete their work
- Amplification of the #femedtech open letter in our previous announcement of our first 2020 call for paper submissions with passage quoted below
- Two of our three co-editors are women
- All first authors in our first issue were women, excluding our editorial and one association publication, with three of these being women as sole authors. In our second issue, five of our six articles had women as first authors, two of whom were sole authors.
- Expanded our journal to take in both English and French submissions in 2022 and publish abstracts in both languages
- Free membership and conference registration for Black and Indigenous students. This includes both the Congress registration and the OTESSA portion (OTESSA membership and OTESSA registration). We have expanded the OTESSA portion to Black and Indigenous non-students as well, although they will still be required to pay the base Congress registration at this time.
- Consult with our Equity member on our Association's board of directors and all members to seek ways we can embody the values we hold
- Strategic planning for a funding model that can increasingly lean on organizations rather than individuals to cover costs, so as to remove systemic barriers to participation
- In 2022, we will expand our editorial board and our international executive advisors to the board, which we hope will bring more diverse authors and global perspectives into our journal

As part of our deep commitment to diversity and equity, this list is just the beginning. We are maturing our own approach to disrupting cycles of exclusion codified in the structures around us. We expect much more, and we expect to continue to interrogate our practices evermore. From our 2020 announcement, "We believe flexibility is necessary and we pledge to support female academics and anyone facing pressures due to a variety of needs such as childcare, eldercare, and facing structural and systemic challenges to reach out to us. Our editorial board is prepared to operate with compassion. This means we will support flexibility with deadlines where needed. We are also seeking to establish writing mentors for authors where manuscripts may be on the precipice of rejection, yet demonstrate potential. Lastly, we encourage authors to

submit papers written by different genders and, beyond that, encourage diversity on co-authored submissions. Together, we can make scholarship more inclusive."

As we move forward, we need to do more to expand the diversity of voices and the various writing or media formats within which we can envision scholarship in a postdigital world. The challenge now is on our community to bring forward creative and critical formats into our journal. With the theme of the OTESSA 2022 conference being *Critical Change*, and the theme for Congress 2022, being *Transitions*, we invite our amazingly creative, analytical, critical, and subversive community to show us what you've got through your submissions. If you think you are not part of this community, we assure you that you are. We want you to help us explore what scholarship can look like. We would like to publish it in all its forms. Please be sure to visit our submission guidelines and review our media formats and approaches and be participatory in providing feedback on how they can be improved. While you prepare your submissions to our journal, or to the conference, we encourage you to look for partnerships to enable diverse voices and, for those of you who may need support, please reach out to us to identify what we can do to support you and to do better. We are in active listening mode and open to influence as we build and grow. We also commit to never stop listening and to never stop evolving our scholarly practice.

For this issue, we are publishing 4 research articles and 2 practice articles. We gratefully acknowledge the peer reviewers and copy editors, who have made this issue possible, and thank them for contributing support in bringing you the following research and practice articles.

Research Section Overview

Connect to Learn: Assemblage of Pedagogies in Higher Education in a Community of Practice by **Elaine Fournier**, **Mina Sedaghatjou**, and **Immaculate Namukasa**

> Fournier et al. reflected on the ways in which technology and scholarship of pedagogy are interconnected within a technology-facilitated community of practice (CoP). They analyzed interviews and notes from CoP members, who were educators within various Faculties of Education in North American universities. They share the ways in which the CoP members made sense of their diverse teaching and social learning landscapes as well as emergent joint meanings. Their results suggest that the formation of new ideas and pedagogies can be fostered by relational trust enabled through a CoP. The role of technology in enabling communication and collaboration among CoP members is highlighted and discussed through the lens of connectivism. The authors suggest an important role for relational trust in the CoP learning spaces, so that pedagogical scholarship in higher education can continue to flourish.

Theoretical and Methodological Approaches for Investigating Open Educational Practices by **Michael Paskevicius** and **Valerie Irvine**

> Paskevicius and Irvine critically review the range of methodological and theoretical approaches employed in sixty-five open educational practice (OEP) studies published in the past decade, with a specific focus on changes to teaching and learning practices in relation to open education. Dozens of theories are drawn upon or created in open education studies reflecting that theory remains at early stages of formulation. The

authors contend that promising signs of convergence are emerging, such as the notion of openness as a motivator for change. A range of methodologies and methods are employed in OEP research along emerging practices made possible with more accessible open learning designs and social networks. The authors forward a new baseline for research into OEP theory and invite more in-depth inquiry into theoretical connections between OEP and educational practices in wider contexts.

Reconsidering the Mandatory in Ontario Online Learning Policies by **Lorayne Robertson**, **Bill Muirhead,** and **Heather Leatham**

Robertson, Muirhead, and Leatham examine the Ontario government's decision to mandate online courses for secondary school students through a critical policy analysis framework. They focus their examination of mandatory online learning in three contexts: prior to the COVID-19 pandemic, during the emergency remote learning phase of the pandemic, and future policy considerations. They note that they analysis identifies "multiple disconnects between administrative and curriculum policies as well as multiple gaps between the rhetoric of trial balloons launched in news releases and the reality of policy enactment in schools," and urge Ontario's provincial government to reconsider mandates in favour of greater stakeholder consultation and engagement.

Participation in OER Creation: A Trajectory of Values by **Erin Meger**, **Michelle Schwartz**, and **Wendy Freeman**

Meger, Schwartz, and Freeman sought to understand relationships between open educational resources (OER) and open educational practices. To do so, they conducted semi-structured interviews with seven faculty members who engaged in the creation of open educational resources. In what ways could faculty participation in OER projects translate to unique understandings of openness and values consistent with open educational practice? The authors' thematic analysis of data suggests that while faculty participants initially approached OER creation via a lens of "access and equity" and "agency and ownership," the participation in OER projects seemed to expand the cope with which they approached openness to include "community and connection" as well as "risk and responsibility."

Practice Section Overview

Exploring Curation as a Path Towards Decolonizing Education by **Tanya Elias**

As part of her doctoral journey, Elias developed a WordPress site to bring together her insights and reflections on Marie Battiste's (2017) book ***Decolonizing Education: Nourishing the Learning Spirit,*** a series of digital artefacts she found via Internet searches and her own reflections on those artefacts (https://decolonizingeducation.trubox.ca/). Elias' creative and connective, and self-described, incomplete work invites engagement in the ongoing experiential work and necessarily "complicated conversations" (Pinar, 2015) of decolonizing the curriculum and offers an ethical space for expanded dialogue about diverse Indigenous ways of knowing and doing.

E-Portfolios and Exploring One's Identity in Teacher Education by **Christine Ho Younghusband**

> In the context of program redesign, Ho Younghusband led the implementation and evaluation of e-Portfolios as a digital platform for teacher candidates in BC to archive, reflect, and make sense of their learning in final practicum. Extending the use of e-Portfolios into final practicum shifted the learning intention from creation and design using education technology within a course to teacher candidates using the e-Portfolio to intentionally explore one's professional identity and alignment of practice with BC's professional standards. Ho Younghusband found the e-Portfolio to be a viable initiative and revealed professional qualities of teacher candidates that would not have been visible otherwise. Ho Younghusband's evaluation of the extended use of e-Portfolios during final practicum over a three-year period yielded insights to inform ongoing program improvement and future practice with e-Portfolios in teacher education.

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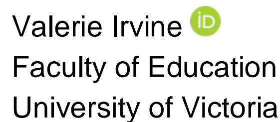
Éditorial: Évolution de Notre Pratique Scientifique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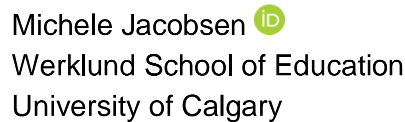
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Introduction

Notre deuxième numéro de la Revue OTESSA arrive rapidement après le premier suite à un grand nombre d'excellentes soumissions à notre conférence OTESSA en 2021 et á partir due pivot 2020. Nous avons réalisé nos débuts en tant qu'association, conférence et revue pendant une pandémie et nous avons été témoins de tant de perturbations, de peines et d'inégalités au sein de notre communauté. Dès à présent, nous nous engageons à trouver des moyens d'impliquer et de soutenir diverses voix et diverses façons d'exprimer le développement des savoirs. Nous reconnaissons que de nombreux membres de notre communauté sont encore tenus à des exigences traditionnelles dans le développement des savoirs, les écrits et l'évaluation par les pairs en double aveugle représentant un passage presque obligé. Toutefois, nous nous engageons à soutenir plusieurs approches au sein de la revue. Alors qu'une soumission peut mettre présenter une recherche incluant la collecte et l'analyse de données avec une évaluation par les pairs en double aveugle, une autre soumission peut se concentrer sur la publication de ce qui était auparavant un billet de blogue critique et choisir un processus d'évaluation ouvert (où l'auteur et les évaluateurs sont identifiés les uns aux autres). Nous pouvons également prendre en charge différents formats de médias sur notre système de revue, offrant ainsi de nouvelles façons d'engager nos lecteurs afin qu'ils puissent également être des auditeurs et des spectateurs de notre contenu. Nous soutenons une approche de leadership attentif et sommes à l'écoute de notre communauté sur les prochaines étapes pour notre revue dans les mois et années à venir.

Comme nous sommes une association en démarrage, à la fois nouvelle et déterminée, nous invitons les organisations éducatives, les entreprises responsables et les organisations sans but lucratif à parrainer notre travail. Nos objectifs sont, d'une part, de réduire les obstacles à la participation à notre conférence annuelle par le biais de frais réduits et de subventions de participation et, d'autre part, d'augmenter le soutien à notre revue afin de l'ouvrir rapidement aux soumissions pour des numéros généraux ou spéciaux. Sur le site web de l'association OTESSA, nous vous encourageons à partager nos informations de parrainage avec votre institution. Par un soutien institutionnel plus important, il est moins nécessaire de faire appel à des particuliers, ce qui permet notamment de proposer des moyens plus justes et équitables de participer à notre conférence.

Dans un cours aux cycles supérieurs qui porte sur l'histoire et les fondements de notre domaine, je (Veletsianos) propose un devoir dans lequel les étudiants doivent rédiger une courte biographie d'une personne du domaine afin de la faire connaître à leurs collègues. Dans ce devoir, j'ai inclus cette courte note :

> ...gardez à l'esprit que, comme dans de nombreux autres domaines d'étude, les contributions des femmes, des autochtones, des personnes de couleur et issues de communautés marginalisées restent souvent invisibles... Cette situation a un impact sur nous tous, car tout travail qui nous aide à améliorer les façons dont nous enseignons, apprenons et développons l'éducation est un travail important. Cette situation nous concerne tous, car tout travail qui nous aide à améliorer nos méthodes d'enseignement, d'apprentissage et de développement de l'éducation est un travail important. Pour vous faire une idée de ce problème dans notre domaine, avant de commencer votre recherche, prenez quelques minutes pour lire Un-fathomable: The Hidden History of Ed-Tech by Audrey Watters. Dans ce travail, j'aimerais donc que vous réfléchissiez profondément à votre choix. Qui choisirez-vous de présenter et ainsi de mettre de l'avant?

Vous faites probablement des efforts similaires en matière d'équité, d'inclusion, de diversité et de décolonisation dans vos cours. Peut-être passez-vous en revue votre liste de lecture et vérifiez-vous si vous incluez des travaux provenant d'individus en dehors de l'Amérique du Nord? Ou vous assurez-vous que les femmes sont bien représentées? La question à laquelle nous avons été confrontés en tant que rédacteurs était la suivante : Comment étendre cette réflexion au processus d'édition et de publication d'une revue qui aspire à faire autre chose que de perpétuer le statu quo?

Voici quelques-unes des mesures que nous avons prises dès les débuts de la Revue OTESSA :

- Soutien de la définition d'inclusion du centre de recherche sur le design inclusif, qui la décrit comme « l'éventail complet de la diversité humaine en ce qui concerne les capacités, la langue, la culture, le sexe, l'âge et les autres formes de différence humaine ». Notre objectif est de soutenir l'inclusion ; toutefois, nous reconnaissons qu'il s'agit d'un processus en continu et que la communication est essentielle pour rester à l'écoute et faire évoluer nos pratiques en conséquence
- Augmentation de la flexibilité dans les délais pour réduire les barrières à la publication.
- Messages d'encouragement à nos auteurs, lorsqu'ils n'ont pas respecté les délais, pour leur faire savoir que la porte leur est ouverte pour publier dès qu'ils auront terminé leur travail
- Amplification de la lettre ouverte #femedtech dans notre tout premier appel à soumission de propositions pour la conférence 2020 avec le passage cité ci-dessous
- Deux de nos trois coéditeurs sont des femmes
- Tous les premiers auteurs de notre premier numéro étaient des femmes, à l'exclusion de notre éditorial et d'une publication d'association, trois d'entre elles étant des femmes en tant que seules auteures. Dans notre deuxième numéro, cinq de nos six articles avaient des femmes comme premières auteures, dont deux comme seules auteurs
- Élargissement de notre revue afin de recevoir des soumissions en anglais et en français en 2022 et de publier les résumés dans les deux langues
- Adhésion et inscription gratuite aux conférences pour les étudiants noirs ou autochtones. Cela comprend à la fois l'inscription au Congrès et la portion OTESSA (adhésion à OTESSA et inscription à OTESSA). Nous avons également étendu la portion OTESSA aux non-étudiants noirs et autochtones, bien qu'ils devront toujours payer l'inscription de base au congrès pour le moment
- Consultation de notre membre à l'équité du conseil d'administration de notre association et de tous les membres pour trouver des moyens d'incarner les valeurs que nous défendons
- Planification stratégique d'un modèle de financement qui peut s'appuyer de plus en plus sur les organisations plutôt que sur les individus pour couvrir les coûts, afin de supprimer les obstacles systémiques à la participation
- En 2022, nous élargirons notre comité éditorial et nos conseillers exécutifs internationaux au sein du conseil, ce qui, nous l'espérons, apportera à notre revue des auteurs plus diversifiés et des perspectives mondiales.

Dans le cadre de notre engagement profond envers la diversité et l'équité, cette liste n'est qu'un début. Nous réfléchissons actuellement à notre propre approche pour mettre une barrière aux formes récurrentes d'exclusion dans les structures qui nous entourent. Nous nous attendons à en faire beaucoup plus et nous espérons continuer à interroger nos pratiques en continu dans le futur.

Extrait de notre annonce pour 2020: « Nous pensons que la flexibilité est nécessaire et nous nous engageons à soutenir les femmes universitaires et toute personne confrontée à des pressions dues à diverses responsabilités personnelles (telles que la garde d'enfants ou l'aide à des personnes âgées), ou confrontée à des défis structurels et systémiques, à nous contacter. Notre comité de rédaction est prêt à agir avec compassion. Cela signifie que nous ferons preuve de souplesse en matière de délais si nécessaire. Nous cherchons également à mettre en place des mentors pour les auteurs dont les manuscrits sont sur le point d'être rejetés, mais qui ont du potentiel. Enfin, nous encourageons les auteurs à soumettre des articles écrits par des personnes de différents genres et, au-delà, nous encourageons la diversité dans les soumissions de coauteurs. Ensemble, nous pouvons rendre la recherche plus inclusive ».

À mesure que nous avançons, nous devons faire davantage pour élargir la diversité des voix et les différents formats d'écriture ou de médias dans lesquels nous pouvons envisager la recherche dans un monde numérique. C'est maintenant à notre communauté de relever le défi de proposer des formats créatifs et critiques dans notre revue. Le thème de la conférence OTESSA 2022 étant le changement critique, et celui du Congrès 2022, les transitions, nous invitons notre communauté incroyablement créative, analytique, critique et subversive à nous montrer ce qu'elle a à offrir à travers ses contributions. Nous vous assurons que vous faites partie de cette « communauté », et nous vous invitions à explorer avec nous à quoi peut ressembler le développement des savoirs et sa diffusion. Nous aimerions publier les savoirs sous toutes ses formes. N'oubliez pas de consulter nos directives de soumission, nos formats et nos approches médiatiques, et participez en nous faisant part de vos commentaires sur la manière dont ils peuvent être améliorés. Pendant que vous préparez vos soumissions pour notre revue ou pour la conférence, cherchez à établir des partenariats pour permettre à des voix diverses de s'exprimer et, pour ceux d'entre vous qui auraient besoin d'aide, contactez-nous pour nous faire savoir comment vous soutenir. Nous sommes en mode d'écoute active et ouverts à l'influence au fur et à mesure que nous nous développons et grandissons. Nous nous engageons également à ne jamais cesser d'écouter et à ne jamais cesser de faire évoluer notre pratique scientifique.

Pour notre deuxième numéro, nous publions 4 articles de recherche et 2 articles de pratique. Nous tenons à remercier les évaluateurs et correcteurs d'épreuves qui ont contribué à la publication de ce numéro, et nous les remercions d'avoir apporté leur expertise et leur soutien pour vous présenter les articles de recherche et de pratique qui suivent.

Aperçu de la Section de Recherche

Connecter Pour Apprendre: Assemblage de Pédagogies dans l'Enseignement Supérieur dans une Communauté de Pratique by **Elaine Fournier**, **Mina Sedaghatjou**, et **Immaculate Namukasa**

> Fournier, Sedaghatjoum et Namukasa ont réfléchi aux façons dont la technologie et la recherche en pédagogie sont interconnectées au sein d'une communauté de pratique (CdP) facilitée par la technologie. Ils ont analysé les entrevues et les notes des

membres de la CdP, qui étaient des formateurs dans diverses facultés d'éducation d'universités nord-américaines. Ils partagent les façons dont les membres de la CoP ont donné un sens à leurs divers environnements d'enseignement et d'apprentissage d'un point de vue des interactions sociales ainsi que les significations communes émergentes. Leurs résultats suggèrent que la formation de nouvelles idées et pédagogies peut être favorisée par la confiance relationnelle rendue possible par une CoP. Le rôle de la technologie dans la communication et la collaboration entre les membres de la CoP est mis de l'avant et discuté sous l'angle du connectivisme. Les auteurs suggèrent un rôle important pour la confiance relationnelle dans les espaces d'apprentissage de la CoP afin que la recherche en pédagogie dans l'enseignement supérieur puisse continuer à s'épanouir.

Approches Théoriques et Méthodologiques d'Étude des Pratiques Éducatives Ouvertes by **Michael Paskevicius** et **Valerie Irvine**

Paskevicius et Irvine examinent de manière critique l'éventail d'approches méthodologiques et théoriques employées dans soixante-cinq études sur les pratiques éducatives ouvertes (PEO) publiées au cours de la dernière décennie, en se concentrant spécifiquement sur les changements apportés aux pratiques d'enseignement et d'apprentissage en relation avec l'éducation ouverte. Des dizaines de théories sont utilisées ou créées dans les études sur l'éducation ouverte, ce qui montre que la théorie n'en est qu'à ses débuts. Les auteurs soutiennent que des signes prometteurs de convergence émergent, tels que la notion d'ouverture comme facteur de motivation du changement. Une diversité de méthodologies et de méthodes est employée dans la recherche sur l'éducation ouverte ainsi que des pratiques émergentes rendues possibles par des conceptions d'apprentissage ouvert et des réseaux sociaux plus accessibles. Les auteurs proposent une nouvelle base pour la recherche sur la théorie des PEO et invitent à une étude plus approfondie des liens théoriques entre PEO et pratiques éducatives dans des contextes plus larges.

Réexamen des Politiques d'Apprentissage en Ligne Obligatoires en Ontario by **Lorayne Robertson**, **Bill Muirhead,** et **Heather Leatham**

Robertson, Muirhead et Leatham examinent la décision du gouvernement de l'Ontario de rendre obligatoires les cours en ligne pour les élèves du secondaire à travers un cadre d'analyse critique des politiques. Ils concentrent leur examen de l'apprentissage en ligne obligatoire sur trois contextes: avant la pandémie de COVID-19, pendant la phase d'enseignement d'urgence à distance de la pandémie, et selon les considérations politiques futures. Ils notent que leur analyse identifie « de multiples déconnexions entre les politiques administratives et les programmes d'études, ainsi que de multiples écarts entre la rhétorique des ballons d'essai lancés dans les communiqués de presse et la réalité de la mise en œuvre des politiques dans les écoles », et exhortent le gouvernement provincial de l'Ontario à reconsidérer les mandats en faveur d'une consultation et d'un engagement accrus des parties prenantes.

Participation à la Création de REL: Une Trajectoire de Valeurs by **Erin Meger**, **Michelle Schwartz**, et **Wendy Freeman**

Meger, Schwartz et Freeman ont cherché à comprendre les relations entre les ressources éducatives libres (REL) et les pratiques éducatives libres. Pour ce faire, ils

ont mené des entretiens semi-structurés avec sept membres du corps enseignant qui ont participé à la création de ressources éducatives libres. De quelle manière la participation du corps professoral à des projets de REL peut-elle se traduire par une compréhension unique de l'ouverture et des valeurs compatibles avec la pratique de l'enseignement ouvert? L'analyse thématique des données suggère que si les participants du corps professoral ont initialement abordé la création de REL par le biais d'une lentille d'"accès et d'équité" et d'"agence et propriété", la participation à des projets REL a semblé élargir la portée de leur approche de l'ouverture pour inclure "communauté et connexion" ainsi que "risque et responsabilité".

Aperçu de la Section de Pratique

Explorer la Curation Comme Une Voie Vers la Décolonisation de l'Éducation by **Tanya Elias**

Dans le cadre de son parcours doctoral, Elias a développé un site WordPress pour rassembler ses idées et réflexions sur le livre de Marie Battiste (2017) ***Decolonizing Education : Nourishing the Learning Spirit***, une série d'artefacts numériques qu'elle a trouvés via des recherches sur Internet et ses propres réflexions sur ces artefacts (https://decolonizingeducation.trubox.ca/). Le travail créatif et connectif d'Elias, qui se décrit lui-même comme incomplet, invite à s'engager dans le travail expérientiel continu et les « conversations nécessairement compliquées » (Pinar, 2015) de la décolonisation des programmes d'études, en offrant un espace éthique pour un dialogue élargi sur les diverses façons autochtones de savoir et de savoir-faire.

E-portfolios et Exploration de Son Identité dans la Formation des Enseignants by **Christine Ho Younghusband**

Dans le contexte de la refonte du programme, Ho Younghusband a dirigé la mise en œuvre et l'évaluation des e-Portfolios en tant que plateforme numérique permettant aux candidats à l'enseignement en Colombie-Britannique d'archiver, de réfléchir et de donner un sens à leur apprentissage lors du stage final. L'extension de l'utilisation des portfolios numériques au stage final d'enseignement a permis de modifier l'intention d'apprentissage, qui est passée de la création et de la conception de contenu à l'aide des technologies éducatives dans le cadre d'un cours à l'utilisation par les candidats enseignants du portfolio numérique pour explorer intentionnellement leur identité professionnelle et l'alignement de leurs pratiques avec les normes professionnelles de la Colombie-Britannique. Ho Younghusband estime que le portfolio numérique est une initiative viable et qu'il permet de révéler des qualités professionnelles des candidats à l'enseignement qui n'auraient pas été visibles autrement. L'évaluation par Ho Younghusband de l'utilisation étendue des portfolios numériques pendant le stage final sur une période de trois ans a permis d'obtenir des informations pour l'amélioration continue du programme et l'utilisation future des portfolios numériques dans la formation des enseignants.

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Connect to Learn: Assemblage of Pedagogies in Higher Education in a Community of Practice

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Abstract
In this paper, we report on the ways in which technology and scholarship of pedagogy emerge as interconnected within a technology-facilitated community of practice (CoP), for educators within various Faculties of Education in North American universities. The goal of the Community of Practice is to connect with and learn from one another, discussing, and reflecting on different types of pedagogical practices among members who teach in both graduate and teacher education programs in the onsite, blended, and online environments. We share analysis of interviews, and notes from CoP members' feedback; how the CoP members made sense of their diverse teaching and social learning landscapes as well as emergent joint meanings. The results of the study suggest that the assemblage of new ideas and pedagogies can be enhanced by a relational trust. A highlighted role of technology in enabling communication and collaboration among CoP members is also discussed through the lens of connectivism.

Keywords: technology-facilitated community of practice, pedagogy, connectivism, technology, scholarship

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Introduction

Professional learning opportunities in higher education have been impacted in an era of neoliberal management that highly values individualism (Apple, 2006; Rigas & Kuchapski, 2016; Thorsen, 2010). To enhance the quality of teaching in higher education, faculty members sometimes participate and connect in professional development settings such as those happening in Communities of Practice (CoP). Members of a CoP share a passion for something they do and learn how to do it better as they interact regularly (Wenger-Trayner E. & Wenger-Trayner B., 2014).

In university settings, learning is often considered an individual endeavor. However, Lave and Wenger (1991) proposed that learning is situated within a community and that it occurs when learners are deepening their participation in communities focused on a particular domain; this came to be known as a community of practice (Soto et al, 2019, p. 1).

Soto et al found that participation in a technology-facilitated lesson study built professional relationships and solidified their community of practice. Williams, Ritter, and Bullock (2012) found that the aim of a CoP was to strengthen the performance of experienced faculty members and to support new instructors' practice. A CoP is not always held in person because collaborators with common interests are not always located at the same physical location. Conole and Dyke (2004) envisioned that "the communication and collaborative abilities of technology [offer] the potential for [community] learning enriched by engagement" (p. 117) and "supporting the community rather than practice itself." (p. 295) That is to say, technology could be used as a medium not only to enhance instructional practices through the evolution of pedagogies but also to learn in a variety of ways including communities of practice and personal networks (Siemens, 2005).

Wegner, White, and Smith (2009) expanded the way that CoP develops within the emergence of new technologies and envisioned the advancements that virtual and online CoP will make possible. Later, in McDonald and Cater-Steel's (2017) edited volume on CoP, the role of synchronous and asynchronous communication in CoP was highlighted through the development of more productive CoP. They indicated that "a geographically dispersed but disciplinarily close-knit community can function as a supportive, non-hierarchical CoP based around mentorship, and generate significant social capital" (Schultz & O'Brien, 2017, p. 502).

The CoP under study was designed to bring tenured full-time faculty, pre-tenure, and sessional staff together in a structured formal way to share and learn from one another related to issues of pedagogy. Originally designed as face-to-face meetings technology quickly became an integral aspect of the design of the CoP. The CoP was facilitated by an experienced academic. Meetings were held 4-5 times a year and an agenda was sent out prior to the meeting. Members were given the opportunity to suggest additional topics before the meetings. The purpose of this paper is to report on the process of connecting and learning in a technology-facilitated CoP setting in a faculty of Education in North America.

Assemblage of Ideas Through Connectivism

Bandura's (1986) social cognitive theory describes the social diffusion of ideas, the acquisition of knowledge, and the adoption of new practices as well as how group functioning is the product of the coordinative dynamics of its members. Some of the factors he describes are the mix of

knowledge and competencies of the group, how the group is structured, how its activities are coordinated, how well it is led, the strategies it adopts, and whether members interact with one another productively in mutually supportive or unproductively in undermining ways. To Bandura, the structure of social networks affects the social diffusion of ideas. People are enmeshed in networks of relationships that include kinship, friendships, occupational colleagues, and organizational members. They are linked not only directly by personal relationships but also by acquaintances which overlap different networks and landscapes of practices and as a result, a variety of people can become linked to one another indirectly by interconnected ties.

Connectivist Learning Theory

Bandura’s social learning theory (1977) offers some insight into understanding what is happening within a particular CoP. It falls short however when trying to make sense of the complexity of numerous interactions between multiple CoP and how they intersect with one another. In an era of technology, Siemens (2005) theory of connectivism offered a construct to better understand the complexities of the networking that took place not just within the CoP under study but across the networks that were created as a result of this CoP as well. According to Siemen’s theory of connectivism (2005), personal knowledge consists of a network, which feeds into organizations and institutions and in turn feeds back into the network, and then continues to provide learning to the individuals.

Siemens (2005) asserts that in the 21st century learning occurs in a variety of ways – such as communities of practice, personal networks, and through completion of work-related tasks. Siemens explains that the starting point of connectivism is the individual and that the capacity to form connections between sources of information and create useful information patterns is required to learn in our knowledge economy. In this paper, the individual refers to the members of the CoP that form the unit of analysis under study. Siemens’ (2006) describes nine key principles that are integral to his theory:

- Learning and knowledge require diversity of opinions to present the whole and to permit the selection of best approaches;
- Learning is a network formation process of connecting specialized nodes of information sources;
- Knowledge rests in networks;
- Knowledge/learning may reside in non-human appliances, and learning is enabled/facilitated by technology;
- Capacity to know more is more critical than what is currently known;
- Learning and knowing are constant, ongoing processes (no end states or products);
- Ability to see connections and recognize patterns and make sense between fields, ideas, and concepts is a core skill for individuals today;
- Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities; and
- Decision making is learning and choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality (Siemens, 2006).

Several of Siemen's key principles emerged as salient features of the CoP discussed in this paper. Diversity of opinion, for example, was represented by the variety of pedagogies that the members enact, each bringing expertise to the group. The continuous learning that took place in the CoP and the very explicit decision making about what to learn more about also aligned with Siemens' principles. As well, the learning that took place in this CoP was facilitated by technology.

Method of Inquiry

In this exploratory case study, we sought to bring to light what outcomes emerged from engaging in the process of participating in the technology-facilitated CoP. The major unit of analysis is the learning community (Wenger, 1998) and its members. The qualitative evidence that we analyze here is derived from the CoP member's feedback and the analysis of the semi-structured interviews with CoP members. The domain of our CoP included academics teaching in a faculty of education in a North American university. The faculty of education offers both online, onsite, and blended bachelors and graduate programs. The CoP was composed of 20 members over 2 years, where participants had experience teaching in one or all of these programs. CoP members were both part - and full - -time faculty members (tenure, tenure-track and sessional). Some members taught at more than one university. CoP members regularly met to develop, share, reflect on, and refine teaching ideas and experiences. The scholarship of this community was supported by an instructional design unit that supports teaching, a faculty unit offering technology support, and the collection of data for research purposes was approved by the ethics board of the university. During CoP meetings, the participants were provided with different materials both in in-person and technology technology-facilitated in order to express their ideas and members shared resources including research publications on pedagogy.

Polkinghorne (2005) asserted that because qualitative research expands our understanding of an experience there is a need to select "fertile examples of the experience for the study" (p. 140). He encouraged the purposeful selection of participants and cautioned against leaving the selection to chance. He emphasized that the key should not be how much data were gathered or from how many but whether the data collected were sufficiently rich "to bring clarity to understanding an experience" (p. 140). It was with the intent to bring *further clarity of understanding* about the process of engaging in the technology-facilitated CoP that we set about to interview and to analyze follow-up reflection feedback and interview data of several members of the CoP.

Tashakkori and Teddlie (1998) stated that "the interview is a powerful method of data collection providing one-to-one interaction between the researcher and the individuals being studied" (p. 102). The interview offers a variety of benefits: open-ended interviews result in copious information about issues and this may lead to the conceptualization of information in ways different from those initially anticipated. The interview was well suited for the questions being investigated in this study as it allowed for the exploration of multiple indices focused on the same construct, specifically, the ways in which CoP members made sense of their teaching and learning landscapes as well as emergent joint meanings. Therefore, we invited the CoP members to attend an hour of semi-structured interviews with the focus on their practiced pedagogies and how they are enacted; how they have learned about pedagogies from others, and how their participation in the CoP impact their pedagogies in practice (the full interview

schedule is included in appendix A). The results and the analysis from both the CoP member reflection and the in-depth semi-structured interviews are described below.

Analysis and Results

Members of the CoP were invited to share their insights on the process of participating in the CoP and/or take part in an interview. Three members participated in the interview process and one member shared a written narrative.

As the research team, we chose to blend the data analysis and results into one section as this was well suited to our method of inquiry as described above. The data analysis and the ways in which we made sense of the narratives of the participants were interwoven into a holistic entity. The following is an excerpt from the reflective narrative shared by one member of the CoP:

> As an educator who straddles both the academic (research) and practical (school principal) world, my actions are driven by my belief in the vital importance of bridging the divide between theory and practice. My desire to learn from and with academic colleagues in the CoP served two key functions; a desire to improve my practice through participation (self-efficacy) and a desire to contribute to the collective efficacy of the group. A number of factors facilitated my meaningful participation in the CoP. a) The CoP's openness to online participation afforded me access to participate in the group despite geographic distance; b) The leader's consistent communication via email gave me a sense of being in the *loop*; c) The various members of the CoP were genuinely interested in one another's professional successes and challenges. For example, a member's work in technology and mathematics held the potential to directly support our local school community of practice. In addition, my participation in the CoP supported my instructional leadership and most importantly the professional conversations that found their way to the [school] student desk!" (COPM0)

The COPM0's description of her learning within the CoP expands our understanding of the networked approach described by Siemens (2006) specifically the way in which the network formation connects specialized nodes (in this case the connection with another CoP member who had expertise in mathematics and technology pedagogy). The COPM0's pedagogy in her university teaching was enriched and at the same time, she was able to effectively utilize the new network that was created to support the learning of others within a completely different CoP.

Further explaining the importance of the members of the CoP being genuinely interested in one another's successes and challenges she offers the following explanation of the important role participating in the CoP held for her professional growth in relation to pedagogy and the role that relational trust played in this growth.

> In my K-12 environment, professional learning opportunities often do not offer many avenues for critical reflection. Typically, we will engage in a book study and perhaps invite the author to speak once the book is complete. This is usually a smile and nod session where everyone (whether they have read the book or not) politely agrees with the author. No one feels safe enough to challenge what they have read so there isn't a

> lot of genuine dialogue or new learning that emerges from these sessions. Within the CoP, I always felt challenged (I mean in a good way – cognitively challenged) to learn and grow. I always felt safe to share how I felt about a particular topic we might be discussing. The relationships that I formed allowed me to move my learning from within the CoP to outside of it and this further expanded my pedagogy. (COMP0)

The above narrative was noteworthy as it highlighted several of Siemen's principles of connectivist learning. For example, learning is a network formation connecting specialized nodes of information, and learning and knowledge require diversity of opinion. The important role these principles played for this CoP member also aligned with the narratives shared by the CoP members who participated in the interviews. Keywords such as safe, genuine, and relationship, highlighted the role of relational trust and surfaced as a critical element in both the written narrative as well as the interviews.

As we sought to gain a deeper understanding of the members' experiences we turned to the interview as a means to gather more data to further clarify our understanding of how the CoP members made sense of how the process of participating in a CoP impacted their pedagogy.

Coding Procedure

The participants' voices and experiences were heard through the rich narrative generated in the interview process. The data gathered were given specificity through a detailed process of coding and categorizing which followed the procedures made explicit by Glaser and Strauss (1967) and Strauss and Corbin (1990, 1998). The coding allowed for the construction of meaning out of the narratives gathered. The first step in the analysis was to engage in an open coding process. During this phase, the transcribed data was broken down into units of meaning (concepts) and labeled (often using words that closely matched those of the participants). For example, the word talk was frequently used by the participants and this concept was labeled as verbal. The units of meaning typically ranged from several lines of text to a short paragraph. The coded units of meaning and the concepts were then grouped into categories (relational trust, enactment with students, technology, verbal, non-verbal,). These categories were assigned by the authors and emerged from the voice of the participants. For example, relational trust was mentioned in a variety of ways within and across participant interviews. This unit of meaning formed an important aspect of the key category collaboration. Together with the other key category, communication the voices of the participants were reassembled in an explanatory whole represented by the core category, assemblage of pedagogies. The core category incorporated the two key categories and articulated their relationship to one another.

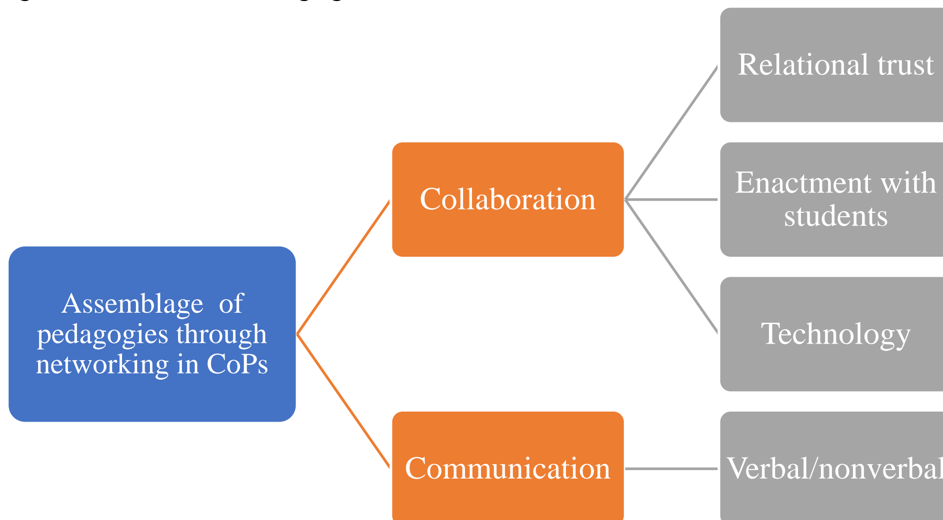
Each transcribed interview was coded using the NVivo 12 software. The use of this particular software greatly facilitated the coding process described above. The software's various features corresponded to this process and made searching for concepts more manageable during the open coding process as it allowed for the storage and retrieval of multiple concepts. As well, the software allowed the researcher to create relationships between concepts which made the process described above a more manageable task.

The results of the data analysis from the semi-structured qualitative interviews are presented in two sections related to the key categories which emerged, namely, communication and collaboration. The model below depicts the elements that enrich and enable the Communities of

Practice within and across the various networks that existed for the participants. Diverse forms of communication (verbal/nonverbal, technology-mediated) strengthened and expanded the CoP. Relational trust also emerged as an important concept which contributed to the success of the CoP.

Figure1

Categories and Key Categories in a Complex CoP Networking, Which Resulted in the Assemblage of Ideas and Pedagogies



Throughout the results section, for ease and anonymity, COPM (1, 2, and 3) refers to the members of the CoP who participated in the interview process and who are participants in the CoP that formed the basis of study.

Communication

The findings in this section emerged from the participants' practiced pedagogies and how they are enacted, as well as the way the participants spoke about the blending or interplay of the pedagogies. The findings suggest that those interviewed felt that communication was vitally important in how they enacted their pedagogy. It was evident from the ways in which the members described how they communicated their pedagogy that this was intertwined with the pedagogy itself. The vital role of the key category communication in teaching described in the interviews was derived from two concepts that often overlapped (verbal and non-verbal). For example, COPM2 described her pedagogy as primarily dialogical and she offered a rich narrative to impart the importance of verbal communication in the flow of knowledge between herself and her students:

> My primary pedagogy is dialogue. I see education as the mediator's consideration of ideas, meaning the most effective way to mediate the students and myself in this is the capacity to dialogue. [COPM2]

She goes on to further describe her conceptual understanding of her pedagogy:

> Dialogue is a psychological tool and so it doesn't mean that we are just chatting. Dialogue isn't a conversation necessarily, dialogue is this cognitive activity that has infinite expression and so the dialogue could be non-verbal, it could be experiential. [COPM2]

For COPM3 communication in her teaching was primarily non-verbal. She describes her pedagogy as one rooted in project-based learning. She is animated in her description of the role that making and doing play when she communicates and orchestrates learning:

> I talk a little bit but mostly it is getting a lot from them … Having them make visuals, and create a lot of things.... they had to read to create something that was really highly visual and throughout the course, I encouraged them to create things ... that were useful for the community of teachers. [COPM3]

Whether they were communicating verbally or nonverbally what emerged from the participant's narratives was the important role that communication played in furthering the learning that had taken place and then sharing this learning with others.

Collaboration

The CoP members who participated in the interview were also asked to describe how they learned about pedagogies from others and in what ways their participation in the CoP impacted their pedagogies in practice. Collaboration emerged from the data as the other key coding category. This key category provides critical insight into the positive experiences as well as the challenges faced by the individual members and demonstrates the valuable role that the concepts of *relational trust, enactment with students,* and *technology* have played in mediating success and overcoming barriers.

Relational Trust

The authors have assigned the term relational trust to the meaning derived from the participants' own words. For purposes of this paper relational trust is defined as the interpersonal exchange that takes place in a group setting and is built on respect, personal regard, competence, and personal integrity (Bryk & Schneider, 2003). The importance of relational trust was a salient feature of the narratives of the participants. For instance, COPM2 candidly shared how it was that she came to join the CoP under study.

> I don't always feel my cohort members [in one of the university programs I participate in], I mean ... I ... trust your cohort community and so I don't have any peers in the higher ed. realm within my cohort and I was struggling a little bit ... The reason I found you guys was because I was looking for peers to talk about pedagogy. [COPM2]

She further reflected on the relationship within and between her various learning environments and on why she did not share the new learning that took place with her students with her book study peers.

> I didn't share that experience with my colleagues back in the community of practice... Maybe because... my peers were craving these tools [articulated in the book] and I just felt like I would be interrupting their desire to accumulate all of these pedagogical tools if I came back and talked about how I played with them.

COPM1 made a poignant declaration when she stated:

> *Participating in ongoing collaboration, dialogue, mutual trust, social networking, helping, and learning from colleagues, all of those things [mentioned in the interview question] are vital. [COPM1]*

For other CoP members, the lack of relational trust that they encountered was much closer to the surface. COPM1 openly shared some of the challenges that she encountered while seeking out a CoP:

> I talked to other teachers and, and because the other instructors because they've done it, and I actively sought them out for their wisdom and for their ideas ... And I just got the sense that people are like. yeah okay, but they didn't follow up with me, and I didn't get the vibe that they felt super comfortable with that. [COPM1]

COPM3 also shared how a lack of relational trust can inhibit meaningful collaboration with peers.

> I wouldn't say so much [collaboration with peers]. With the one [… that I designed this course with, there was a lot of engagement and collaboration there, but with other people, not a lot of nurturing relationships and mutual trust.

It was evident from the thoughtful reflections of the participants that relational trust was an important factor in creating the right conditions for forming effective knowledge networks.

Enactment with Students

Another key theme that emerged was the way in which knowledge networks flowed back and forth between the participants and their students. The participants of this study shared the ways in which they made sense of their pedagogies via reciprocal knowledge sharing with their students. The authors labeled this process enactment with students. This theme expands our understanding of the way in which Siemen's (2005) theory of connectivism plays out in practice.

For instance, COPM2 described how she took the learning from a CoP (Book Study) and was able to create a network of new learning with her students.

> ... And so I came to class one day and shared with the students my experiences ... my hypothesis from the author ... so that we could use them to create a deeper understanding. [COPM2]

She also shares this powerful commentary about how and where the learning is situated for her:

> There is collaboration with my peers, ... I …want to say that I’m learning there, But I’m not, I think because I disagree with [the author] we’ve chosen so it’s interesting to read and think through why I disagree with him ... but I’ve learned the most so often in my practice with my students. [COPM2]

For COPM3 her approach to knowledge mobilization includes an expanded notion of networking in the form of *“... create[ing] things that were useful for the [professional] community of teachers … something that not only helps them learn but that will help other people learn.”*

She also shared her insights into how reflective practice with her students shapes the ways in which she enacts her pedagogy.

> A lot of my ideas or a lot of new ideas …come from my conversations… with my own students because this is a course on pedagogy …and they have a lot of brilliant ideas, and in those discussions that have come up in class I have gotten a lot of new information, new perspectives, [and] new ideas. The conversations with my students have made me reflect more on pedagogy [and] made me learn more. [COPM3]

COPM2 further describes how the enactment of her project-based pedagogy is structured in such a way as to facilitate the learning of her students as they build on their knowledge base in the process of creating.

> Students bring their own resources and experiences for meaning-making and it's our job as educators to tap into those resources. I strongly believe that the biggest learner in a room, in a classroom is the teacher. [COPM2]

As the networks with their students grew so too did the ideas and learning expand and grow for individual members of the CoP.

For each of the CoP members the ways in which an ongoing process of knowledge creation and the ways in which their pedagogies were enacted with their students allowed for the formation of new networks.

The Role of Technology

For the interview participants, technology played an important role in facilitating collaboration amongst peers within and across the CoP and it also enriched their enacted pedagogy with their students. The CoP under study utilized technology to enable participants from geographically diverse regions to gather on a regular basis in a synchronous manner. The participants were able to get to know one another and share their ideas, expertise, and wonderings in real-time and this helped to build trust amongst the participants. Utilizing the tools of the platform, online participants of the CoP were able to engage with their on-site peers in meaningful ways as they explored issues of pedagogy. For instance, COPM3 describes the various ways that her constructive interaction with her students is mediated by technology:

> I always try to apply it [constructive interaction] even in my field with online learning. … And what that looks like is a lot of teamwork. It looks like a lot of product creation. … A lot of collaboration. [COPM3]

She offers further insight into the role of technology when she describes with pride the types of knowledge artifacts that her students created which included videos, webpages, and other digital artifacts. Her students used technology to transmit learning within the group and across groups.

She shared how she then further expanded the network of learning via social media by asking permission from the students to share what she finds the best at helping in-service teachers in the broader community. *I "tweet the ones that I think are the best."* For this member technology also plays an important role in the types of CoP that she joins.

> I would say that a lot of the ideas that I get to implement come from social networking and connectedness. … I go on Twitter and I look [search] for specific words. … I get a lot of ideas from there. [COPM3]

Another member, COPM2, shared how technology-enabled her to connect with another group of educators to further enrich their understanding of experiential learning.

> I offered to lead, I'm not sure what we call it, so we're all at a distance so we come together through video conferencing for our staff meetings, and I'm leading ... the professional development portion of that now. And what I'm trying to do is choose experiential activities that we could enact in a, in a distance format. And I present those to my peers, so they have the opportunity to experience them from maybe from the students' perspective. And then ... we'll play with those ideas and those experiences, and then we'll step outside of them and talk about how we might use them in our practices as educators, and that's been pretty neat. [COPM2]

She also described the tensions that existed between her dialogical pedagogy and summative assessment and how technology afforded her the ability to reconcile some of those tensions with her students.

> So how do I navigate that right now, I diversify my assessment and I narrate to them the tensions that I am experiencing [...] and I'm learning through technology to do that more dialogically ... [Technology] learning platforms allow me to annotate right within the document and that feels like dialogue. So, this is dialogue in feedback, and it feels good to me. [COPM2]

For the participants of the CoP in this study technology offered the opportunity to connect and learn on a regular basis. As relational trust developed from these connections collaboration and communication strengthened enabling opportunities for new networks of learning to emerge.

Discussion and Conclusion

Each of the participants in this study was passionate about the pedagogies that they enact with their students and while the pedagogies themselves may differ, a unifying bond tied each of these diverse individuals together: their desire to connect and learn. Kop and Hill (2008) describe the usefulness of the theory of connectivism as a means to better understand that knowledge does not reside in one location but rather is a flow of information from multiple individuals seeking inquiry related to a common interest and providing feedback to one another (p.4). The rich data gleaned from the narrative of the CoP members revealed how this desire took shape within and across various CoPs. The study participants wanted to deepen and expand their pedagogy and this desire to connect and learn with others is represented in the model displayed in Figure 1. The nodes that Siemens (2005) describes offered a useful construct that enabled us to gain a deeper understanding of the participants' experiences as depicted in the model. For example, the insights that were shared by COPM2 as she described how she created a community of practice within and across nodes (her two communities of practice) and how this enabled her to enact her dialogical pedagogy and co-create new learning with her students. This learning originated in her university community of practice in the form of a book study but was transformed as it was enacted through co-created learning opportunities with her students.

The CoP members were asked to describe their experiences enacting and blending their pedagogies as well as their experiences with communities of practice and how their participation impacted their pedagogy. What emerged from their thoughtful discourse demonstrated the interconnection between the collaboration that took place between communities of practice and how this learning was shared with, co-created, and new learning emerged from the collaboration that they had with their students. When discussing the important role that connectivism plays in learning environments, Goldie (2016) asserts that knowledge and learning are not located in any given place but instead consist of networks of connections formed from experience and interactions between individuals, organizations, and technologies.

Specialized learning within specific communities of practice played a significant role for many of the participants. The member who offered written feedback shared the following insight:

> As a result of my membership in the CoP, I had further opportunity to learn from another member about the use of technology to support the instructional dilemma" we were facing in my professional practice. This new learning led to a further opportunity to link the CoP member directly to the math lead at my school. Currently, we are implementing new approaches to support struggling learners as a direct result of my participation in the CoP. [COPM0]

Just like Williams, Ritter, and Bullock (2012), we found that technology-facilitated CoP's boost the performance of the faculty members through collaboration, communication, and learning with others and support the emergence of blended pedagogical practices. This linking of individuals and intersections of practices – in teacher education, in a faculty learning community, and with educators in K-12 – as evidenced by this member's experience with the CoP demonstrated the value of creating networks of specialized nodes of information sources as envisioned by Siemens. As the network expands, Siemens (2006) asserts that experts and

amateurs become co-creators in knowledge. This key tenet of connectivism was apparent in the ways in which the various CoP members described the learning that takes place in their classrooms.

The study highlights the value of meaningful professional learning opportunities which overcome the constraints of individualism and foster greater collaboration in higher education. The findings suggest relational trust both within and across the various networks is needed for fostering collaboration and thereby creating more meaningful learning environments. We suggest that regardless of how the CoP is configured (structured, unstructured, formal, informal, in person, or online) what mattered the most to the participants was the knowledge creation within and across the networks that were created and that this ability to connect and learn was fostered and supported by strong relational trust. Technology played a pivotal role in supporting these networks both within and across communities. Sometimes this occurred by affording individuals the opportunity to connect where geography might otherwise have prevented them from doing so and sometimes it was by sharing the new knowledge creation that took place within a community of practice via social media.

Johnson (as cited in Siemens, 2006) argued that problems are becoming so complex that they cannot be contained in the mind of one individual. According to Johnson the challenge and opportunity for educators is to redesign the spaces for knowledge and learning to take place. The model in Figure 1 helps us to better conceptualize this ability to connect and learn through the interconnectedness of the key themes that emerged from the findings. Of the four themes, relational trust and technology stood out with regard to their ability to support the necessary conditions to foster effective collaboration and communication. Siemens (2006) states that connectivism allows individuals to learn and function in spite of the pace and flow. Instead of the individual having to evaluate and process every piece of information she/he creates a personal network of trusted nodes; people and content enhanced by technology (p.5). Technology is utilized in ways that further enhance the link between verbal and non-verbal communication and further shapes enactments of pedagogy with students in individual members' teaching. The findings from our study suggest that just such a redesigned space for knowledge and learning, in this case on pedagogy, can exist within a technology-mediated Community of Practice when relational trust is at the forefront making it possible for educators' abilities to connect and learn to truly flourish.

Limitations and Suggestions for Further Investigations

One of the limitations of the current study was that not all the members who were interviewed were able to attend all of the CoP meetings. A further limitation was that one of the members interviewed was new to the CoP. Furthermore, given the circumstances of the pandemic interviewees were not afforded choice as to the manner in which they preferred to participate in the interview.

A recommendation for further investigation would be to offer additional opportunities to share insights from additional members. Given that relational trust played such a key role for the participants in our study, opportunities for future research exist in examining more deeply how conditions and structures within a Community of Practice can develop and nurture this trust. Further examining the ways in which technology might be used within a CoP (pre-existing or newly formed) may offer additional insight into creating the optimal conditions to nurture and

sustain relational trust. As well, the results of our study indicated that the ways in which pedagogies were enacted with the students play a key role in creating and connecting new networks of learning for the faculty. Our study focused on this from the perspective of the higher education faculty however much could be learned from researching this same phenomenon from the perspective of their students.

Author's Contributions

E.F., M.S., and I.K.N, contributed to the design and implementation of the research, the analysis of the results, and the writing of the manuscript.

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Ethics Statement

Interview data collection was approved by Western University's NMREB.

Conflict of Interest

The authors do not declare any conflict of interest.

Data Availability Statement

Excerpts of original data for this article are only available upon reasonable request from the corresponding authors. The authors are unable to publicly publish the data nor to grant access to the full sets of the data ethically. This is because the study sample is a small population and participants are potentially recognizable, from anonymized data, by their employer or other employees.

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Appendix A

Individual Participant Interview Template

I. **Recap on pedagogies used by an instructor in higher education**

At several meetings on the Conversations on Pedagogies COP members explored the pedagogies instructors use in their teaching in the faculty of education.

Members reflected on the pedagogies they use in practice: what these were and how they related to each other.

At this interview we are interested in hearing about your experiences and reflections of the pedagogies you use in your practice when teaching higher education course.

We are going to ask you to describe using words and images the pedagogies you use, to make connections to own learning of these pedagogies, reflect on the role of conversation on teaching and learning, and to share with us any hunches you may have on the impact of the pedagogies you use in practice.

Question

1. Describe the pedagogies you commonly use in your higher education teaching practices

Probes

- Which pedagogies do you practice?
  How long you have been using these pedagogies? Have they evolved during that period of time? In yes, in what ways?
- Which pedagogies do you not practice? Why
- Why these pedagogies? (repetitive)
- How are these enacted?
- Where did you learn about those pedagogies?
- How do you continue to support this learning and reflection on the pedagogies you use?
- (Who are the scholars that you could name about these pedagogies?)

2. Making Images to represent the relations (interplay, blending, tensions) among pedagogies

Context

Here are some images that members made (Images are pasted in appendices at the end of the interview questions). Members used the images to articulate the relations (interplays, blending, tensions etc.) among the pedagogies they use in their practice. Let us speak more about the image you used or would/might use to show the blending or interplay of pedagogies.

For members who were at that meeting.

Here is an image in which you illustrated the ways in which different pedagogies are blended in practice:

Question

- What is illustrated in this image?

- We would like you to speak more about this image (or another you might use to show the blending or interplay of pedagogies)

  Probes
  - What aspects of the image would you like to add to or take away from the image?
  - Which aspects of the image would you like to highlight? And why?
  - Which aspects would you like to illustrate with words or other media?

For members who were not at that meeting,

Question

- What images would/might you use? The image doesn't have to be one that we have shown. If you have a different image you would like to show or describe please do so.

  Probes
  - what images would you use to show relations among (or, articulate the interplay of the diverse) among the pedagogies you use in your teaching practices?
  - What aspects of your image would you like to highlight? And why?
  - Which aspects would you like to illustrate with words or other media?

II. <u>Expand and make connections to learning about pedagogies</u>

Question

3. In which of the following ways have you learned about pedagogies from others:
   - Engagement?
   - Collaboration?
   - Reflective dialogue?
   - Nurturing relationships and mutual trust?
   - Social networking and connectedness?
   - Exchanging information with colleagues inside the organization?
   - Helping and learning from colleagues in order to develop professionally?
   - Professional dialogue?

- Other? …..... What other activities do you engage in for the purpose of collectively constructing new meanings and improving the skills and knowledge that result in action?

III. <u>Probing a little further on the Role of conversations on teaching at the COP and elsewhere.</u>

Questions

4. Tell us about any formal or informal conversations on pedagogies that you participate(d) in
5. How do these conversations impact your pedagogies in practice?
6. How did your participation in the Pedagogies COP impact your pedagogies in practice?
7. In what ways did your participation in the CoP meetings affect your way of thinking about teaching and learning? Please give an example
8. Kindly recall a time when in the COP meetings or other informal conversations on pedagogies you learned something new, reflected on an idea/a pedagogy and you thought that you might want to try it with your students? Please give an example
9. What were some of the challenges/barriers that you encountered while participating in the COP

IV. Relation among the pedagogies you use and the students' learning, assessment and achievement

10. Kindly share with us your hunches (reflection, feedback) on the impact of the pedagogies you use in practice in relation to
    - students' learning opportunities (and experiences) in your courses
    - assessments you use in your courses
    - feedback on the learning you give to the students
    - learning outcomes (and achievements) of your students

V. Possibility for future follow-up to this Interview:

11. Thank you so much for your participation in this interview.

    In line with the nature of the consent you gave on your consent form, on the section "Contact for Participation in Future Research Activities," we might contact you for a follow-up Focus group with other research participants.

    Whether we need a focus group with other participants will depend on the analysis on the data we are currently collecting.

Research Article

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https://otessa.org
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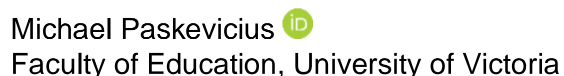
Theoretical and Methodological Approaches for Investigating Open Educational Practices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Abstract

To date, the phenomenon associated with open education in relation to teaching and learning practices remain under-theorized in the literature, which represents both a challenge and opportunity for further research (Bulfin et al., 2013; Howard & Maton, 2011; Knox, 2013; Veletsianos, 2015). There exists an opportunity to develop new theory, as well as to connect the phenomenon to existing theory from education, learning sciences, and pedagogical research. Much of the literature has focused on case studies, strategies for implementation, and broad approaches to institutional change which do not draw upon or develop theory. A significant amount of the empirical work reviewed makes no mention of a theoretical base aside from that of openness as a conceptual framework for considering education. Further, critical studies which examine the pedagogical and educational implications of the use of open educational resources (OER) and engagement in open educational practices (OEP) are even less common (Knox, 2013). In this paper, we share the results of a literature review which investigates both methodological and theoretical approaches used in the available research on open educational practices, with the goal of engaging participants in a critical review of the theoretical and methodological approaches to further advance research in this emerging space.

Keywords: open educational practice, open pedagogy, research methods

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Introduction

In this paper, we review the methods and theories employed in empirical research on open educational practices (OEP). We conducted a literature review to identify the methods researchers have used to gather data and the theoretical constructs that have been used for researching the OEP phenomenon. We define OEP as *teaching and learning practices where openness is enacted throughout all aspects of learning design, including the design of learning outcomes, the selection of teaching resources, and the planning of activities and assessment*. This definition suggests that OEP involves both educators and learners with the use and creation of OER, draws attention to the potential afforded by open licenses, facilitates open peer-review, and supports participatory learner-directed projects (Paskevicius, 2017). We believe this conceptualization of OEP foregrounds new forms of teaching and learning practices and the ways in which openness offers new possibilities for action for both educators and learners.

In the present context of the COVID-19 pandemic, educators have needed to rapidly shift to facilitating remote and online learning (Bozkurt et al., 2020). No longer could educators draw upon the physical resources found in their classrooms and libraries, prompting an opportunity to explore the use of online learning materials, online collaborative tools, flexible learning outcomes, and emergent forms of assessment. Digital learning materials that can be shared online are critically needed to support each learner working from home. This presents a significant opportunity for the adoption of OER, which include legal terms for use, remix, and adaptation. Many OER can be adapted to meet the educational goal and can also be used for learner-generated creative projects. Educators may also look to OER that include a description of teaching activities and learning plans (Jhangiani et al., 2016; Kimmons, 2016; Petrides et al., 2011). Beyond the sharing of resources, OER could and should include descriptions for how they may be used, for both in-class and online activities. Some already do and, in so doing, can be collaboratively improved over time. This availability of these descriptive learning design focused OER may create opportunities for the collaborative development of learning resources and designs (Masterman & Wild, 2011; Petrides, Jimes, Middleton-Detzner, Walling, & Weiss, 2011).

With regards to assessment, the use of OEP has been argued to promote the formation of creative, networked, and engaging forms of student work. Assessments such as exams and term tests become challenging in a distributed learning environment, and is it worth the effort of employing “lock-down browsers” and intrusive surveillance technology to run online quizzes? Turning to OEP suggests a focus on considering what learners can create during this time, from their home, and perhaps even using OER to create artefacts that demonstrate their learning.

Online learning strategies have been cast into the spotlight during the pandemic and issues such as access to resources, supporting learner agency, and student engagement remain a prevalent challenge for many educators. Scholars have suggested that OEP present some options for supporting free access to learning materials, learner directed projects, and prospects for student engagement. Therefore, we believe, now, more than ever, it is important to understand the methods researchers are using to investigate OEP and what theoretical frameworks are being used to describe the phenomenon.

Review of Literature

Peters and Deimann (2013) argue that openness in education has a long and diverse history. They suggest that openness is not driven solely by recent technological developments but represent a social, cultural, and economic phenomenon which have prompted universities to offer public lectures, open access universities, and flexible programming. Historically, this positioned universities as centres for accessible research and promoted public access to knowledge. More recently, openness has been broadly defined as an approach to teaching and learning which embraces social justice as a core value (Bali et al., 2020; Hodgkinson-Williams & Trotter, 2018; Lambert, 2018). In this way, openness reflects an intentional approach to both the creation and sharing of learning resources and the design of learning experiences that addresses the needs of learners with inclusivity and equity as core values. This may take on many forms including one's broad philosophy and approach to pedagogy from the perspective of access and equity (Kimmons, 2016) including the methods in which educational content and material are sourced, created, remixed, and shared (Fischer, Hilton, Robinson, & Wiley, 2015; Pitt, 2015; Jhangiani et al., 2016). This may also include the open sharing of pedagogical practices among educators (Petrides et al., 2011; Borthwick & Gallagher-Brett, 2014). On the other hand, openness has been framed as way to design learning experiences, engaging learners as active producers and stakeholder in the creation of knowledge (Masterman & Chan, 2015; Cronin, 2016; Masterman, 2016; Tur et al., 2016; Wiley, 2016) and enabling and broadening access to this knowledge into our communities (Carey et al., 2015).

Openness has a long history as a core value in higher education, and one can often see aspects of this in university mission and vision statements. Openness in education has garnered significant interest lately due to the COVID-19 pandemic; however, interest has been increasing throughout the years due to the evolving affordances offered by the internet, individuals' willingness to share and collaborate, the emergence of open copyright licenses, and the development of many freely available open publishing tools. These technological, social, legal, and financial changes have provided new ways of conceptualizing and enacting openness by supporting the sharing and collaboration of resources, sharing of teaching practices, and emerging ways of openly engaging with and creating content online (Hodgkinson-Williams & Gray, 2009).

Open educational practices, open pedagogy, open teaching, or open practices, often used interchangeably, have been defined as "the next phase in OER development, which will see a shift from a focus on resources to a focus on OEP being a combination of open resources use and open learning architectures to transform learning" (Camilleri & Ehlers, 2011, p. 6). Cronin (2017) defined OEP as the "collaborative practices that include the creation, use, and reuse of OER, as well as pedagogical practices employing participatory technologies and social networks for interaction, peer-learning, knowledge creation, and empowerment of learners" (p. 4). These definitions suggest an expansive view of openness in teaching and learning focused on the practices enabled and supported by the open movement, either in making use of OER, engaging learners in openness, or making our professional practice more accessible. Scholars have suggested a movement towards OEP provides an impetus for innovative teaching and learning processes, resulting in new conceptualizations of the roles and practices of both educators and learners (Lane & McAndrew, 2010; Porter, 2013; Littlejohn & Hood, 2016). In this way, engaging with open education has been suggested as a possible catalyst for pedagogical innovation in higher education, specifically for those not classically trained in pedagogy. Increased sharing of educational practices enable educators to access one another's

pedagogical learning designs and approaches, providing greater diffusion of innovation and community formation around innovation in teaching and learning.

Several researchers have conducted literature reviews to investigate open education. For example, Cronin and MacLaren (2018) conducted a literature review to examine how the concept of OEP has evolved historically, finding expansive conceptualisations of the term in practice throughout the literature. Similarly, Koseoglu and Bozkurt (2018) reviewed literature referencing OEP, and used descriptive statistics, social network analysis, text mining, and content analysis to identify trends and patterns in the literature. Their findings suggest that many researchers use the term OEP to capture the different dimensions of open education with a focus on the processes of education, namely pedagogy. In a related study, Bozkurt, Koseoglu, and Singh (2018) find disparities in academic contributions to the literature from across the globe and recommend a greater focus on OEP, finding ways to investigate the factors that influence OER usage and engagement with OEP, and a need to extend research into openness to all levels of education. To address the latter, Blomgren and MacPherson (2018) explored the literature on OEP in K-12 learning contexts, finding limited research into the phenomenon among K-12 educators, while noting the potential for the integration of OEP in this context. As well, country-specific research has been conducted, for example Tlili, Huang, Chang, Nascimbeni, and Burgos (2019) who conducted a literature review of OER and OEP research from China. Our extension of this work includes a look at the research into OEP from a methodological and theoretical lens, to better understand how researchers are investigating the phenomenon and what theoretical frameworks are being employed in the literature.

Methods

Research Question

This literature review focuses specifically on research that investigates changes to teaching and learning practices in relation to open education. When selecting studies for the review, the focus was on those studies that conducted an empirical investigation into pedagogical changes as a result of the use of OER or changes to the design of learning in light of open education. The research question addressed was: what methods and theoretical constructs are researchers using to investigate changes to teaching and learning practices in relation to open education?

Search Criteria

The literature review draws upon studies which detail the impact of openness on teaching and learning. The Web of Science was initially used to source literature in relation to the search terms “open educational practice,” “open education practice,” and “open pedagogy” published from 2010 to 2020. Additional queries were conducted using the University of Victoria library to scan the ERIC, JSTOR, ProQuest, and ScienceDirect databases. Google Scholar was also used to scan for additional literature. Citation tracing methods were further used to locate research cited within the works reviewed. The corpus of literature was then narrowed to focus on empirical research specifically focused on open education in relation to learning design and pedagogy.

Inclusion and Exclusion Criteria

A total of 107 articles were identified that used these terms in the title, abstract, or article keywords. The resulting literature was then narrowed to include only empirical research that focused specifically on how open education was shifting the practice of teaching and learning,

either through the use of OER which resulted in changes to educational practice or where OEP was being discussed as a way of engaging in new forms of teaching and learning. Several papers that looked at OEP as an institutional quality were removed, as the framing of this research explores OEP from a teaching and learning perspective. While institutions can support and foster OEP, we believe that OEP can only be enacted through the actions of educators and learners.

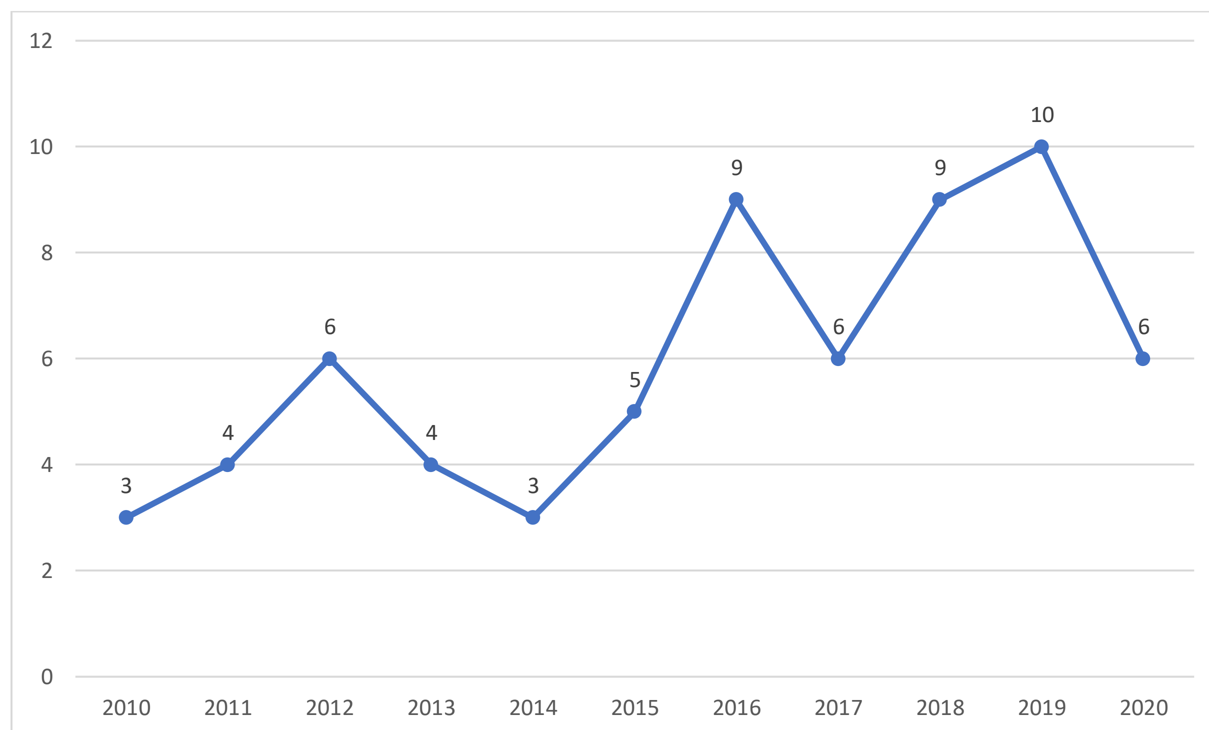
Studies were excluded when they were not available with an English translation or when the paper was discussing openness but not with a focus on investigating the impact on teaching and learning. The resulting corpus of works included journal papers, conference papers, PhD theses, and reports.

Results

The review resulted in a total of 65 works that detail empirical research into this phenomenon. The articles spanned from 2010 to 2020 and included a variety of publications, regions, contexts, etc. Three articles were included from 2010, four from 2011, six from 2012, four from 2013, three from 2014, five from 2015, nine from 2016, six from 2017, nine from 2018, ten from 2019, and six from 2020. Figure 1 displays the number of articles included by year of publication.

Figure 1

Time Distribution of Studies



The time distribution shows an upward trend in publications on this topic, and it should be noted that it was the middle of 2020 when the search was conducted.

The works reviewed covered a variety of educational contexts, 48 from higher education, six from K-12, and one from a workplace learning context. Several studies spanned multiple contexts or including, K-12 and higher education (four), K-12, higher education and workplace learning (two). Finally, several studies were further situated in specific context areas for example in the study of pre-service K-12 teachers (four).

Two studies were conducted in Australia, one in Brazil, six in Canada, one in Colombia, one in India, one in Ireland, two in Italy, one in Kyrgyzstan, one in Netherlands, one in Portugal, four in South Africa, one in Spain, five in Sri Lanka, eleven in United Kingdom, one in Uruguay, and thirteen in the United States. Figure 2 displays the geographical distribution of the works reviewed. Beyond what is shown on the map, there were 11 studies that took a global perspective and were not situated within a geographical region. Additionally, there were three studies that were conducted in several countries within the European Union.

Figure 2

Countrywide Distribution of Sampled Publications

The works reviewed included one book chapter, two conference papers, 53 journal articles, seven reports, and two Ph.D. thesis. Table 1 displays the publication types, frequency, and open access policies for the sampled works.

It should be noted that several of the journals that are not open access publications do offer open access options for authors of individual articles. These journals, which refer to themselves as *hybrid access*, charge an open access fee to the author to make their individual work openly available. Whether an open access fee applied for each article was not checked and the open access policy indicated above is the broad policy of the journal. In total, 33 of the 52 journal articles reviewed were published in journals that maintain open access policies.

Table 1

Publication Types of Sampled Publications and Open Access Policies

Item type | Publication Name	#	Open access
Book		
Book chapter	1	No
Conference paper		
OER12 and OpenCourseWare Consortium	1	Yes
OpenED Proceedings	1	Yes
Journal		
Asian Association of Open Universities Journal	1	Yes
Brain	1	Yes
British Journal of Educational Technology	1	No
Canadian Journal for the Scholarship of Teaching and Learning	1	Yes
Computer Assisted Language Learning	1	No
Computers in Human Behavior	1	No
Distance Education	9	No
Educational Technology Research and Development	1	No
Educause	1	Yes
E-Learning and Digital Media	1	No
Higher Education	1	No
International Journal of Emerging Technologies in Learning (iJET)	1	Yes
Journal of Computing in Higher Education	1	Yes
Journal of E-Learning and Knowledge Society	2	Yes
Journal of Interactive Media in Education	5	Yes
Latin-American Learning Technologies Journal	1	No
Open Learning	1	No
Open Praxis	12	Yes
Research in Learning Technology	1	Yes
Sustainability	1	Yes
Teachers College Record	1	No
Teaching in Higher Education	1	No
The Electronic Journal of e-Learning	1	Yes
International Review of Research in Open and Distributed Learning	6	Yes
Report		
Report	7	Yes
Thesis		
Doctoral Dissertation	2	Yes

Each article was assigned a broad category based on what was being investigated. Of the studies reviewed: 15 studies focused on the factors that influence usage and uptake of OEP; 37 focused on the impact OEP was making on pedagogical practices; and 13 focused on the impact OEP was having on learners.

Theoretical Approaches to Investigating OEP

It has been argued that the phenomenon associated with open education remain under-theorized in the literature, which represents both a challenge and opportunity for further research (Knox, 2013; Veletsianos, 2015). A great deal of the literature has focused on case studies, strategies for implementation, and broad approaches to institutional change that do not draw upon or develop theory. A significant amount of the empirical work reviewed makes no explicit mention of a theoretical base. Further, critical studies which examine the pedagogical and educational implications of the use of OER and engagement in OEP are even less common (Knox, 2013).

In this review, we found a total of 33 different theories or combinations of theories applied in the literature across the 65 works reviewed. Several of the papers made little explicit mention of an established educational theory. These were coded as applying *openness as a theory*, either in developing new ways to frame the phenomena or building on recently proposed theory discussed below. Where theory was applied explicitly, the most common ones include activity theory, constructivism, social justice theory, and scenario-based approaches to learning. Several other well-known theories have been applied and are listed in Table 2. Each piece of the reviewed literature is represented once below. The table displays the theory referenced in the work or the combination of theory referenced together. The table is not intended to show a hierarchical relationship between theories. It rather clusters theory that has been used in combination with others on the left side, and shows additional theories applied in each study on the column to the right. It should be noted that, in some cases, the theory might have only been referenced as a heuristic for the research and not necessary applied systematically throughout the study.

Of those studies that did not explicitly reference an established theoretical framework, several new theories emerged related specifically to open education. Theories that appear to be developing in the space of open education research include Big OER vs. Little OER (Weller, 2012), a conceptual framework of open educational practices (Masterman & Chan, 2015), the OER engagement ladder (Masterman & Wild, 2011), and the Open Educators' Factory (OEF) framework (Nascimbeni et al., 2018; Nascimbeni & Burgos, 2019). Beyond these more explicitly defined theories, several authors have situated their work in the idea that OEP enhances access to education while others have framed this from a cost saving perspective, both equating to greater access to learners. Others have argued that OEP provides a means to developing open culture ecologies that include digital and copyright literacies. The largest implied theory that emerged from the literature was that of openness stimulating pedagogical change. This emerged based on the new possibilities available in teaching and learning because of the availability of open resources, open publishing platforms, new ways of collaborating openly, and the possibility for both educators and learners to create knowledge to engage broader audiences. These theories appear to be in the early stages of development and do not cite a single source in their use, although resources such as the 2030 Agenda for Sustainable Development is often referenced as a founding document (UN General Assembly, 2015).

Table 2

Theories Applied in the OEP Literature

Theory Identified in the Literature	Additional theory (if identified)	Additional theory (if identified)	Count
Activity theory	Activity theory alone		4
	+ Affordances		1
	+ Self-regulated learning		1
	+ Social realism		1
	+ Social inclusion and agency		1
Boyer’s multidimensional model			1
Communities of practice			1
Constructivist pedagogy	Constructivist pedagogy alone		1
	+ Networked pedagogy		1
Content repository drop-off			1
Kleine’s choice framework / active citizenship framework			1
Knowledge sharing and social exchange theory			1
Learning design theory			1
Learning through participation and knowledge creation			1
Openness as a theory	Big OER versus Little OER		1
	Conceptual framework of open educational practices		1
	Enhancing access to education		4
	Literacy and copyrights education as epistemology / Open Culture Ecologies		5
	OER engagement ladder	OER engagement ladder alone	1
		+ Openness as pedagogical change agent	1
	Open educators’ factory (OEF) framework		2
	Openness as a cost saver		2
	Openness as pedagogical change agent	Openness as pedagogical change agent alone	16
		+ Computer-supported collaborative learning	1
		+ Institutional/structural factors	4
		+ Learner agency	1
		+ Learner agency	1
Personalised and social learning			1
Scenario-based approach to learning			2
School change and reform			1
Social justice theory			2
Sociocultural and social realist theories			1
Teacher motivation and self-efficacy			1

Methodological Approaches to Investigating OEP

For researchers interested in the ways in which openness are impacting teaching and learning practices, it has been suggested that "openness is the enemy of knowability" (Beetham, 2011, p. 7). This is due to the open, flexible, and unstandardized ways in which access and usage of OER occurs (Harley, 2008; Pulker & Calvi, 2013; Weller et al., 2015). Researching the impact of openness on educational practices and outcomes represents an even greater challenge, as issues related to data protection combined with the nebulous nature of OER usage create a challenging landscape for conducting research (Weller et al., 2015). Consequently, a number of scholars have suggested more empirical research into the phenomenon is needed (Beetham et al., 2012; Borthwick & Gallagher-Brett, 2014; Camilleri et al., 2014; Pitt, 2015; Littlejohn & Hood, 2016).

Researchers have taken several different approaches to exploring the impact of OER on teaching and learning practices. Quantitative metrics such as web analytics which track user access to resources have been used to determine the impact and usage of OER resources and repositories. These metrics are often combined with other data sources such as document analysis (Rodgers, 2011), surveys (MIT, 2011), or in combination with qualitative methods (Petrides, Nguyen, Kargliani, & Jimes, 2008; de los Arcos, Farrow, Perryman, Pitt, & Weller, 2014). Analytics which display anonymous access to resources alone does not reveal much about the extent of that access on teaching and learning processes. Leslie (2010) sought to develop ways in which individual resources could be tracked, thereby revealing their evolution and sites of reuse. Again, the challenges to gaining accurate and usable reuse data are inherent in the freedoms granted through OER. OER may be taken offline, format shifted, edited, or fragmented making persistent tracking problematic.

Conversely, individuals engaging with OEP are often quite willing to connect, discuss, and share their practice. This is evident from the active social media activity and numerous annual conferences organized around open education. Several researchers have attempted to investigate the openly accessible online artefacts and discourses related to open education found on the web. Examples include critical discourse analysis studies on OER project websites (Dos Santos, 2008); discourse analysis of popular media coverage of open education (Bulfin et al., 2014); analysis of conference proceedings for the annual OpenEd conference (Kernohan, 2015); content analysis of research articles specifically relating to OER (Weller, 2016); and content analysis of Twitter activity generated about open education (Baker III, 2014; Paskevicius et al., 2018).

Among the studies reviewed, we found a variety of methods used for investigating OEP related to teaching and learning. In total, 21 studies used content analysis as method of inquiry, nine using content analysis alone, one combining content analysis with a focus group, two combining content analysis with interviews, one using content analysis in combination with network analysis, one using content analysis, focus groups, and interviews, four combining content analysis, focus groups, interviews, and surveys, and three using content analysis, interviews, and surveys. Five studies used focus groups, two of which combined focus groups with interviews and three using focus groups and surveys. Interviews were used in 23 of the studies, 12 of these used interviews alone and 11 combined interviews and surveys. Surveys were used in 13 of the studies, 12 of these used surveys alone and one combined surveys and focus groups. Finally, two studies used a quasi-experimental research design and one used a learning design analysis approach.

Surveys have been used often to gather feedback on the attitudes and beliefs of educators engaging with OEP (Andrade et al., 2011; Van Acker et al., 2014; Jhangiani et al., 2016; Tur et al., 2016). Surveys are excellent tools for gathering sentiments and trends, allowing the researcher to access a large population of people. However, there are limitations when using a survey if the goal is developing a detailed understanding of a phenomenon (Creswell, 2013). While open-ended questions may be used as part of a survey there is no way to ensure participants provide an answer or probe deeper if they do. Jhangiani et al. (2016) noted a low response rate for open-ended questions in their survey, while Andrade et al. (2011) recommend a deeper and in-depth analysis of qualitative data in order to better understand the perceptions and interpretations around OEP.

Some researchers used content analysis in addition to other methods to deepen their inquiry into OEP. Content analysis was conducted based on open course material, an educator's written or recorded reflections of engaging with OEP, the analysis of student works created, or reviewing learning design documents and descriptions. The use of content analysis as a method was often combined with other qualitative approaches. Content analysis of OEP artefacts represent important contributions to the body of research on open education and employ methods which are in effect made possible by data sources which have been created as a result of educators and researchers engaging in more open practices (King et al., 2016).

Many researchers have adopted qualitative methodologies while investigating the experience of practitioners engaging in OEP. A qualitative approach is particularly useful when investigating changes to educator and learner's practice and the lived experiences enacting that change (Masterman & Wild, 2011). Interviews are popular methods for gathering qualitative data which seek to explore an educator's perceptions of OEP. Several researchers have conducted interviews with goals of: understanding what factors influence engagement with OEP (Alevizou, 2012; Wild, 2012; Beaven, 2013; Masterman & Chan, 2015; Masterman, 2016); determining the impact of OEP on pedagogy (Porter, 2013; Littlejohn & McGill, 2016); and the impact of OEP on learners (Hodgkinson-Williams & Paskevicius, 2012). Interviews are often conducted by asking open-ended questions which allow for an in-depth and unstructured discussion with participants. Interviews should enable participants "to discuss their interpretations of the world in which they live, and to express how they regard situations from their own point of view" (Cohen et al., 2007, p. 349).

Using a combination of surveys and interviews is also a popular approach in the literature. This mixed-methods approach can be used to invite interview participation after the completion of a survey to verify emergent ideas and develop working theories (Creswell, 2012). For example, surveys may be used to generate an initial dataset which can then be probed and expanded upon further during interviews. Noting that all methods have their strengths and weaknesses, Gray (2014) suggests considering mixed methods to balance out weaknesses in any single data collection process through methodological triangulation.

Computer-mediated qualitative data collection techniques are becoming increasingly acceptable considering technological developments (Ruhleder, 2000; Stewart & Williams, 2005; Salmons, 2010; Nehls et al., 2015). Interviews may be conducted online through synchronous communication tools allowing participant to see and hear one another, share their screens, and exchange text and other multimedia resources. This emergent method of conducting interviews has been taken up by researchers of OEP (Lane, 2010; Beaven, 2013). There are several advantages and disadvantages to conducting interviews via this medium. For both interviewee

and interviewer, this method is convenient and saves potential travel costs to the research site thereby creating greater access to remote interviewees (Salmons, 2011). Another advantage of conducting synchronous online interviews is the ability for both participants to see each other as well as share their computer screen, allowing them to demonstrate or share something visual. This may be useful in the case of reviewing artefacts which interviewees would like to show as part of the interview, which may add richness to the data and allow for content analysis (Beaven, 2013). Recording of the audio, video, and artefacts captured through screen-sharing can be done quite simply and unobtrusively in these environments either through built-in tools or screen recording software. Conversely, facilitating and participating in online synchronous interviews may be new to some participants which could negatively impact the interview process (Nehls et al., 2015). Technical challenges also present potential disadvantages and may impact the interview. As interviewee and interviewer do not share the same space, there is a further potential for distraction, or miscommunication either through body language or verbal communication. Despite these challenges, and certainly accelerated through increase in synchronous online meetings due to COVID-19, this method represents a sensible approach to conduct research into OEP that allows the researcher to cast a more geographically dispersed and potential more diverse sample of users.

Discussion

Cohen et al. (2007) have argued that while areas of research such as the natural sciences, are characterized by a high degree of sophistication; theory around open education remains in the early stages of formulation. While that idea seemed to be confirmed through this literature review, there appears to be a new rationale emerging for inquiry into OEP. This rationale was often detailed in the literature review section of papers providing context for the research. In the absence of explicit theory referenced among many of the studies reviewed, the notion of openness as a change agent often surfaced. Openness as a motivator for change was associated with several different outcomes: those based around the cost of education, access to educational experiences, openness as a source of pedagogical innovation, or providing exceptional learning experiences for our students. These ideas could be more explicitly linked back to theories of change management, technological affordances, theory that explores structure and agency, innovation theory, or those more established educational theories such as social constructivism, the zone of proximal development, or experiential learning. Even more so, there is an opportunity to ground the phenomenon of OEP to more modern educational theory such as that of connectivism or online communities of practice/inquiry. We believe it important that theoretical contributions involving OEP acknowledge, are situated within, or develop established educational theory.

There is a significant opportunity to contribute to the body of research on OEP and develop theory that would strengthen arguments across the research and open opportunities for further research. As learning designs become more openly accessible, there may be an opportunity to examine learning experiences through trace activity data. As many of the artefacts created through OEP are largely openly accessible, emergent practices such as the examination of web analytics and content analysis of online artefacts and social network analyses of online discussion are made possible. This gives rise to the opportunity for examining OEP from a student perspective, to investigate how learners engage with openness, and how this impacts learning and development.

Data collected from individuals using surveys provides an initial source of data to design further qualitative research using more in-depth interviews or focus groups. The potential for combining data from a variety of sources, as well as using novel approaches for collecting qualitative data provide an exciting landscape for research. New contributions to open data and the sharing of research, research instruments, and datasets more broadly through open access journals presents an interesting opportunity to triangulate results.

By itself, OEP appears to be about change and new forms of teaching and learning practices. Could we as researchers find a way to leverage existing theories of change to better describe and unpack these phenomena? If openness stimulates pedagogical change, what new issues and considerations arise over time as educators change their practice and learners engage in new ways? Researchers may consider being more explicit about acknowledging existing educational theory and developing theory to explain open education phenomenon. As Kalir (2020) articulated in a recent paper, one approach is a combination of developing theory to explain the complexities inherent in OEP combined with an established theoretical base appropriate for the unit of analysis.

Limitations

Not all of the scholarship in this area may have been captured through the literature review due to limitations around the use of consistent keywords for this phenomenon. As well, this study did not include a review of the grey literature such as scholarly blogs where stories of shared practice around OEP are available. There are some significant synergies in the literature between the concepts of OEP and “networked learning” or education designs which build upon “web 2.0” principles and this additional literature was not included in this review. The primary difference between the practices associated with networked learning and OEP is the explicit inclusion of open education literacies and the action of making works openly available in the latter. Networked learning practices introduce several key literacies to learners for working and collaborating on the web. OEP extends those literacies to include the practices of open collaborative knowledge formation and the sharing of works using appropriate copyright models such as Creative Commons and the public domain to support greater access to knowledge (Dohn, 2009). Further research is needed to determine what additional value OEP might add beyond that of networked learning designs and it would be interesting to explore if networked learning has evolved into OEP or remains a field on its own. Finally, only articles written in English were considered as part of this study.

Conclusion

Several researchers have suggested further research is needed to understand the pedagogical implications of OEP (Beetham et al., 2012; Knox, 2013; Camilleri et al., 2014; Pitt, 2015; Littlejohn & Hood, 2016). The OER movement has been successful in creating awareness of the potential for the creation, sharing, and adoption of educational artefacts under open licenses. In defining this movement merely in terms of OER and their usage, rather than focusing on the practices and knowledge associated with OER, insights may be lost (Hope, 2015). Our intention is that this paper prompts research design considerations for future scholars interested in investigating the phenomena around open education.

Author's Contributions

MP conducted the literature review, designed the study, analyzed the results, and prepared the findings. VI provided guidance, review, and feedback throughout all aspects of the study. Both authors read and approved the final manuscript.

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Ethics Statement

Please identify whether ethical approval was obtained for the work described in this article. If not, please identify whether a waiver was received or if an ethics review was not applicable. Please provide the assigned editor with evidence of a waiver, confirmation from a review board that it was not required, or contact the editor to discuss this further.

Conflict of Interest

The authors do not declare any conflict of interest.

Data Availability Statement

The data for this study resides with the correspondence author. Access to the data is possible through an email request.

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Reconsidering the Mandatory in Ontario Online Learning Policies

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Abstract

In March 2019, the Ontario government announced that commencing in 2023-2024, secondary school students (Grades 9-12) would be required to gain four of 30 graduation credits through online courses. At the time of the policy pronouncement, these four credits (or courses) would become the first mandatory online courses in Canadian K-12 education. The policy decision and process were challenged publicly, and the educational context changed quickly with the ensuing contingencies of the global pandemic. The policy was subsequently revised and, at present, Ontario requires two mandatory online secondary school credits for graduation, which is twice the requirement of any other North American jurisdiction. In this study, the researchers employ a critical policy analysis framework to examine the concept of mandatory online learning in Ontario through multiple temporal contexts. First, they examine Ontario's mandatory online learning policy prior to the shutdown of Ontario schools during the 2020-2021 global pandemic. Next, they examine aspects of Ontario's mandatory online learning policy in K-12 during the emergency remote learning phase of the pandemic. In the final section, the authors provide a retrospective analysis of the decisions around mandatory e-learning policy and explore policy options going forward for mandatory e-learning in the K-12 sector post-pandemic.

Keywords: mandatory online learning, critical policy analysis, k-12 education, technology-enabled education, emergency remote learning

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Introduction

This paper reviews the research process and findings from a critical policy analysis of a mandatory e-learning policy in Ontario, Canada. Prior to the global pandemic, the Ontario Ministry of Education (ONMoE) announced that secondary school students in Ontario would be required to take four online courses in order to graduate, commencing with the 2023-2024 graduating cohort (ONMoE, 2019a). At the time of the policy pronouncement, these four courses would have become the first mandatory online courses in K-12 Canadian education. There were mixed responses from the public to the original policy pronouncement. Ontario's e-learning policy has undergone multiple changes since that time, in part in response to the global pandemic. The researchers employ a critical policy analysis framework of their own design to examine elements of Ontario's mandatory e-learning policy. Findings are reported relative to multiple contexts: a) the pre-pandemic context of the 4-course mandatory e-learning policy pronouncement; b) mandatory policy during the emergency remote learning phase; and c) the context of e-learning predictions post-pandemic in Ontario. In closing, the authors weigh the policy imperatives, lessons learned, and policy options for e-learning in the K-12 sector going forward.

Responsibility for Canadian education rests with its individual provinces and territories. Ontario is Canada's most populous province with close to 15 million citizens and a reported student enrolment of just over 2 million students, representing approximately 43% of the reported Canadian students K-12 in public schools at that time (Statista, 2020). Decisions about mandatory aspects of e-learning and as a graduation requirement in Ontario schools impact significant numbers of Canadian students, educators, and families and, as such, merit scholarly attention and careful analysis.

Critical Policy Analysis in Education

This paper focuses on the mandatory aspects on Ontario e-learning policy prior to, during, and post-pandemic. Policies are the actions—or inactions—of authorities in response to problems. Fowler (2012) explains that various definitions of public policy refer to decisions or chains of official decisions that include values. She sees policy as a dynamic process where a political system handles a public problem, complete with observable patterns of both activity and inactivity.

Policy analysis is defined as "the disciplined application of intellect to public problems" (Pal, 1992, p.16). It does not rely on one research method but applies various research methods in order to understand policy issues and the processes that go into policy design (Yanow, 2007). Those who analyze policies try to *make sense* of them and discern *what problem the policy is designed to address*. In other words, policy analysts want to understand what is going on. Policy analysts consider what is happening in society in general, considering both the historical lens and the long view. They seek to discern a policy's impacts, including its intended and unintended consequences. Policy analysts collect information about the policy in an organized way and consider broader policy outcomes such as equality and efficiency. To this end, policy analysts consider whose interests are being served by the policy and whose interests may be constrained by a policy, and whether or not those expected to comply with a policy have choice in whether or how they implement the policy. Choice is an important element in policy implementation because it allows policy actors to meet the diverse needs of their constituents. In the case of K-12 educational policy analysis, it is important to consider whether the policy allows decision-making close to the source of potential problems with the policy (e.g., at the

school or district level) to meet local needs. According to Yanow (2007), policies should allow both choice and agency for those impacted by the policy.

Stone (2002) argues that policy cannot be separated from politics. The role of policy analysis is to show how policymaking has deviated from rational analysis. Policy analysts raise awareness of a policy's more political aspects and challenge its objectivity. Policies reflect goals and values which constitute "a struggle over ideas" (Stone, 2002, p. 11). Every policy impacts equity and democracy and the deconstruction of policies should not lead toward simplistic explanations, but consider policies in their complexity (Stone, 2002).

Vidovich (2001) encourages an examination of the contexts surrounding a policy: *the context of influence*, *the context of text production*, and *the context of practice*. Analysts consider the prevailing political conditions, the policy elite, and those whose interests are most powerful. In the context of the policy text production, analysts should ask whose interests a policy is intended to serve, whose voices can be seen in the text of the policy, and whose are excluded. The context of practice is significant for education, as policies can be interpreted differently in different contexts (Vidovich, 2001).

Within different contexts, policies can change over time. This shift has been termed the *trajectory* of a policy (Ball, 1994; Gale, 1999). In investigating policy trajectories, researchers consider people's perceptions and experiences with the implementation of a policy. The term trajectory assumes that policy texts are "not necessarily clear or closed or complete" as written (Ball, 1994, p. 16). One analytical strategy is to look at the space between the origins of a policy and its possible influences. Policy analysts seek clarity of both intention and potential impact.

In 2011, Ball and colleagues introduced the term "policy actors" to describe the work of persons who "do" the policy work in schools, describing them as both the receivers of the policies and those who will enact the policy. Some policy actors are enthusiastic about policies and champion them, while others are critical of the policies (Ball et al., 2011). Policy actors can be influenced in the policy implementation process through incentives and the provision of support. There are various tools that governments can use to promote their educational agenda. Steer et al. (2007) refer to these mechanisms as "policy levers," or the mechanisms through which governments ensure that policies are implemented. In summary, policy analysis is the detailed and disciplined examination of policy that includes consideration of multiple theoretical constructs and terminologies (see Table 1).

There are similarities and important distinctions between policy analysis and critical policy. According to Diem et al. (2014), traditional policy analysis is generally viewed as neutral and value-free with a reliance on scientific measurement. Emerging more recently, critical policy analysis is deliberately informed by multiple perspectives and theoretical underpinnings. Diem et al. (2014) explain critical policy work simply as policy work that acknowledges contexts, values, contestable problems, research findings, and multiple solutions. While recognizing that all critical policy analysis is not the same, they observe that the most common purpose given for policy analysis is to "interrogate" the process of the policy and the players. Critical policy analysis is a tool to question policy work. Diem et al. (2014) identify five fundamental approaches that are seen in "a great deal" of critical policy work (p. 1072):

1. Critical policy analysis examines the difference between policy rhetoric and the reality of practice.

2. When examining the roots of policy, critical policy analysts examine its role in maintaining the dominant culture.
3. Critical policy analysis concerns itself with the distribution of power (as in who gets what).
4. Critical policy analysts consider whether a policy reproduces social inequalities or disrupts them.
5. Critical policy analysts include the voices of under-represented groups.

Critical policy work is purposeful, and its analyses are seen as having breadth and depth (Diem et al., 2014). One of the aims of critical policy analysis is to identify disparities between policy texts and the realities of a policy's impact on actors. Researchers in the critical policy analysis field share understandings that policy is messy, complex, and political (Winton, 2020). Based on the literature, the authors have designed a Critical Policy Analysis Framework to guide their systematic approach to researching policies.

Table 1

Critical Policy Analysis Framework

Policy influences	Policy texts	Policy processes	Critical policy analysis
Assumptions, Belief systems Stance: traditional vs contemporary Political, economic & social influences Context of influence	Legislation Memos Curriculum Context of text production, rhetoric, discourse	Policy trajectory Policy actors Policy levers Context of practice Policy responses: compliance, non-compliance Context of practice	Policy history, complexity and implications Policy vacuums/gaps Rhetoric vs reality Policy alternatives Policy compliance and resistance
Who has (traditional) power and voice in the policy process? Who is missing?	What is the stated public problem that the policy addresses?	What are the intended and unintended repercussions?	Who has power? Who benefits (is marginalized)?

Note. Adapted from "Coming Soon to a Device Near You: A Policy Analysis of Mandatory Online Learning," by L. Robertson and P. Muirhead, 2020, *Proceedings of The 11th International Conference on Society and Information Technologies (ICSIT 2020),* p. 21.

Context 1: Four Mandatory Credits

In March 2019, Ontario's Conservative government announced a policy agenda to modernize classrooms, including multiple changes such as: a) expansion of access to broadband internet to rural and remote areas; b) the intent to centralize the delivery of e-learning courses; c) updates to the Provincial Code of Conduct to restrict the use of cell phones and hand-held mobile devices during instructional time; d) an intention to revise provincial assessments; e) proposals to increase class sizes in Grades 7 to 12 from 22 to 28; f) the requirement of four mandatory online courses for secondary school graduation; and g) the intent to increase class sizes for online courses to 35 students (ONMoE, 2019a). Ball (1994) describes policies as "textual interventions into practice" (p. 18), and the March 2019 policy announcement had

considerable implications as an intervention into practice for secondary school operations in Ontario. Elements of the policy pronouncement were not universally welcomed. For example, a policy analysis by the authors regarding the policy direction to restrict the use of cell phones and devices in Ontario schools raised multiple issues (Robertson et al., 2020). Primary among these was the consideration that cell phones offer ways to address the technological digital divide (Gorski, 2005) as phones are the sole digital device in many North American homes. Secondly, multiple jurisdictions employ cell phones successfully for learning. The authors recommended that policy decisions surrounding the uses of phones and devices in schools should be considered in their complexity and in light of research findings, as new technologies offer both affordances and risks (Robertson et al., 2020).

The present policy analysis focuses on the decision to mandate four online courses for. The impacted online courses, or e-learning courses, were not the traditional correspondence type of "distance education" courses (Barbour & LaBonte, 2019). The Provincial e-Learning Strategy (ONMoE, 2013) predates the present Conservative government in Ontario. This strategy defines e-learning as the use of tools from the provincial learning management system (LMS) where there is a scheduled distance between the e-learning teacher and the student. The distance can be temporal or geographic. The e-learning courses offered in secondary schools were asynchronous, with the understanding that e-learning teachers were available to support students at scheduled times. School districts had access to a provincial LMS with standardized e-learning course content. Districts organized the delivery of e-learning courses and some districts formed consortia for sharing content and courses. The provincial e-learning strategy stipulated that the class sizes and student-to-teacher ratios should reflect the "applicable collective agreement" (ONMoE, 2013).

The Conservative government came to power in 2018 in Ontario. At the time of the March 2019 announcement of the four mandatory e-learning course requirements, the number of secondary students enrolled in e-learning courses in Ontario was approximately 5% (Kapoor, 2019) compared to 8% of post-secondary students who enrolled in online higher education courses (Bates, 2018). Calculations by Barbour and LaBonte (2019) indicate that, if the four-course mandate was realized, three out of four students engaged in online learning in Canada by 2023-24 would be from Ontario. Barbour and LaBonte (2019) also projected that the four-course mandate would result in a ten-fold upscaling of the e-learning system in Ontario, creating significant implications for curriculum and staffing. At the time of this mandatory four-course proposal, the technological infrastructure to ensure that all students could access online courses was not fully in place. School districts were at different stages of school-based technology implementation in their schools. In addition, prior to the pandemic, a small percent of parents had students in e-learning courses, but the majority of parents were not familiar with the realities of e-learning before the policy decision was announced. These were factors in the context of the text production as defined by Vidovich (2001).

Implications of Four Mandatory Courses

One group of policy actors, namely the Ontario Secondary School Teachers Federation (OSSTF), responded with concern. OSSTF represents 60,000 secondary school teachers in public schools in Ontario and its membership also includes occasional teachers, educational assistants, social workers, and many others. Their analysis indicated that the requirement for four mandatory online courses would reduce full-time equivalent secondary school teaching positions by 25% by the 2022-2023 school year. The proposed change would cause significant increases to class sizes, decreases in course options available to students, the cancellation of programs, and potential closures of rural schools that would be unable to provide the minimum

core programs. OSSTF also predicted that close to half of Ontario's small-sized secondary schools would lose teachers qualified in languages, computer science, and technology, thus creating shortages of qualified teachers for 44% of mid-sized secondary schools and 33% of large-sized secondary schools (Ontario Secondary School Teachers' Federation, 2019).

People for Education (2019) described the proposed policy change of four mandatory courses as a significant policy change that would have a direct impact on all students in secondary schools. They advised a cautious approach to mandatory online learning. They asked the government to explicitly state the reason for the mandatory online courses and requested more communication and consultation with stakeholders. People for Education also noted that Ontario was the first education authority in North America to require four e-learning courses for graduation, a four-fold increase over any other North American K-12 jurisdiction (People for Education, 2019).

At times the rhetoric was more pointed. In December 2019, the Catholic teachers' union accused the government of an "ideological agenda to cut spending and demonize educators" (Stuart, 2019, para. 1), contrasting with public support for the proposal from the Fraser Institute, who argued that the proposed cuts to Ontario education would bring the education budget to 2016/2017 funding levels by 2023/2024 (MacLeod & Emes, 2019). While both organizations have held longstanding beliefs about educational delivery options and resources, in the eyes of the public the proposed increases in class size, the mandatory e-learning requirement, and concerns to protect full-day kindergarten became conflated as they sought to protect schools (Dhanraj, 2019). Parents were concerned about larger class sizes and the potential loss of programs. This conflation is not unrealistic, as there is precedence in other provinces. In British Columbia (BC), for example, the Distributed Learning (DL) system for online courses is managed by the BC Ministry of Education. According to the BC Teachers' Federation,

> The teaching conditions in DL are little regulated. DL teachers are explicitly excluded in the *School Act* from the class-size provisions, and the conditions of work are not covered by the BCTF collective agreement. A few districts have reached a de facto set of principles on staffing, but those are limited in applicability. (BC Teachers' Federation, 2017, para. 4)

In 2018, the newly elected Conservative government in Ontario opened a public consultation on class sizes that concluded in February 2019. The actual results of the consultation were not made public but plans to increase class sizes were posted under the heading "Class Size Consultation Guide" on the ONMoE website, indicating post-consultation that the government intended to increase class sizes (ONMoE, n.d.a). In March 2019, the government proposed that secondary class sizes would increase from 22 to 28 in secondary schools (ONMoE, 2019a). In November 2019, however, the government announced instead that there would be one additional student in Grades 4-8 and a half student added in secondary classes. To mitigate the projected staffing reductions, a $1.6 billion fund would be set up for teacher job protection so that the staffing reductions could be managed through retirements and voluntary leaves (MoE, 2019b). Parents who participated in the consultation reportedly had overwhelmingly requested that class sizes not increase (Dhanraj, 2019).

Impacts on Graduation Rates

The shifts in policy on class size during this time period caused unrest in a stable system with strong completion rates for secondary graduates. The ONMoE (n.d.c.) reported that, as of August 31, 2019, 87.2% of Ontario students were graduating in five years and 81.4% in four

years. The Higher Education Quality Council in Ontario reported they would find it hard to think of a bigger change for education than the improvement of the Ontario secondary school graduation rate from 13% in 1967 and 56% in 1987 to the present (Gallagher-Mackay & Brown, 2021).

In seeking related research, the authors find there is a paucity of data on success rates for mandatory online learning. No other provinces or territories presently require a mandatory online course for graduation (Barbour & LaBonte, 2019). The BC completion rate for students taking one DL course initially dropped but rebounded by 2012-2013 to be comparable with students not taking an online course (Barbour & LaBonte, 2019). Six American states with virtual schools require a single online course for graduation. There were reportedly 478 virtual schools in 2013-14 in the US and almost all were administered by school districts (National Center for Education Statistics, 2014). Michigan was the first state to require an online course in 2006; however, students in Michigan can meet this e-course graduation requirement by undertaking 20 hours of instruction in their brick-and-mortar classroom using online resources (Michigan Virtual University, 2018).

A 2019 research report on the pass rates of Michigan virtual courses does raise some concerns with respect to equity of outcomes for students of diverse backgrounds (Freidhoff, 2019a). For the 600,000 students enrolled in virtual courses in Michigan, the overall pass rate was 55% and two-thirds were students from poverty. The differential outcomes for these students were concerning. Students from poverty in brick-and-mortar courses had a 70% pass rate, which is 21% higher than peers in virtual courses (Freidhoff, 2019a). In general, Michigan's experience has found that, while 75% of students adapt to online learning, 25% do not (Freidhoff, 2019b). The more successful students demonstrate good time management, independent study habits, and technological preparedness (Michigan Virtual University, 2018). These findings indicate that, going forward, pass rates and graduation rates for differentiated groups need to be carefully monitored during the implementation phase.

Technological Infrastructure

Technological infrastructure is a consideration where the context of practice and the impact of a policy intersect. The ONMoE announced a commitment to guarantee broadband for all Ontario students by 2021-22 (ONMoE, 2019a). Almost all (97%) of Canadian schools have had access to the Internet for some time (Statistics Canada, 2009); however, broadband access is not a "given" for every home. A report by the Canadian Radio and Broadcasting Corporation (CRTC) (2020) indicates that 87.4% of homes in Canada have high-speed internet access, but this average drops to 45.6% in rural and remote areas. Internet access is not equivalent to having the internet as there is a cost factor that not every family can meet when materials must be downloaded for multiple students. For mobile long-term evolution (LTE), the divide is less narrow as 99.5% of Canadians have LTE access and 97.4% of the rural population has access. Another consideration is that Ontario has significantly less free Wi-Fi hotspots than other provinces. For example, BC has more than three times the number of free Wi-Fi hotspots than Ontario (Canadian Radio-television and Telecommunications Commission, 2020). This directly impacts the context of practice where policy is enacted.

The requirement of mandatory online course credits for graduation alongside the simultaneous restriction of the use of cell phones and devices in schools presents a policy paradox (Robertson et al., 2020). Decisions regarding mandatory online graduation credits should reasonably consider the available technologies that impact decisions on course design and teacher support. Technology is gradually becoming more available and affordable. Decisions

about mandatory graduation credits should be based on data indicating that technology access and support have been achieved in equitable ways for all school districts, and that there is affordable and equitable internet access for all populations. These technology considerations should be a critical component of system planning in addition to providing broadband access in schools.

Adjusting to Two Mandatory e-Learning Credits

In November 2019, there was labour unrest and teachers' unions were on work-to-rule. Again, through a press release, the ONMoE changed their policy proposal, announcing that two (not four) online courses would be mandatory with exemptions for individual students and allowances for mini-modules to meet the e-learning requirements (ONMoE, 2019b).

In sum, there were multiple concerns with the proposed four mandatory online learning courses from those who would be charged with the policy enactment (e.g., policy actors) prior to the emergency shutdown of Ontario schools during the 2020-2021 school year. New, emergent aspects of "mandatory" emerged during the pandemic, which are analyzed in the next section.

Context 2: Mandatory e-Learning During the Emergency Shutdown

On March 12, 2020, due to the COVID 19 pandemic, the ONMoE closed schools with two-day's notice and schools remained closed until the end of the school year. The following September, when it appeared that in-person learning would not resume in the schools, the ONMoE published Policy/Program Memorandum (PPM) 164: Requirements for Remote Learning (ONMoE, 2020). The memo defines forms of remote learning for "public health emergencies, pandemics, natural disasters, or when other unplanned events force the closure of classrooms or schools." In the memo, "remote learning" is defined as learning at a distance, "synchronous learning" as learning that happens in real time, and "asynchronous learning" as learning that is not delivered in real time.

PPM 164 introduced multiple new aspects of mandatory online learning. The memo required school districts to provide all students with synchronous remote learning for the school year, commencing one month from the date of the memo which was issued August 13, 2020. Kindergarten students would receive 180 minutes per day of synchronous online learning and students in Grades 1-12 would receive 225 minutes per day. PPMs are policy levers in Ontario, as they are mandatory once published. These policy levers can be applied to ensure that policies are followed. They are tools that governments can use to direct and enforce policy change. For example, if learning with technology was an expectation for students and their progress to that end was reported on the Ontario Report Card, that could be considered a policy lever to increase pressure for the student use of technology. With PPM 164, school districts were required to ensure that parents were provided with schedules for the online learning and that teachers should provide differentiated assessment and instruction and "daily opportunities for meaningful feedback" (ONMoE, 2020).

Barbour et al. (2020) caution that, "the temptation to label everything that is not classroom-based learning as online learning…is prevalent" (p. 1). They further caution that, "this labelling of the teaching methods used when students are not attending in schools is highly problematic" (p. 1). The authors argue persuasively that there are key differences between emergency remote teaching and quality online learning. The significance of understanding the differences between emergency remote teaching and online education rests on assumptions regarding the preparation, delivery and training received by instructors to "teach" online. As Hodges et al.

(2020) observe, when considering the differences found in the rapid move towards offering instruction online (e.g., emergency remote teaching) and classroom-based instruction, the "typical" planning and preparation for teaching online takes months and includes multiple dimensions such as the modality (e.g., blended), pacing, pedagogy, assessment, and student and teacher roles. They argue further that decisions around class size limit the online strategies that can be used (Hodges et al., 2020). PPM 164 (ONMoE, 2020) was a policy lever that dictated the modality, pedagogy, minimum online contact time and assessment to be applied in emergency teaching without these important considerations around teaching online.

In the context of pre-, during, and post-pandemic, there were policy gaps and disconnects. Prior to PPM 164, the word "synchronous" did not appear in any Ontario curriculum policies. This term was added to PPM 164 as a definition in the remote learning context. PPM 164 requires that school districts provide platforms "to allow real-time communication" in remote learning (ONMoE, 2020). In addition, it states that, "synchronous learning platforms should include live video, audio and chat features and be fully accessible" (ONMoE, 2020). The memo suggests that digital tools could include "virtual whiteboards, recording features, participant polling features, and file uploading and sharing features" (ONMoE, 2020). As well, teachers are reminded to review school board cybersecurity and privacy protocols related to remote learning.

PPM 151 mandates the topics which must be addressed on teacher professional development days. This memo describes "how to deliver meaningful remote learning" in a single sentence (ONMoE, 2021a).

Including e-Learning Language in Curriculum and Policy Documents

The term "digital tools" is noticeably absent from secondary curriculum in Ontario, although there are references in early curriculum policies to "information and communications technology (ICT)" and "tools" for ICT. The revised curriculum policy titled, First Nations, Métis, and Inuit (FNMI) Education, states that technology is a tool to gather information (ONMoE, 2019c). This policy expands the listed digital tools to explain that ICT can help students with gathering, organizing and reporting data, and developing social skills through simulations and media production (ONMoE, 2019c), Earlier curriculum policies listed examples of tools such as "portable storage devices to store information, as well as DVD technologies, digital cameras, GIS maps, interactive whiteboards, and projectors'' (ONMoE, 2015, p. 55). In the newly created American Sign Language as a Second Language (ASL) curriculum policy, the section on ICT is a single paragraph that includes a new reference and link to digital literacy as a transferable skill without explanation or examples of digital literacy (ONMoE, 2021). It should be noted that both of these newer curricula mentioned are elective courses, and in the case of ASL, the curriculum policy has not been implemented yet.

Addressing Necessary Infrastructure for Mandatory Online Learning

A third area of concern is the lack of supporting infrastructure for a shift to mandatory online learning. Policy levers can establish enabling conditions for policy change such as incentives, awareness raising, capacity-building, vision, and engagement. Currently there is a paucity of policy levers to support a school district's implementation of technology-enabled learning. For example, developing technology skills is not an expectation, or curriculum outcome, in the K-8 curriculum policies. The word "technology" is part of the title of the Ontario Curriculum Grades 1-8: Science and Technology (ONMoE, 2007), but the learning outcomes of that curriculum do not include digital technology. Technology is featured in some specific curricula in the last two years

of secondary school, but there is an overall vacuum or policy gap in K-10 Ontario curriculum for technology-enabled learning.

Other policy levers that might be used to promote the use of technology for learning are muted or absent. On the Ontario Elementary Report Card, under Learning Skills and Work Habits, students are evaluated on how they "identify, gather, evaluate and use information, technology and resources to complete tasks" (ONMoE, n.d.b., p. 1). The use of technology for learning, collaboration, independent work, or even homework is not present on the report card. In the Canada and World Studies Curriculum for Grades 11 and 12, for example, references are made to using digital cameras and Geography Information Systems (GIS), but this curriculum lacks a focus on technology-enabled learning for inquiry and collaboration. In her 2020 report, Ontario's auditor general noted that 15% of Ontario's curriculum was developed 15 years ago and an additional 51% of curriculum was released 10 to 14 years ago (Office of the Auditor General of Ontario, 2020).

A key challenge faced by Ontario school districts is the disconnect between the use of technology in everyday life and its absence or simplification in the administrative policies and curriculum policies in Ontario. In a recent study in one school district, a teacher commented that the report card "really limits teachers because the current curriculum expectations are so outdated." Curriculum policies and administrative policies need to be aligned and current in order to engage policy actors in policy implementation.

Context 3: Future Directions

Critical policy analysis not only concerns itself with the analysis of public policy and its effect on individuals but also identifies policy gaps or discontinuity between the current state and future states or direction. Comprehensive policies are needed from the ONMoE to create certainty for planning by parents, teachers, and school districts. In this section, the authors examine indications from all three temporal aspects of mandatory online learning in Ontario (pre-post and future online learning) and they find that a number of policy gaps have emerged (see Table 2).

Table 2

Issues and gaps in mandatory online learning policies in Ontario

Key Policy Considerations	Context 1: Mandatory online learning proposal pre-pandemic (four mandatory credits)	Context 2: Mandatory e-learning during the emergency shutdown	Context 3: Mandatory online learning (future directions)
Policy influences Power and voice in the policy process Assumptions, Stance	MoE wants efficiencies through increased class sizes and 4 then 2 mandatory online graduation credits	MoE institutes emergency remote teaching Ministry of Health measures to protect public health	Proposals suggest uncertainty with respect to mandatory elements of online learning

Policy text including e-learning policy, general stance	Credit regulation for online courses (secondary)	Mandated synchronous learning Assumptions about online parent involvement and supervision	Role of TVO/TFO in development and delivery of online courses is uncertain
Policy context, actors, responses	Changes by MoE impact teachers, school districts, and consortia of school districts	Students, teachers, parents, families impacted by remote teaching Mixed parental and teacher responses	The roles of e-learning consortia, school districts and TVO/TFO in e-learning going forward is not clear
Critical policy analysis, history, complexity, gaps, alternatives, assumptions in the policy design, who benefits, does not	Intervention proposed in a working e-learning system with gaps in curriculum policy and missing levers to implement tech	Changing the modality without changing the curriculum or pedagogy	Lack of clarity surrounding quality online education should deliver in a technology-enabled society

In reviewing the key considerations surrounding mandatory online learning policies in the three contexts, a number of policy gaps and lack of coherence emerge. Table 2 summarizes the current state of mandatory Ontario online education. There is a lack of clarity regarding how future online courses will be delivered and how this requirement will be met. While the revised policy mandating first four and then two online courses preceded the global pandemic and was subsequently suspended during the period of emergency teaching, the most recent proposal from the ONMoE indicates an intention to expand the mandate of TV Ontario (TVO). TVO is an English-language, publicly funded educational television network. The proposal suggests that Ontario will move to centralize online course instruction further and seek efficiencies in course delivery. The official response from the Ontario Public School Boards' Association (OPSBA) advises the government not to move to a centralized delivery of online learning, citing the experiences of Michigan Virtual and the Alberta Distance Learning Centre (Abraham, 2021). The school boards' association rationale is that e-learning courses should be delivered closer to the actual students within their school districts. Ontario presently has an e-learning consortia model that is not-for-profit. More than three-quarters of Ontario school districts belong to these consortia which provide opportunities for students to enrol in online courses offered by their home district and other districts (Ontario Public School Boards' Association, 2021). In the ONMoE documents recently acquired by PressProgress (2021), questions have been raised regarding the future staffing and oversight of online student learning. This proposed development creates the potential for Ontario courses to be taught by third-party educators and institutions outside of present regulatory oversight.

It is unclear how the past 18 months of emergency remote teaching have impacted students, educators, educational planning, and online instruction in Ontario. While policies during the pandemic to mandate synchronous remote teaching during the closure of schools have undoubtedly increased the familiarity of teachers, parents and students with the affordances and constraints of using tech for learning, it remains unclear what or if elements of remote teaching will be incorporated into Ontario curricula or into professional practices when schools reopen for

face-to-face teaching in September 2021. As the authors observed, there is little mention of digital competencies in either curricula or in learning expectations reported to parents. It is concerning that a clear vision of technology-enabled learning has not emerged. Online learning should be moving from an emergency response to a variable pedagogy throughout education.

In considering the mandatory requirement for online courses, it is unclear how secondary students can opt out of mandatory online courses. The experiences from Michigan suggest that online learning, as it is presently envisioned, may need concerted efforts to ensure the success of students at risk, those with complex learning requirements and students requiring self-direction and organizational skills. Barbour and Labonte (2019) caution that, when e-learning is mandatory and no longer a choice, the government needs to put necessary steps in place to ensure that all students have access and connectivity. While the present ONMoE recognizes that mandatory online courses may not be appropriate for all students, these gaps between policy and implementation remain.

There is also a lack of clarity surrounding the definition of an online course. To date, while the policy creates a context for the implementation of the new mandatory requirement, there are implementation gaps regarding: a) which courses will or will be available for students online; and b) the nature or underlying philosophy and pedagogy regarding the development and delivery of such courses. The differences between teacher-supported online learning and fully independent online learning are less articulated. Questions abound regarding student, family, and school expectations, the type of learning content, levels of interactivity between learners and instructors (or among learners) and how learning will be assessed across the spectrum of course modalities. Thus, while the intent of the current online course mandate is clear—two online courses as a graduation requirement—the gaps between policy and implementation are considerable.

Online education is characterized by purposeful design, specific considerations about educational components, and the integration of technological applications from enrollment to learning management system, content repository, and synchronous and asynchronous tools to create a seamless learning experience. It is not the same as emergency remote teaching. The government needs to clarify TVO's proposed role in e-learning in Ontario. While policies such as further strengthening the role of the TVO could be seen as a means to ensure that Ontario has the knowledge and capacity to pivot more purposefully during the next public health crisis, the intent of this proposal is unclear and publicly contested.

Conclusion

In this critical policy analysis, the authors examined the policies regarding the Ontario government requirement of first four, then two online credits for secondary school graduation, the mandatory online policies during the shutdown of schools during the pandemic, and potential considerations for mandatory online learning in Ontario going forward. The authors find multiple disconnects between administrative and curriculum policies as well as multiple gaps between the rhetoric of trial balloons launched in news releases and the reality of policy enactment in schools. At the time of publication, criticism of these policy decisions in Ontario continues unabated. The Ontario English Catholic Teachers' Association indicates that 90% of parents surveyed by Angus Reid believe that students receive a higher quality of education in-person and in classrooms when compared to online learning; additionally, 75% of parents surveyed finding that online learning has negatively impacted students' mental health and social milestones (Ontario English Catholic Teachers' Association, 2021). Previous educational

research points to the reality that policy implementation is more supported through consultation and engagement than by mandates. Ontario needs to reconsider the mandatory aspects of mandatory online learning.

Author's Contributions

L. Robertson is the first author, first draft, and final draft. B. Muirhead and H. Leatham are research and contributing authors.

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Ethical approval was not necessary for the work described in this article.

Conflict of Interest

The authors do not declare any conflict of interest.

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Participation in OER Creation: A Trajectory of Values

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Abstract

This paper provides an analysis of interviews with seven faculty members who engaged in creating Open textbooks funded by government grants at a university in Canada in 2018. Using four values—access and equity, community and connection, agency and ownership, and risk and responsibility—identified by Sinkinson (2018), McAndrew (2018), and Keyek-Fransen (2018), we traced the ways in which university faculty members' understanding of Open changed through the process of Open Educational Resource creation. As a teaching support-focused unit, we explore ways to provide our faculty and instructors with meaningful opportunities to develop their Open pedagogy. These findings reconceive the way that Open Educational Practice can be promoted at our University and others. Instead of focusing solely on OER creation, our faculty started engaging in thinking through the different conceptions of Open educational practice and identifying which concepts resonated with them. By reframing the ways in which faculty thought about Open Educational Practices, we have been better able to address the ways in which we support them.

Keywords: open pedagogy, open educational practice, open educational resources, open education

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Introduction

Why do faculty decide to create Open Educational Resources? What motivates them to invest time and energy into the creation process? What values do they hold in relation to Open pedagogy, and how do those values change over time? These are the questions we explored with a group of faculty who engaged in creating Open Educational Resources with the goal of better understanding the shift from Open as an element of a teaching resource to Open as an approach to pedagogy.

In a series of three blog posts, Sinkinson (2018), McAndrew (2018), and Keyek-Fransen (2018) proposed four values associated with Open pedagogy: access and equity, agency and ownership, community and connection, and risk and responsibility. Coming from research conducted in 2018, this article offers an analysis of interviews conducted with seven faculty members who engaged in creating Open textbooks at a Canadian university.The interviews have been published as stories in the Ryerson Open Moments collection (Meger et al., 2020), and the analysis presented below is novel. Using the four values identified by Sinkinson, McAndrew, and Keyek-Franson, we traced the ways in which university faculty members' understanding of Open changed through the process of Open Educational Resource (OER) creation. Respondents reported a range of reasons for developing Open textbooks; our analysis suggests that through the process of OER creation and through learning about Open licensing, they encountered changes in their understanding of pedagogical practice in relation to Openness.

As a teaching support-focused unit, we are always exploring how we can provide our faculty and instructors with meaningful opportunities to develop their understanding of Open pedagogy. Our goal was to use our analysis of these shifts to help us improve the ways in which we promote and support Open education and Open pedagogy within universities. Our experiences supporting educators in adopting and creating OER led us to want to learn more about how the understanding of pedagogy develops as a result of participating in the creation of OER.

This research explores the shift in values as understood by educators adopting Open, from creation of a resource through to utilization of the resource and their journey therein. This study was guided by the question, in what ways do educators value Open in their teaching, and do educators shift their understanding when learning more about the Open Educational Resource creation process?

Literature

The evolution of the definition of Open Educational Practice (OEP) is closely intertwined with the creation and use of OER. Pitt et al. (2020), noted that Wiley (2014) suggested that the use of OER is a pre-condition for developing and adopting Open Educational Practice. There are many different approaches to defining Open pedagogy. Definitions that privilege access tend to focus on the adoption or creation of Open Educational Resources (Cronin, 2017). Open, in this context, is focused on the licensing, adoption, and potential re-use of resources such as textbooks. Czerniewicz et al. (2017) suggested that this narrows the focus of Open to the legal aspects of Openness. Beetham et al. (2012) advocated for a broader definition of Open Educational Practices that overlaps with the creation of OER. Specifically, they promoted an explanation that implicates practices that include sharing and collaboration, making knowledge publicly accessible, and expanding teaching and learning to Open networks. In our interviews with participants, we explored the changing dimensions of the meaning of Open for faculty engaged in OER creation.

To begin thinking through a framework for our analysis, we first turned toward DeRosa and Jhangiani's (n.d.) work in the *Open Pedagogy Notebook*. In it, they suggested asking a series of questions as you begin a journey towards Open Educational Practice: "What are your hopes for...higher education? ...How do you see the roles of the learner and the teacher? What challenges do your students face... and how does your pedagogy address them?" (DeRosa & Jhangiani, n.d., para. 1). In their presentation at the 2016 Open Education Conference, they explained that "Communities (not just content), Learner-Driven Education (not just assignments), Access (not just textbooks), and Public Contexts (not just preparation)" were the four components of Open pedagogy (DeRosa & Jhangiani, 2016, slide 5).

Conceptual Framework

Sinkinson (2018), McAndrew (2018), and Keyek-Franssen (2018), reflecting on their experience of Open Educational Practice as well as the further examination of definitions of Open pedagogy, articulated a framework that identified "the aspects of open pedagogy that most strongly resonate with us and our teaching values," including Access and Equity, Agency and Ownership, Community and Connection, and Risk and Responsibility (Sinkinson, 2018, para. 5).

Sinkinson (2018) framed these aspects of Open educational practice as commitments made by educators to their students, as described in Table 1.

Table 1

Values and Commitments of OEP

Value	Commitment
Access and Equity	*Reducing barriers that prevent equitable access to education, including economic, technical, social, cultural, and political factors.*
Community and Connection	*Facilitating connections across the boundaries of learning experiences, classrooms, campuses, countries, communities, and viewpoints.*
Agency and Ownership	*Protecting agency and ownership of one's own learning experiences, choices of expression, and degrees of participation.*
Risk and Responsibility	*Interrogating tools and practices that mediate learning, knowledge building, and sharing, and resisting the treatment of open as neutral.*

Note: Commitments quoted from Sinkinson, 2018, paras. 6–9.

By making these commitments to their students, Sinkinson, McAndrew, and Keyek-Franssen believed that students can be supported in developing the valuable habits of responsibility, curiosity, empathy, and participation. In our analysis, we focused specifically on the values of Open Educational Practice as reported by our participants.

As was mentioned in the literature review, the conceptual roots of Open Educational Practice began with a heavy focus in creating digital and accessible materials that were available to students at little-to-no cost, and this initial starting point of the field of Open has strong connections to the value of equity and access (Bali, 2017; Lambert, 2018). This is the commitment to reducing barriers that prevent equitable access to education, including economic, technical, social, cultural, and political factors. It embraces educational access, such as degree programs available both geographically and financially. In a blog post, Jhiangiani (2018) discussed the importance of OER in accessible education to highlight “the deepest and most important problems of our times, through an inclusive education for all that serves all” (para. 35). Access extends to the legal understanding of copyright and production that Open educational resources require. Further, there is a component of this value to encourage others to teach and learn in Open networks as well as reusing content in teaching and other contexts.

We were especially interested in exploring the value of access and equity. While open education has traditionally been situated within a larger frame of social justice in education, it has also more recently shifted into the mainstream, and with that increased popularity “has also been subjected to ‘openwashing’ by market forces” (Lambert & Czerniewicz, 2020, para. 2)

The next value identified by Sinkinson, McAndrew, and Keyek-Franssen is community and connection, which is a “commitment to facilitating connections across the boundaries of learning experience, classrooms, campus, countries, communities, and viewpoints” (Sinkinson, 2018, para. 7). In this value there is the potential for shared knowledge networks, collaborative and networked participation, the union of disparate learning spaces, and the creation of dialogue between all players in the educational process. Open education should “embrace collaborative knowledge creating participation educational models and experiential practices, mentoring and apprentices,” according to Corney (2006; as cited in Cronin, n.d., para. 9).

As a value, agency and ownership is defined as the “commitment to protecting agency and ownership of one's own learning experiences, choices of expression, and degrees of participation” (Sinkinson, 2018, para. 8). This is a key value for Open Educational Practice because agency and ownership empower learners to co-create knowledge, encourages collaboration between students and faculty, and facilitates learners playing key roles in the creation of OER. Creative Commons licensing provides content creators with the ability to choose the ownership level that feels the most comfortable.

> These licenses offer is a spectrum of intellectual property rights that allow lecturers to offer their work to others under certain specified conditions, starting from the most restrictive license that allows others to copy, distribute, display and perform copyrighted work to the most accommodating license which allows others to copy, distribute, remix and extend the original work – even commercially – as long as the original author is acknowledged. (Hodgkinson-Williams & Gray, 2009, p. 109)

The final value is risk and responsibility, which is defined as the “commitment to interrogate tools and practices that mediate learning, knowledge building, and sharing and to resist the treatment of open as neutral” (Sinkinson, 2018, para. 9). This value encourages Open education practitioners to think critically about their approach to Open education. Hodgkinson-Williams (2010) discussed Archer’s theory of *active agents* as a method to which instructors may choose to partake in OER. They noted that “Being an ‘active agent’ hinges on the fact that individuals develop and define their ultimate concerns, those internal goods that they care about most and ... [seek] to develop a course(s) of action to realize that concern by elaborating a project” (Archer 2007, as cited in Hodgkinson-Williams, 2010, p. 7).

Method

This study took place at Ryerson University (as it was known at the time). Between 2016 and 2019, faculty engaged in funded OER creation projects, with support from instructional designers, librarians, and educational developers. For these faculty, their concept of Open education was shaped by these OER projects. As such, their experiences have provided us with insight into how faculty members' understanding of Open Educational Practice can change over time through engaging with OER creation. Our initial goal was to capture descriptions of their stories that could be shared with others to help promote OER on campus; however, through interviews, we learned about the shifts that occurred in their understanding of Open education over time (Meger et al., 2020).

Prior to participant recruitment, the study was approved by the University's research ethics board. The research team included a librarian, an instructional designer, two staff from the learning and teaching centre, and a graduate student. A list of all faculty known to have created OER projects from 2016 to 2018 were invited to participate in the study. Of the 15 invitations to participate, seven respondents agreed to be interviewed, representing six OER projects. Participants included both sessional and tenured faculty members. All were new to OER when they began their projects, and all projects were completed by the time the interviews took place. The projects represented a range of outputs including Open case studies, textbooks, course packs, videos, and serious games. These faculty members represented a range of disciplines, including business, nursing, and academic writing.

Each participant was interviewed using a semi-structured interview protocol exploring their purpose for getting involved with OER creation, the experiences of the project, the reactions of the students, and the expected and perceived outcomes. Interviews were recorded and transcribed by hand. Participants were provided with the opportunity to review and approve the transcripts.

A thematic analysis of the interview transcripts used the values articulated by Sinkinson (2018), as well as emergent coding to identify unanticipated outcomes from participant narratives. Transcripts were read multiple times separately by each team member, followed by discussion to arrive at the themes representing value reported in the Findings. The focus of this paper is on exploring the trajectory of understanding in relation to the values of Open Education Practice that resulted from participation in OER projects. We were interested in exploring whether engaging in the process of OER creation can lead participants towards values consistent with Open Educational Practice.

Findings

Access and Equity

The majority of the instructors interviewed were not aware of OER at the beginning of their journey but had frequently used Open materials such as online journals and articles. One participant remarked, "financial accessibility is as much a mechanism as it is an outcome." Furthermore, many of the participants noted the importance of disability accessibility as well, one noting "that is what Open is supposed to be, available for many different individuals." One instructor had a passion for social justice and was concerned about the cost of learning supplies throughout the degree program in which she taught. This concern brought her to Open

education, and she learned that her pedagogy fit well within the concept of Open. Another participant described his pedagogy as an ethos that drives his choices towards Open, reusable, and flexible formats, which later he learned was part of Open. As an understanding of the equity within Openness, he also described the necessity of meeting students at their current level and supporting the students to their fullest potential.

> The students who suffer are usually the really good ones, unfortunately, because you end up spending a lot more time with the ones who have more questions, which makes more sense. And so, you end up leaving the ones who are fine on their own on their own, and I don't think that's a good way to push people to their fullest potential.

For another instructor, the pedagogic flexibility of digital and remixable resources allowed further use of scaffolded learning, providing more directed and curriculum-related content to the students. Overall, our participants found that providing course-based content in a variety of modalities that could be remixed and aligned with the needs of their students was beneficial for students of all levels and across all disciplines.

Community and Connection

Throughout our interviews, the majority of our participants indicated that they began their Open journey with equity in mind, and along the way discovered the benefit of community and connection. Creating Open resources requires the commitment of a community; however, these resources allow further collaboration among students and faculty alike. For one particular instructor, this value is fundamental to her pedagogy. The project of creating a full Open coursework package allowed her to explore the limitations of a digital environment and develop novel techniques of group work and collaboration. She said that "a video is just a video, but an activity and discussion bring that engagement to a new level." This project included detailed activities to be run directly within the classroom community; the learning itself could not be completed without this connection.

Participants indicated that they found that the Open modalities allowed students to collaborate more effectively. Furthermore, the creation of these resources allowed collaboration and community across disciplines to create superior resources. For instance, the game created by one instructor required the expertise of the instructor herself, game designers, instructional designers, and further community testers and graphic designers. All of the resources require a collaborative team and community of instructor creators and facilitate student collaboration and connection in the classroom.

In our analysis, we discovered that instructors moved through this value at some point during their experience regardless of their starting or ending value and the pathway there. For instance, in one project, a faculty member hoped to use the digital modality as a catalyst for free and accessible publications, but noticed this electronic format allowed for much easier collaboration across disciplines. A community of writers and creators was formed, and new connections were built during the creation of the final product. This instructor also collaborated with students across disciplines. This wide variety of understanding and experience allowed the final publication to include a more detailed analysis providing insights across disciplines and experiences than would have been possible otherwise.

Student collaboration also inspired another faculty member in the English department. Through a flipped classroom, this instructor was able to encourage students to create a learning community amongst themselves, thus encouraging discussion and sharing perspectives. Sharing perspectives was also a key value that another faculty member had when she explored the gamification of the study of food insecurity: since many of their students come from incredibly diverse backgrounds, the community and collaboration among students is integral to the formation of critical thinkers and future analysis in research.

Agency and Ownership

As the implementation of OER and OEP continue to develop throughout higher education, the question of ownership of material is a necessary conversation. Many of the instructors we interviewed spent time learning about Creative Commons licensing with librarians and other copyright experts. For one faculty member, the ownership of her intellectual property of the full course she had designed was incredibly important, not only for the credit of her own ideas, but also for future reference towards tenure and promotion.

This value of Agency and Ownership extends beyond just legal matters and other practical considerations. It also speaks to the agency that students have over their own learning and the ownership that students can take over their own learning materials. “We want students to be successful, to get the information quickly, efficiently, and at a low cost,” was a key point made by one participant. Another participant remarked that after their project had been implemented, that students were more engaged with the textbook and frequently referred to it on their phones or laptops during group work and activities. Most participants utilized student opinion and student support as they created their Open resources. They found that students who have an opportunity to choose their level of engagement with the material were able to take further agency for their work and their learning.

Risk and Responsibility

Although many of the participants were thrilled with the opportunity and the learning they had throughout the pedagogical development, the sense of risk was experienced on multiple levels. Creating new modalities and engaging with students in new ways inherently presents risks beyond the time commitment, curriculum design, and student engagement. Each of these risks allows for the avenue of instructors to take responsibility for the work and the design of the final product. Many participants agreed that the new and active learning strategies used within the resources allowed students to take further responsibility for their work.

One faculty member was concerned with the risk of creating free resources with regard to copyright ownership as well as student integrity at other institutions. By creating clear resources, this participant eventually began to embrace the value of community to support learning and a sense of ownership with sufficient licensing. A further risk noted by participants was for adjunct instructors who are not compensated for the work they do in this pedagogical development. Participants further commented that they were only able to do this work after receiving tenure since they no longer needed to focus on receiving research grants and publishing often, creating new opportunities for pedagogical growth. Throughout the process, each faculty member sought out compensation and avenues including Open grants that continue to be more and more readily available. Furthermore, they resoundingly determined that the resources created benefited their students significantly.

Summary

We found that most faculty initially approached OER creation through either a lens of “access and equity” or “agency and ownership.” However, the process of OER creation led to a more nuanced understanding of Open education as a practice. For example, several faculty members started from a similar place: they wanted to increase access and equity by providing free learning materials for their students. Through the process of creating and using the materials in their teaching, they each moved toward a different value which can be best summarized by one participant: “I find I use Open in a bunch of different places that I hadn’t even realized or thought about.” One participant felt that an unforeseen benefit of their Open Educational Resource was having more time to provide individualized feedback to students (“community and connection”), another was inspired to get students involved in OER creation (“agency and ownership”) and then shared the resources throughout their professional network (“community and connection”). Yet another faculty member felt that in the end they had found a new and exciting way to facilitate learning (“risk and responsibility”).

As a teaching support-focused unit, we want to look into ways we can provide our faculty and instructors with meaningful opportunities to develop their Open pedagogy. How can we most effectively foster community and collaboration between faculty, support units, and administration? How can we mitigate the risks that have been identified, so as to create a more equitable university not just for our students, but for our entire community? Having mapped these seven narratives, what struck us most was how the majority of their journeys ended in either “risk and responsibility” or “community and collaboration.” These findings have guided our thoughts on supporting Open Educational Practice and will help us set our path moving forward.

Sharing Stories, Promoting Change

One of our first actions when we completed our interviews was the creation of an Open book from the interviews (Meger et al., 2020). This book was structured around the journey that each faculty member had as they came to Open and then learned from it. We saw this book as a way of providing other faculty at our university with a way to see themselves in Open Educational Practice, and to learn from each other. Each profile included “advice from other faculty,” which often reinforced the ways in which faculty members conceived of their work as falling into one of the four values. For instance, one faculty member said, “fail happily as you experiment with Openness and be ready to adjust your course” (“risk and responsibility”), while another revealed, “engage students with your project and listen to their ideas. Students often know what works and what doesn’t” (“agency and ownership”).

We also used our findings to reconceive the way that we promoted OEP at our University. Instead of focusing solely on OER creation, we started offering a workshop on Open pedagogy that engaged faculty in thinking through the different conceptions of Open Educational Practice and identifying which concepts resonated with them. We found that when prompted, faculty thought more flexibly about Open Educational Practices, and their responses covered all four values from the start. They were also able to identify the support they would need to pursue open educational practices along broader lines.

For instance, participants realized that not only would they need help with things like licensing and copyright permissions for OER creation, which reflects the “access and equity” value, but

also in “understanding the balance between the incentive for students to participate in creating content and building [the university’s] reputation without compensation (i.e., unpaid work),” which connects to the “risk and responsibility” value (Schwartz, n.d., para. 2). Furthermore, the participants were committed to “designing the experience so that the students see it as something engaging, rather than ‘work to do’ (i.e., discussion board post requirements),” which typifies the “agency and ownership” value (Schwartz, n.d., para. 2). By reframing the ways in which faculty thought about open educational practices, we have been better able to address the ways in which we support them.

Author’s Contributions

This article was produced and written by Michelle Schwartz, Erin Meger, Wendy Freeman through detailed collaborative analysis. The author Michelle Schwartz provided significant writing and conceptualization. The author Erin Meger conducted the interviews and provided detailed writing support. The author Wendy Freeman made significant contributions to writing and analysis.

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The original transcripts and audio files are not made available publicly for the privacy of the participants as per the approval by the ethics board.

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Exploring Curation as a Path Towards Decolonizing Education

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Abstract

As part of my Doctor of Education program, I was asked to study Dr. Marie Battiste's (2017) book *Decolonizing Education: Nourishing the Learning Spirit*. In response to that assignment, I built a WordPress site as a way to experiment with crossing boundaries of physical and digital places, between different Indigenous knowledges and notions of teaching and learning. While building the site, I looked for localized examples of Battiste's concepts and ideas among the Inuvialuit, the Indigenous group with which I am the most familiar, in what became an exploration of the wonderful work being done in the Inuvialuit Settlement Region to preserve the culture and decolonize ways of thinking. I knew some of these resources existed but was surprised by the depth and variety of materials available. In this paper, I present that website as an experimental example of digital curation that stitches together the book, a series of digital artefacts found via Internet searches, and my own reflections on those artefacts. While building it, I did not seek out answers but instead explored the possibilities of curation as a path to decolonization education. The resulting site design is both personal and incomplete. Through this process, I hope to open generative cracks that provoke new ways of thinking about digital curation as a means of supporting active engagement in the complicated *and* necessary conversations regarding decolonization.

Keywords: digital curation, decolonizing education, educational technology, digital pedagogy

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Introduction

In 2015, Canada's Truth and Reconciliation Commission (TRC) released its report about residential schools and their lasting effects within Indigenous communities. The Commission concluded that "reconciliation is not an Aboriginal problem; it is a Canadian one. Virtually all aspects of Canadian society may need to be reconsidered" (p. vi). The Commission further released 94 *Calls to Action*. As of 2020, however, only 10 of those Calls had been completed and none out of the seven Calls related to education had been completed (Nîtôtemtik, 2020). I suggest that, along with all other Canadians, educational technologists, and digital pedagogues, have a responsibility to engage with and act in alignment with these Calls. In 2017, I was asked to study Dr. Marie Battiste's (2017) book *Decolonizing Education: Nourishing the Learning Spirit*. I used that assignment as an opportunity to explore with digital curation as a means of taking up that responsibility.

To that end, I built a WordPress site that stitches together Battiste's book, a series of digital artefacts found via Internet searches and my own reflections on those artefacts (https://decolonizingeducation.trubox.ca/). I experimented with crossing the boundaries between physical and digital places and different Indigenous knowledges and notions of teaching and learning. In the process, many questions emerged: Does decolonizing involve moving beyond paper-based assignments and thinking differently about how we construct and share ideas? Do I have a responsibility to share what I have learned both as an educational technologist and as the white mother of Indigenous kids? How do I share my stories without appropriating? How do I amplify Indigenous voices but without speaking for them? What is technology's role in all of this? While building the website, my goal was never to answer these questions but instead to explore possibilities, to take risks and to get it wrong in generative ways. My work presented here might, therefore, be described as an attempt to engage with, and to draw others into, the curriculum of decolonization not as content, but instead as a "complicated conversation" (Pinar, 2015), one that emphasizes the active, experiential process of connecting us to others "not in spite of the particularities of their lives but rather through them" (Silverman, 2009, p. 9). The resulting site, in its design and offerings as well as how it is intended to be read/received, is both personal and incomplete, a place built not to offer answers but in the hopes of creating an ethical space for dialogue.

As feminist scholars have long-argued, research is neither objective nor neutral (Lather, 1991). My experiences as a white distance education student, educational technologist, and researcher shape my work (T. Elias, 2020), as do my experiences as the parent of five Inuvialuit[1] children in both Inuvik, Northwest Territories and British Columbia. Currently, I live, work, and raise my children on the traditional land of the Qayqayt First Nation. These lived experiences have challenged me to think differently about everything, including educational technology (T. Elias, in press). In this paper, therefore, I write from in-between spaces, in ways intended to trouble the teacher-learner, Indigenous-settler and land-digital binaries. In doing so, my goals are both to foreground the important work of Indigenous scholars and digital creators and to explore the ways in which digital curation might be used to trouble Eurocentric ontologies and epistemologies.

With these goals in mind, in this paper I first explore the literature of decolonizing education. I then look more closely at the boundaries and gaps between our traditional notions of physical places and digital spaces, different Indigenous ways of knowing and doing, and what/who in counted as teaching/teachers. Finally, I present the website that I built in the hopes of illustrating these ideas in practice. Based on this experiment, I suggest that digital curation might be a way to generate spaces in which students can learn *from* rather than *about* Indigenous people.

Decolonization and Education

Linda Tuhaiwai Smith, Eve Tuck, and Wayne K. Yang (2018) noted that "Indigenous and decolonizing perspectives on education have long persisted alongside colonial models of education, yet too often have been subsumed under broader domains of multiculturalism, critical race theory and progressive education" (p. viii). They further explained that the best decolonization work attends to two commitments: land sovereignty and Indigenous perspectives. Indigenous feminist scholarship, in particular, has emphasized that decolonization depends on the presence of Indigenous people on Indigenous land and waters (Hunt, 2013; Simpson, 2016). Decolonization, therefore, involves the disruption of colonial patterns of land ownership, patterns established during colonization. The term *colonization* refers to the practice in which small numbers of people from one place go to another place, dominate the local labour force and send resources back to the place from which they originated (Smith et al., 2018). Settler colonialism further denotes a form of colonization in which these outsiders claim this "new" land as their own (Tuck et al., 2014). Decolonizing studies, therefore, are interested in the ways colonialism has shaped and severed relationships between humans and non-humans across land, water, space, and time (Calderon, 2014).

Decolonization studies are informed by Indigenous ontologies and methodologies. As a result, the concept of "relational accountability" is of critical importance (Wilson, 2008), as are the theories accountable to these relations between land, sovereignty, belongingness, time and space, reality and futurity that shape Indigenous research methods (i.e., Goeman, 2013; Byrd, 2011). Building on these concepts and methods, decolonization studies involve developing "a critical consciousness about the realities of oppression and social inequities for minoritized peoples" and trouble the ways in which "purposeful ignorance" has twisted history such that colonialist ideologies have become normalized (Styres, 2018, p. 32). In these ways, they emphasize the ways that colonization and decolonization are time-specific and land-specific (Tuck & Yang, 2012). Decolonization studies, therefore, retain a deep connection to Indigenous studies and their underlying ontologies and methodologies, while pushing back against colonial assumptions about the linearity of history and the future. Instead, decolonization studies argue for renderings of time and place that move beyond coloniality and conquest (Smith et. al, 2018).

Decolonizing Education is Not…

Despite a growing and active community of Indigenous scholars, Smith noted, while writing with colleagues Tuck and Yang, that less helpful approaches to decolonizing education continue to persist:

> There are still more scholars working with deficit approaches who are trying to either 'save' us from ourselves or fix us up, sort us out, and, in some cases still, convince us that they 'know best.' I am reminded quite often that faculties of education are still dominated by academic staff who are ignorant and hostile to Indigenous peoples. I feel a sense of déjà vu that some of my early work still needs to be restated. (Smith et al. 2018, p. 6)

She further stated that decolonizing education does not involve seeking ways to "Indigenize" the academy by simply adding more Indigenous bodies to university campuses, an approach that could "be viewed as about mainstreaming, dispersing, infusing, or shoring up white privilege by keeping it firmly in positions of power... with little attention being given to growing capacity, developing careers, improving relationships, or indeed transforming institutional practices" (Smith et al., 2018, pp. 7–8).

Yang and Tuck (2012) indicated that decolonization is not about reconciliation or a return to settler normalcy. Instead, they argued that "decolonization is not accountable to settlers, or settler futurity. Decolonization is accountable to Indigenous sovereignty and futurity" (p. 35). As a result, decolonizing education does not involve white settlers extractively waiting for Indigenous scholars "to answer to whiteness and to settler relationships to land in the future" (Tuck, 2018, p. 15). It is "not the endgame, not the final outcome of a long process, but the next now" (Tuck 2018, p. 16). From this perspective, decolonizing education is not a theoretical or philosophical future state, but instead a pragmatic practice of moving forward in ways that iteratively and incrementally challenge colonial histories as well as their ontological and epistemological legacies.

Decolonizing Education Is…

Decolonizing education involves embracing collective, relational, and dialogic processes of learning that involve communities. It employs popular texts and Indigenous cultural productions and attends to politics in ways that enable Indigenous self-determination (Smith, 2012; Grande, 2004; Brayboy, 2005; Abdi, 2011; Coulthard, 2014). Furthermore, decolonizing education often involves methodological approaches that involve grassroots-knowledge production that acknowledge that people come to knowledge through their lived experiences; they value this knowledge that comes through doing (Guishard & Tuck, 2014).

Decolonizing education involves embracing and anticipating change at the individual, community and political levels in *relational* ways. As explained by Smith et al. (2018), "Indigenous educators carry forward Indigenous teachings and carry forward the relations—circling back to the teaching-as-relation and self-as-relation—that is the heart of Indigenous futurity" (p. 10). Styres (2018) further noted that decolonizing education "resists mainstream approaches to teaching and learning as well as challenging taken-for-granted assumptions embedded in the hidden curriculum… it discomforts and challenges taken-for-granted biases and assumptions" and evokes emotions, including guilt, shame, denial, and resistance (p. 32). She went on to explain that "educators have an important role in helping students examine their worlds in critically thoughtful ways—to take the time in class and ask and unpack the risky and tough questions" (Styres, 2018, p. 35).

Moreover, decolonizing education involves rectifying a societal lack of understanding between Indigenous peoples and settlers that has emerged from centuries of processes that have favoured Eurocentric narratives over those of Indigenous peoples (Gaudry & Lorenz, 2018) and have resulted in curricula full of inaccurate tellings of history (Donald, 2009). Decolonizing education, therefore, involves rectifying the reality that Eurocentric knowledge systems have displaced Indigenous knowledge, languages, and cultures. In the process, they have made distinct Indigenous knowledge systems, that should but do not, enjoy a place of parity with dominant systems, invisible (Battiste, 2008). Decolonizing education privileges Indigenous knowledge as a starting point from which to build educational approaches (Rorick, 2018).

Decolonizing Education by Marie Battiste

It is within the above framing of decolonizing education that *Decolonizing Education: Nourishing the Learning Spirit* is situated. The book's author, Marie Battiste, is widely recognized as a leader in Indigenous studies whose vision for educational reform has set the standard for scholarship across North America. In this book, Battiste shared her personal

journey and stories of inspirations, resistance, and transformation in which she presented "decolonization as a process that belongs to everyone" (Battiste, 2017, p. 9). Battiste (2017) dedicated the book "to educators seeking to make changes in their work, knowing that the decolonization of education is not just about changing a system for Indigenous peoples, but for everyone. We all benefit by it" (p. 22).

Decolonizing Education is divided into ten chapters. Following the introduction, they are titled, in order, (a) "The Legacy of Forced Assimilative Education for Indigenous peoples," (b) "Mi'kmaw Education: Roots and Routes," (c) "Creating the Indigenous Renaissance," (d) "Animating Ethical Trans-Systemic Systems," (e) "Confronting and Eliminating Racism," (f) "Respecting Aboriginal Languages and Educational Systems," (g) "Displacing Cognitive Imperialism," (h) "Recommendations for Constitutional Reconciliation of Education," and (i) "Possibilities of Educational Transformations." Throughout these chapters, Battiste traced the history of colonial education and imagines futures for the decolonization of educational systems across Canada. As a result, I suggest that it offers a framework for decolonizing education, as defined by an Indigenous scholar. I do not suggest that it is "the" framework or that the approach taken by Battiste is universally accepted among Indigenous scholars. Instead, I suggest that it during my doctoral studies, it served as a starting point for me, as a white settler educational technologist, for engaging with the decolonization of education.

Contemporary Indigenous Digital Curation Practices

At its core, curation is the practice of finding, organizing, and sharing a set of materials in a meaningful way. Because of the widespread access to digital technologies and content, online curation of pictures and videos has become a common social media practice. Christen (2018), however, warned that the curation process is "imagined as a neutral act—one of taking something that is already offered up for consumption.… [but] it is in fact a culturally determined and political act" (p. 405). At the same time, she noted a series of examples of Indigenous approaches to curation that offer different models. She argued that by adding a series of checks at each stage of the process, one could replace a model of "collecting" with one of "digital heritage stewardship." She further explained that

> If we take the general "get it, curate it, share it" model and expand it to include cultural, ethical and historical checks at each step, then we get a workflow that encourages collaboration, relies of historical specificity, and has ethical considerations embedded at every step. Finding or discovery should not be guided by a search paradigm that disregards the colonial histories of collection or upholds notions of access that privilege the public domain. (Christen, 2018, p. 407)

Using this approach, the concept of relationship becomes the central to the practice of curation. Its purpose is no longer to collect novel images or stories, but instead to generate connections that generate opportunities and to imagine new possibilities.

In Canada, the National Centre for Truth and Reconciliation (NCTR) has adopted a similar approach with respect to both its physical and digital curation. As Milton and Reynaud (2019) explained,

> In a museum world still dominated by western-based theory and practice, the NCTR's collection as a whole and the first steps the institution has taken towards curating it reveal and represent a 'fundamental shift in the balance of power regarding who has access, the reasons for access and concepts of ethical and respectful stewardship. (p. 538)

The intention of the NCTR is to seek out Indigenous ways of engaging with the entire collection. In some cases, this has involved using taking the opportunity afforded in digital curation to move away from linear or top-down logic of information and objects in ways that unsettle settler perspectives and present a completer, more complex picture. In other cases, it has meant that objects deemed to be sensitive and/or sacred are not displayed in any format. Moreover, some artifacts have been burned in alignment with cultural practices. As noted by Milton and Reynaud (2019), "accepting the importance of the ephemerality of certain sacred artefacts—that they are relevant precisely through their absence, their temporality—brings us into new spaces that make room for Indigenous ontologies" (p. 542).

Milton and Reynaud (2019) further argued the importance of granting wider access to the public through digital curation as a means of providing access to remote Indigenous communities, in addition to as a means of breaking down barriers between Indigenous and non-Indigenous people. The authors explained that "if made available in tangible and digital form, the stories and memories held by them might dislodge settlers' reticence to acknowledge the past and would potentially help survivors and communities in talking about this past if they so wish" (p. 544). Describing a joint Inuvialuit-Smithsonian Institute project that included the creation of a website titled Inuvialuit Pitqusiit Inuuniarutait: Inuvialuit Living History, Hennessy et al. (2013) also highlighted the importance of forging relationships:

> We have viewed the creation, negotiation, and maintenance of these relationships as central to the realization of our project to date and to its continued activity into the future… This process of relationship-building has played a role in an increasingly visible institutional shift towards greater openness and flexibility that is grounded in growing recognition of the value of curatorial collaboration with originating communities. (p. 62)

At the same time, as suggested by L'Hirondelle Hill and McCall (2015), the purpose of these digital curations ought not be to simply smooth over the issues but instead to "create productive sites of discomfort, disconnection and disruption" that promote dialogue (p. 13). These relational approaches to curation appear to be well aligned with Pinar's (2015) concept of complicated conversations in which he suggested that "coupling facts and lived experience in creative tensionality" can trigger transformation (p. 112). Drawing on these concepts, I suggest that Indigenous digital curation practices, might therefore, support the types of complicated and necessary conversations in order to advance decolonizing efforts.

Decolonizing Education Through Boundary Crossing?

Within *Decolonizing Education*, I read about opportunities to experiment with crossing boundaries. Three of the boundaries that I decided to experiment with were (a) land and digital places/spaces, (b) localization and universalization of different Indigenous knowledges, and (c) curation and personal reflection as sense-making. These experimentations in boundary crossing were intended to generate discomforts and tensions through which new possibilities might emerge. In this section, I explore each of these ideas in more detail as well as the discomforts that came with them.

Applying Land-based Ideas to Digital Places/Spaces

It is with more than a little uncertainty that I have drawn the above land-based concepts of decolonization into digital spaces and places. I worry about equating physical land-based places with the digital realm. At the same time, decolonizing studies do seek to challenge notions of linear histories and futures and "argue for renderings of time and place that exceed coloniality and conquest (Smith et al., 2018, p. viii). Styres (2018) further noted that space is an expanse that is empty and abstract whereas place is grounded in lived experience and is never neutral, and that "by inhabiting spaces—by being present in those spaces, to occupy those spaces, to story those spaces, to (re)member and (re)cognize those spaces—they become placeful" (p. 27). Reading these descriptions, it is difficult for me to ignore the connections between digital and physical spaces and places. Although often displaced by humans, the very materials that make digital space/place possible, the metals and plastics in my motherboard, processors, and display have all came from the land, and carry with them undisclosed stories of human labour and material extraction. Moreover, they caused me to wonder whether it is not the role of educational technologists and digital pedagogues to inhabit and create within digital spaces in ways through which they become placeful. With these ideas in mind, I proceed tentatively, imagining that the decolonization of digital places might co-exist with, but must not displace, the importance of restoring Indigenous peoples to Indigenous waters and lands.

Further influencing my thinking is notions of Indigenous futurisms that claim science fiction as "a valid way to renew, recover, and extend First Nations peoples voices and traditions" (Dillon, 2012, pp. 1–2). Threading together pasts, presents and futures, Indigenous futurisms include not only writing but game-creation, digital art, graphic novels, and other forms of world-making. In the process, these creators "claim categories and territories typically monopolized by colonial desires— such as 'technology' or 'space,'" (Goodyear-Kaʻōpua, 2019, p. 89). I, therefore, suggest that educational technology might also be imagined and created as one type of re-claimed space/place.

Connecting Different Indigenous Knowledges

As described above, Indigenous ways of knowing are deeply relational, entangled with specific physical place, and are therefore localized. Battiste (2017) drew from her Mi'kmaw traditions and histories in *Decolonizing Education.* I, however, have no ties or relationships with the Mi'kmaw. Moreover, I have no connection to their land in Atlantic Canada. As a result, I wondered if the ideas presented by Battiste could be applied to a different localized example with which I had stronger ties. I have, therefore, experimented with drawing examples from the Inuvialuit in order to illustrate Battiste's theory.

I found it easy, perhaps too easy, to find examples of Battiste's Mi'kmaw-inspired words within Inuvialuit communities despite the geographies that separate them. Tuck and Yang (2012) underscored these commonalities: geographical, relational, and epistemic forms of violence associated with settler colonialism, through which both Mi'kmaw and Inuvialuit ways of knowing and being were "indeed made pre-modern and backward. Made savage." (pp. 5–6). I wondered if what, one thing they had in common is a shared colonial history of attempted erasure, one that could harmfully serve to universalize Indigenous knowledge systems (Rowe & Tuck, 2017).

Greyser's (2016) work, for example, attended to Indigenous and settler relationships in ways that account for long and diverse histories of philosophies and practices. At the same time, Battiste (2017) wrote,

> What we together learned in the Aboriginal Learning Knowledge Centre with the Canadian Council on Learning (2007) from First Nations, Metis and Inuit leaders, educators and elders was that Aboriginal learning had many unique characteristics:
> - Learning is holistic;
> - Learning is a lifelong process;
> - Learning is experiential in nature;
> - Learning is rooted in Aboriginal languages and culture;
> - Learning is spiritually oriented;
> - Learning is a communal activity, involving family, community, elders; and
> - Learning is an integration of Aboriginal and Eurocentric knowledge (p. 181)

Threading these ideas through one another, Battiste and Greyser have pointed me to consider, with due care and respect, the boundaries and connections between different Indigenous ways of knowing. I further suggest that digital spaces/places might offer opportunities to, simultaneously, illuminate shared colonial histories and the existence of other possibilities, while also serving to illustrate difference and the situated nature of knowledge in ways that avoid universalizing tendencies.

Curating Voices Through Personal Reflections

As noted in the introduction, my goals are both to foreground the important work of Indigenous scholars and digital creators and to explore the ways in which digital curation might be used to trouble Eurocentric ontologies and epistemologies. As an Unangax̂ scholar, Eve Tuck expressed a weariness with settlers who, "in reading Indigenous work, ask for more work, even if they have done little to fully consider what has already been carefully and attentively offered" (in Smith et al., 2018, p.15). I suggest that it is time for educational technologists, more specifically those of us who are white settlers, to not ask for work on the parts of others, but instead to actively seek to change our own practices.

Kimmerer (2013) noted that "paying attention acknowledges that we have something to learn from intelligences other than our own. Listening, standing witness, creates an openness to the world in which the boundaries between us can dissolve" (p. 300). Similarly, Simpson (2014) said, that "if you want to learn about something, you need to take your body onto the land and do it. Get a practice" (p. 17). I do not know if Simpson would consider digital places to be "land," but I do know that it is in digital places where, as educational technologists and digital pedagogues, we often tend to dwell. Moreover, it is in these digital places that we have the opportunity to listen, bear witness, learn, and enact practice in ways that make space "not only the missing links in academic practices, but also and especially the missing people" (Braidotti, 2019, p. 51).

Decolonizing Education Website as an Experiment in Boundary-Crossing Curation

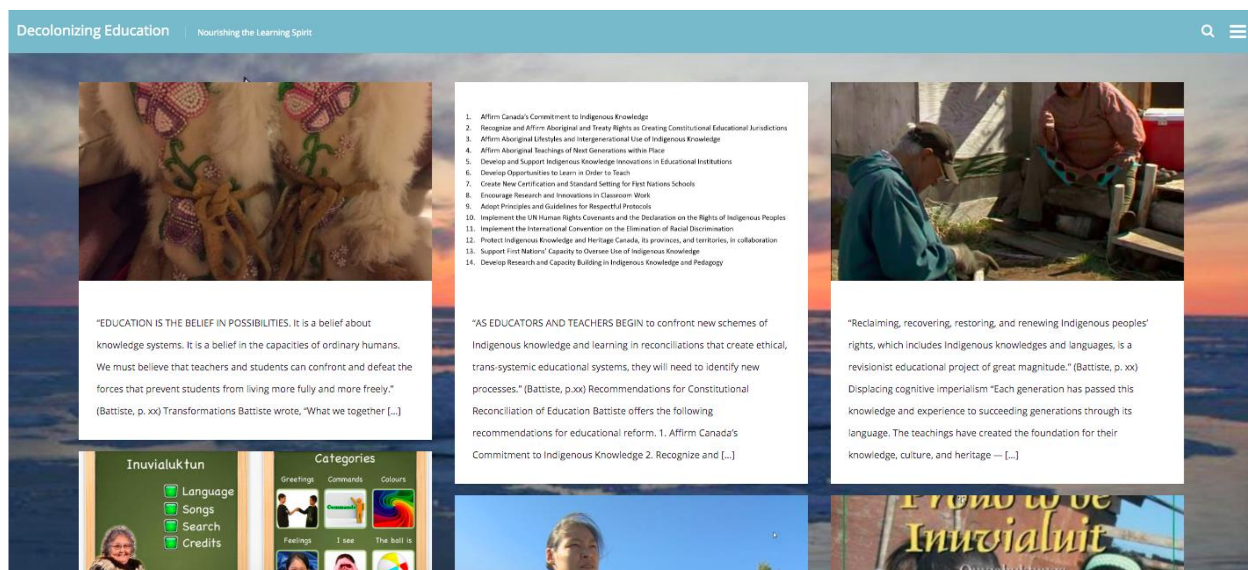
As noted in the introduction, the website created for this project was a WordPress site: decolonizingeducation.trubox.ca/. The project drew on my own previous curation work (T. Elias, 2017) and is situated with the work of other educational technologists and digital pedagogues re-thinking our responsibilities as activists while working in digital spaces. Bali (2016), for example wrote, "in open online spaces, we are not equally fragile. It is everyone's responsibility to listen and care and support marginal voices" (para. 13). With these words, Bali challenged us

to not only actively seek out participation of marginalized groups but to care for their needs. In building the website presented in this paper, I sought to take up this challenge.

Within my site I also sought to work across the boundaries of physical-digital places/spaces, universalized-localized histories and Indigenous-settler ways of knowing. From the outset, it was a practice of experimentation. I structured and organized the site such that each of the ten chapters in *Decolonizing Education* are represented as a separate story. Each starts with an image and a quote from the book, which intends to trouble linear approaches to knowledge. Figure 1 offers a visual representation of the site design.

Figure 1

Screen Capture of Landing Page



Note: The screen capture of the author' web page Decolonizing Education is copyrighted by Tanya Elias and reprinted with permission.

It is important to note that in the time since I built this site, many of the links have broken and no longer point to the source materials. Although it might be possible to re-link these resources, I have opted not to. Instead, I have decided to treat my digital curation as a gift-giving process, one that emphasizes the *acts* of giving and receiving. Describing a traditional giveaway ceremony among the Powatatomi called the *minidewak* in which the people being honoured give away gifts, Kimmerer (2013) explained that

> Generosity is simultaneously a moral and a material imperative, especially among people who live close to the land and know its waves of plenty and scarcity. Where the well-being of one is linked to the wellbeing of all. (p. 381)

Drawing on this idea of generosity, I suggest that the broken links serve as a reminder that the digital resources linked within the site were gifts created and freely given by Indigenous communities, scholars, and artists. As such, these gifts serve as an invitation to engage in an

ongoing moral and material process of learning from and caring for one another that is always incomplete.

I then sought to connect Battiste's theory to examples from curated Inuvialuit examples by stitching together theory and practice, curated digital artefacts content, and personal reflection. As I explained on the *About This Site* page,

> I tried to look for localized examples of Dr. Battiste's concepts and ideas among the Inuvialuit, the indigenous group with which I am the most familiar… It became an exploration of the wonderful work being done in the Inuvialuit Settlement Region to preserve the culture and decolonize ways of thinking. I knew some of these resources existed, but was surprised by the depth and variety of materials available… (para. 5). Although the site is localized to the Inuvialuit, I have tried to identify either national resources that will point to other localized resources… or point to the types of places one might look for (and find) resources. (para. 7)

In the following section, I offer a brief description of three of the ten chapter-stories contained in the website. Together, they demonstrate the ways in which I curated resources, stories, and personal reflections in the forms of words, videos, artwork, and songs using *Decolonizing Education* as a framework.

Legacy of Forced Assimilative Education

I began the Legacy of Forced Assimilative Education story-chapter with the following quote: "The interplay between making the familiar strange and the strange familiar is part of the ongoing transformation of knowledge" (Battiste, 2017, p. 31). I then contrasted an "educational resource" produced by the Canadian government called the *Kids Site of Canadian Settlement* with published recordings from the Truth and Reconciliation Commission's hearing in Inuvik. The purpose was contrast to different approaches to presenting Canada's history in ways that challenge what many settlers have "known" to be true in terms of not only historical details, but also what constitutes an appropriate resource for teaching history.

The *Kids Site*, which appears to have been archived in 2005, explained that the Inuit were at "one time considered to be among the healthiest people in the world" (para. 1) but does so without differentiating between the Inuit of the Eastern and Western Arctic. What's more, the site indicated that "this is no longer the case" (para. 1), while remaining silent as to how and why those lifestyles changed, as documented in Figure 2. The goes on to describe the Inuit as people "learning to govern themselves in a modern world" (para. 2) despite the fact that the Inuvialuit Final Agreement was signed in 1984 and the Nunavut Land Claims agreement led to the formation of the territory of Nunavut in 1999.

I shared this example because it is this type of online resource/digital textbook on which many Canadians teaching at all levels rely. I further suggest that, although this one has now been archived, simply replacing the offensive content in these types of digital resources may serve to further re-entrench colonial educational patterns.

Figure 2

Archived Educational Resource Teaching the History of the Settlement of Canada.

Note: This image is taken from Collections Canada.

I contrasted this archived resource, and its silence with respect to the lived experiences and history of the Inuit with a link to online videos of the Truth and Reconciliation Hearings held in Inuvik, NT. In the video clip, Paul Voudrach and other residential school survivors described their experiences and the ways that those experiences have impacted their lives. A screenshot from the video is provided in Figure 3. These first-person accounts represent not only a different history, but a different way of documenting and teaching digital history, one that replaces an objective "view from nowhere" with a telling of history that is contextualized and embodied within a story of personal experience.

Contrasting these approaches to the history of the Canadian North, gaps and silences emerged in ways that, hopefully, make the familiar seem strange. As I curated, I wondered why we tend to distil our histories as taught in schools down to a series of maps and static images; and furthermore, why the strange, or in this case strangers appearing at TRC hearings, are viewed as relatable people. It was my hope that these resources, combined with Battiste's writing, may encourage website visitors to generate complicated questions and generate dialogue, because as I noted on the *About this Site* page, this website was "built not to offer answers but in the hopes of advancing the creation of an ethical space for dialogue" (para. 11).

I closed out this chapter-story with a song and video created by a Grade 4/5 class that was shared on the TRC's website. It is a resource that I suggest points to the potential for healing and the power and importance of "non-traditional" digital teaching resources. Moreover, I suggest that it highlights the need for students, even young students, to engage with difficult truths. I share more of my own reflections related to these ideas in other parts of the site including the *Transformations* chapter-story in which I describe my experiences of learning to sew with my mother-in-law, and *Displacing Cognitive Imperialism,* in which I consider my son's experiences in school. In both, I consider what has been lost and what has been retained. I, however, deliberately did not include my own thoughts and reflections within this chapter-story. Stories of forced assimilative education that have been shared with me directly are not mine to tell; I am neither entitled nor equipped with the words to express their impact.

Figure 3

Website Card Representing Legacy of Forced Assimilative Education Chapter-Story

Respecting Aboriginal Languages

This chapter-story related to respecting Indigenous language. I opened it with the following:

> Almost all North American Aboriginal languages fundamentally operate from a view of the world as interrelated and in flux, signifying these relations in highly descriptive prefixes and suffixes with the verbs… Being aware of the differences that verb- and noun-based languages have within world views can help many educators to understand something more about Aboriginal world views, thought, and consciousness, while addressing a major cognitive gap in learning. (Battiste, 2017, p. 141)

As noted by Battiste, Indigenous languages involve not only different combinations of sounds to create words, but instead represent different ways of approaching the world, one that centres on active practice over things. In attempting to engage and reflect on the implications of this difference, I combined a series of excerpts from *Decolonizing Education* with examples of efforts to preserve Inuvialuktun languages and a quote by Buckminster Fuller related to "thinking in verbs."

Figure 4

Website Card for Story-Chapter Respecting Aboriginal Languages

In seeking out resources for my website, it became evident that language was connected to the land through language camps, schools, and using technology, including the *Inuvialuktun One* app shown in Figure 5. These different and combined approaches to language revitalization emphasize connections between language, land, and practice. They also point to the ways in which digital technologies can support this work.

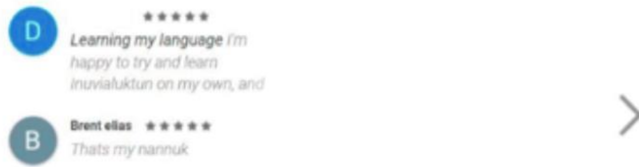
Figure 5

Inuvialuktun One Language App

On a personal note, while working on this project, I looked at the app's two reviews. One was from a student I had worked with when he was in high school. The other one was from my youngest son. Both reviews are shown in Figure 6.

Figure 6

Comments on the Inuvialuktun One App

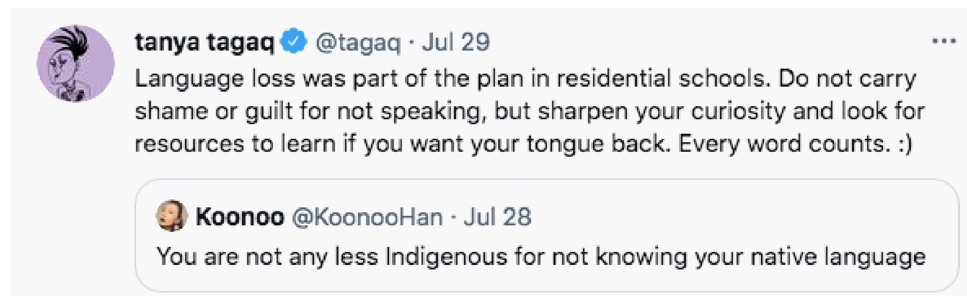


Note. First comment reads, “Learning my language. I’m happy to try and learn Inuvialuktun on my own” and second comment reads “That’s my nannuk.”

I was surprised to see my son’ comment. I knew that we used the app to learn the language, but perhaps did not fully appreciate the importance of digital connections as it relates to people separated by physical distance from not only family, but also culture. These comments continue to encourage me to consider the ways in which technology can help support language learning and connection to land and culture even when young people are far away from their home communities. Recently, these ideas were reinforced by two tweets from Inuit artists, which I provide in Figure 7.

Figure 7

Tweet Promoting Restoration of Indigenous Languages



These tweets serve as reminders that lost Indigenous languages is not an accident, but part of a federal plan enacted across Canada. Moreover, they point to the need to replace guilt and shame with curiosity, while emphasizing the importance of using any and all opportunities to learn and restore Indigenous languages.

Displacing Cognitive Imperialism

In the final chapter-story that I share here, *Displacing Cognitive Imperialism*, I began with the following excerpt: “Reclaiming, recovering, restoring, and renewing Indigenous peoples’ rights, which includes Indigenous knowledges and languages, is a revisionist educational project of great magnitude” (Battiste, 2017, p. 161). I combined a series of quotes from *Decolonizing Education*, with learning stories of Dennis Allen and my son, Brent, who share the same Inuvialuktun name, Anaktuuq. In several short video clips, Dennis shares what he learned from his dad and teaching his own children on the land (Figures 8 and 9).

Figure 8

Screenshot of Links to Allen's video, My Father, My Teacher

Note. Image copyright by Denis Allen. Source: https://youtu.be/MSmGDuMXKgQ. Reproduced with permission.

Figure 9

Screenshot of Links to Allen's video

Note. Image copyright by Dennis Allen. Source from National Film Board of Canada: https://www.nfb.ca/film/crazywater. Reproduced with permission.

I contrast the stories of learning through practice on the land, captured in video and shared online, with Brent's description of school. In a blog post, he wrote that "school is like a prison. You have no power and have no say in what happens around you. It is a system that is awfully designed because they force everyone to learn the same stuff" (B. Elias in T. Elias, 2017, para. 4). Learning, both on the land and within digital places/spaces offers alternatives and opportunities to give students, both young and old, power back. I suggest that perhaps by connecting the two through curation, there is additional power.

Supporting Complicated *and* Necessary Conversations

Building the website project described here was part reflection, part experimentation. As discussed throughout this paper, I wanted to explore ways that settlers might begin to engage and draw in Indigenous voices and practices without universalizing or requiring more labour from them. It was perhaps not an accident that I built this site while in class with mostly white teachers, struggling with ways in which to teach "about Indigenous" topics while feeling that they did not possess sufficient knowledge to do so. I imagined a class of children working together to find examples of local Indigenous people bringing to life the ideas of Indigenous scholars, engaging in a holistic, experiential, and communal act of drawing in examples and voices,

adding their own reflections and learnings along the way. Because the site followed the framework established in *Decolonizing Education*, all of the curated resources were located using a simple Google search and it was built using freely available, relatively easy-to-use WordPress software, I believe such an activity would be more than possible.

I also thought about my oldest daughter who came home upset after her *Indigenous Issues in Nursing* class. She explained that an Elder had come in, but that all of the questions asked by her fellow students related to the Elder's experiences in residential school. Her classmates continued until the Elder was crying at the front of the class. She said, "Mom, there are lots of hard things about being Indigenous, but there are lots of great things too" (Caitlin Elias, personal communication). In our rush to bring Indigenous voices into educational spaces, I suggest that it is important that we do so in ways that do not cause further harm to individuals. Moreover, we must find ways to simultaneously capture the injustice and hardship *and* the great things. We must avoid our colonial tendencies to universalize and summarize "the facts" in textbooks, whether they be in print or online.

Based on the experimental website presented in this paper, I am increasingly confident that there are diverse Indigenous voices all around us, including in our digital places/spaces. Indigenous educational researchers, like the ones cited throughout this paper, have built frameworks that map the beginnings of a path forward. Indigenous filmmakers, Elders, youth, and artists are busy making content often primarily for Indigenous people. These Indigenous people have already done, and continue to do, the hardest work with respect to decolonization. It is (past) time that the rest of us, including educational technologists, do our own work to engage in and support the complicated *and necessary* conversations regarding decolonization.

Author's Contributions

Tanya Elias completed all research and writing for this article.

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Ethics approval was not applicable.

Conflict of Interest

The author does not declare any conflict of interest.

Data Availability Statement

No research data was gathered in the development of this project, except what is available/ linked in the project website: https://decolonizingeducation.trubox.ca/

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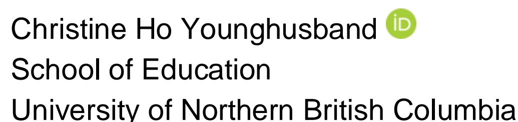
E-Portfolios and Exploring One's Identity in Teacher Education



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Keywords: e-portfolio, professional identity, teacher education, practicum

Abstract

Academic faculty in a two-year post-baccalaureate teacher education program at a small research university in British Columbia explored the extended use of e-Portfolios into final practicum over a three-year period. The education technology course offered in Term Three asked teacher candidates to create and design an e-Portfolio as part of the coursework. In this program evaluation, the author investigated the continued use of e-Portfolios into Term Four during final practicum. Faculty in this teacher education program sought ways to improve the program, particularly the practicum experience for teacher candidates. Extending the use of e-Portfolios into Term Four was one of three initiatives that were adopted. The e-Portfolio served as a digital platform for teacher candidates to archive, reflect, and sense-make; it also functioned as a means to develop their professional identities and understanding of the professional standards. The final practicum concluded with a Celebration of Learning and the capstone presentations referenced e-Portfolios. This paper focuses on how e-Portfolios were introduced and implemented with six cohorts, what was observed by the faculty member, and what was learned from the implementation to inform the future use of e-Portfolios in the program and program redesign. The extended use of e-Portfolios during the final practicum was found to be a viable initiative and revealed professional qualities of teacher candidates that may not have been visible otherwise.

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Introduction

Background Information

In 2018, a teacher education program (TEP) at a small research university in British Columbia (BC) was at the cusp of educational reform with a vision to redesign the program and align to BC's Curriculum. The program redesign process started with finding ways to improve the final practicum experience for teacher candidates (TCs). One initiative involved extending the use of e-Portfolios into Term Four. This TEP is a two-year post-baccalaureate Bachelor of Education program that spans over four terms (with a summer term of non-instruction). In Term Three, TCs take the education technology course called EDUC 431, which includes creating and designing two websites, one for the classroom and the other as an e-Portfolio. TCs participate in a short practicum called EDUC 490 in Term Three, which lasts for four weeks; in it they teach approximately 50% of the time. In Term Four, the final practicum or EDUC 491 is 10 weeks long and TCs teach approximately 80–100% of the time. There is one secondary and one elementary cohort in this TEP. The focus of this program evaluation was to explore TC use of e-Portfolios in Term Four during their final practicum with a focus on its viability, support for professional identity development, and application of the professional standards.

Three initiatives were implemented in 2018 to improve the practicum learning experience: triads, single point rubrics, and e-Portfolios. First, TCs were assigned into groups of three to form a peer-oriented triad intended to provide each other with ongoing support, formative feedback, and opportunities to collaborate or observe each other during practicum (Koehn & Younghusband, 2019). Second, the single point rubric (Gonzalez, 2015) was used as a self-assessment tool for TCs and the *Professional Standards for BC Educators* (2019) as the criteria. TCs are evaluated against the professional standards during their practicum and the single point rubric gave TCs a framework to reflect, self-assess, and set goals. TCs could also share their rubrics with their teacher sponsor, practicum mentor, or triad members. Third, the program extended the use of e-Portfolios into Term Four during final practicum. For the e-Portfolio, TCs are required to find artefacts that best reflect each professional standard (Kitchenham, 2008; Paul & Scholefeld, 2009). Extending the use of e-Portfolios into Term Four allowed TCs to include artefacts from their final practicum and enabled them to reflect on their teaching and learning experiences as a digital narrative at the end of the TEP. The exploration of e-Portfolios spanned over three years, and is the focus of this program evaluation.

Statement of the Problem

EDUC 431 was taught in Term Three and artefacts collected for e-Portfolios were based on past experiences or coursework and practicum from Terms One, Two, and Three. However, TCs start to develop their teaching practice in Term Four during their final practicum because they are teaching at almost full capacity over an extended period. More specifically, they are deepening their understanding of the professional standards through practice, honing their teaching philosophy, and making connections between theory and practice (Stenberg et al., 2016). Artefacts from the final practicum were originally missed from the e-Portfolio. Extending the use of e-Portfolios into Term Four shifted the learning intention from creation and design using education technology to using the e-Portfolio as a digital platform to explore one's professional identity and the professional standards.

Guiding Question

In what ways does extending the use of e-Portfolios into Term 4 enhance the practicum experience and one's expression of professional identity through the lens of the professional standards?

Purpose of the Program Evaluation

The purpose of this program evaluation was to explore the use of e-Portfolios during final practicum over a three-year period and gain insights to inform the program redesign committee on the future use of e-Portfolios in the TEP. The Professional Standards for BC Educators (2019) and aspects of BC's Curriculum (2021) remain central to the e-Portfolio and its contents. The final practicum concludes with a *Celebration of Learning,* where TCs would gather back on campus to present a capstone presentation on one or two big ideas learned from practicum and the program. The contents of the e-Portfolio and the final practicum learning experience provided content to the capstone presentation. The program evaluation, which drew upon processes often used in action research, sought to determine if extending the use of e-Portfolios into final practicum was viable and if e-Portfolios helped deepen one's understanding of the professional standards to develop of one's professional identity as a teacher.

Information about the Faculty Member

The faculty member is the author of this paper and implemented this program evaluation. They teach full-time at the university and joined the TEP in 2018. They have a background in K-12 education in BC public schools, completed a doctorate degree in leadership, use WordPress as a professional blog, and teach the practicum courses in Term Three and Term Four. The faculty member is currently the B.Ed. Coordinator of the TEP, a member of the B.Ed. program redesign committee, and the academic lead of the e-Portfolio initiative. They have some experience in education technology using WordPress and Twitter. The program underwent many changes in faculty, leadership, and support staff when the faculty member joined the TEP a few years ago. As a new faculty member, they wanted to participate in the program evaluation process, find ways to improve the practicum experience and align the TEP to BC's Curriculum.

Conceptual Framework

Reflection is an integral part of the learning process. Drawing upon Kolb's (1984) experiential learning cycle, TCs start with a concrete experience, reflect on that experience, and learn from that experience; then they hypothesize what they could do differently and try again. According to Schön (1983), professionals reflect *in* action and reflect *on* action. Reflecting in action is learning by doing. TCs learn how to teach as they are teaching. Reflecting on action is looking back at an experience and evaluating what went well and what could have been different. Both experiential learning and reflecting on action (and in action) relate to e-Portfolios as *Assessment as Learning* where TCs are thinking about their thinking (Earl, 2003). Through a reflective practice, it is expected that TCs can develop their metacognitive skills by reflecting on action using e-Portfolios, but also by reflecting in action as they curate their digital narrative. TCs are expected to use e-Portfolios to reflect, monitor, and self-assess their teaching performance based on the professional standards.

Assessment as learning involves self-monitoring and adjusting to make sense of information, connecting to prior knowledge, and acquiring new knowledge (Crown in Right of Manitoba, 2006; Earl, 2003). It is expected that TCs can self-assess, critically reflect, and think about their thinking so that over time they become their best assessors (Crown in Right of Manitoba, 2006; Earl, 2003; Rowe, 2012) using e-Portfolios. This form of formative assessment extends the role of TCs. They can make connections to their contributions to assessment and the learning process, while they continue to reflect on their work and make judgements (Earl, 2003). Assessment as learning engages and empowers the learner (Earl, 2003). TCs can use personal knowledge to construct meaning (Earl, 2003) and e-Portfolios can help TCs to monitor, reflect, self-assess, sense-make, adjust, and choose artefacts that reflect who they are as teachers and learners.

Literature Review

BC's Curriculum and Professional Standards

In 2016, leaders in K-12 education in British Columbia (BC) embarked on a transformative curriculum change with BC's New Curriculum. The curriculum was implemented for all subject areas and grade levels from K-9 in 2016, and incrementally for grades 10–12 over the next few years. The "know-do-understand" curriculum framework focused on a concept-based, personalized, competency-driven learning experience (Province of British Columbia, 2021) to develop *The Educated Citizen* as described in the *Statement of Education Policy Order* (1989). The curriculum encourages a student-centred approach that provides flexibility and choice, focuses on numeracy and literacy, and integrates Indigenous knowledges and perspectives (Province of British Columbia, 2021) as well as First Peoples Principles of Learning (First Nations Education Steering Committee [FNESC], 2008).

The Learning Standards, or content and curricular competencies, are assessed and evaluated by the teacher and reported out by Communicating Student Learning (CSL) or formal reporting periods (Province of British Columbia, 2021). The expectation is that by knowing the content and doing the curricular competencies, student start to understand the Big Ideas, or enduring understandings. Every learning experience is intended to contribute to BC's Curriculum Core Competencies (i.e., thinking, communicating, and personal/social); where students self-assess personal growth over time (Province of British Columbia, 2021). Students are expected to develop ownership of their learning through a reflective practice and development of metacognitive skills and summarize their learning with a year-end self-assessment or capstone project in grade 12 (Province of British Columbia, 2021). For TCs, they can use e-Portfolios for ongoing reflection and self-assessment, and documentation of their competencies as teachers.

The Professional Standards for BC Educators (2019) guide teacher education programs (TEPs), but also set the criteria for teacher candidates (TCs) to be assessed and evaluated by during final their practicum. The professional standards are to be embedded in all courses in the TEP and used to advance the work of K-12 educators and TCs in BC because they "communicate the knowledge, skills, attitudes and values that define educators' work" (BC Teachers' Council [BCTC], 2019, p. 2). The professional standards also focus on working "towards truth, reconciliation, and healing" (BCTC, 2019, p. 2) and aligning to the Truth and Reconciliation Commission of Canada's *Calls to Action* (2015) 62 and 63, as well as following the First Peoples Principles of Learning (2018), and BC's Curriculum (2021). The newest Professional

Standard for BC Educators (2019), Standard 9, states that

> Educators critically examine their own biases, attitudes, beliefs, values and practices to facilitate change. Educators [to] value and respect the languages, heritages, cultures, and ways of knowing and being of First Nations, Inuit and Métis. Educators understand the power of focusing on connectedness and relationships to oneself, family, community and the natural world. Educators [are to] integrate First Nations, Inuit and Métis worldviews and perspectives into learning environments. (p. 5)

It is expected that TCs benefit from the time and space in the TEP to unpack and examine Standard 9 and their values, beliefs, and personal biases, but also to self-assess and reflect on their understandings of history and community through coursework, practicum, and past experiences. By contributing to an e-Portfolio during final practicum, for example, there is a potential for TCs to develop the Core Competencies, participate in digital storytelling and develop one's identity, in addition to monitor and self-assess their growth over time as a curated digital narrative of their professional identity.

E-Portfolios

e-Portfolios are used by TEPs to help TCs to critically reflect, document, and make meaning of the practicum experience and connect theory to practice (Maharsi, 2019). Uses vary from being process oriented, formative, and reflective as learning portfolios, to accountability portfolios to evaluate TCs, to marketing portfolios to showcase to future employers (Granberg, 2010). In this TEP, e-Portfolios were used for all three purposes. However, this program evaluation focused on e-Portfolios as a self-assessment tool and digital receptacle for artefacts that co-relate to the professional standards (Kitchenham, 2008; Paul & Scholefield, 2009). The e-Portfolio served as a vehicle for reflection, content creation, self-assessment, and celebration (Granberg, 2010).

At this university, TCs created and designed e-Portfolios for the education technology course, found artefacts, and wrote a 300–800-word rationale to describe how they were co-related to the professional standards (Kitchenham, 2008). In another BC TEP, TCs participated in e-Portfolios as part of their program and worked with faculty complete the assignment using WordPress (Paul & Scholefield, 2009). TCs found this platform frustrating to use at times for formatting and personalizing, but overall, they enjoyed the assignment, it was good for self-reflection after completing practicum, and recommended projects to track professional growth (Paul & Scholefield, 2009). Furthermore, "portfolios provide a space where pre-service teachers can reflect 'on' and 'in' practice by making links between evidence in their e-Portfolio and the development of their professional identity" (Schön, 1983, cited in Boulton, 2014, p. 376). Identity is important to learning because it connects people to others and the community and helps one to understand their place, their strengths and challenges, ways to contribute, and feelings of belonging (Chrona, 2014). Indeed, "learning requires the exploration of one's identity" (FNESC, 2008). TCs can use e-Portfolios to explore their values, beliefs, and professional identity as a teacher.

Professional Identity

TCs transform over time within the TEP from the identity of student to learner/educator. At first, TCs display *studenting behaviours* that do not contribute to learning but rather to gaming behaviours (Liljedahl & Allen, 2013). For example, the focus is more about the grade and how to

get the grade rather understanding what is being taught and why it matters. They are driven by the *goods external* to the practice (i.e., grades, competition) instead of the *goods internal* to the practice (i.e., curiosity, wholeheartedness; MacIntyre, 1981). e-Portfolios can help develop a reflective practice, link theory to practice, and identity personal goals (Boulton, 2014). In addition, "the use of reflective activities in teacher education programmes bring about positive changes in the [TC's] self-knowledge, cognitive and emotional selves, sense of agency, voice, confidence as a teacher and self-dependency" (Izadinia, 2013, p. 700). Taking the time to connect self-reflection to self-identity is worthwhile in TEPs (Boulton, 2014). You teach who you are (Palmer, 1989). Understanding one's identity can help one to understand their experiences, gain awareness of their surroundings, and recognize their values, gifts, and areas for growth (Chrona, 2014).

TCs need explicit time for sense-making, to write and rewrite their narrative, and reflect on their values and beliefs (Eliot & Turns, 2011). Exploring and developing one's professional identity in teacher education aligns to the Core Competencies of BC's Curriculum (Province of British Columbia, 2021) and what it means to be a teacher. Teachers are learners (Stolz, 2020). TCs can discover their professional identity by first looking at past experiences, pre-conceptions of teaching, and self-knowledge (Friesen & Besley, 2013). "Learning is embedded in memory, history and story" (FNESC, 2008), and our identities are always changing (Palmer, 1984). Our identity influences what we teach, the decisions we make, and the relationships we create with students (Izadinia, 2013). TCs using e-Portfolios to discover who they are as educators and learners can be part of the process of developing their sense of purpose and educational philosophy. What's more, "those individuals who had explored their values and beliefs and had developed a greater sense of self-knowledge [are] better positioned to consider the values and roles of the teaching profession" (Friesen & Besley, 2013, p. 24). TCs need to deeply understand the professional standards, who they are as educators, and what's expected of them in the profession.

Overview of Program Evaluation

This is a program evaluation that drew upon processes often used in action research. The faculty member who led the initiative to extend the use of e-Portfolios into final practicum is the author of this paper. Much like action research, this program evaluation was conducted by someone within the learning community to pursue a better understanding of a given situation through inquiry and outcomes from the implementation lead to an action plan (Hinchey, 2008). The process is cyclic, reflective, and seeks to improve practice (or program) through a method of inquiry where knowledge is socially constructed, there is no single truth, and findings may be helpful to others in related situations (Hinchey, 2008). The outcomes are not universal.

The framework used to guide this program evaluation of extending the use of e-Portfolios was the *Spirals of Inquiry* (Kaiser & Halbert, 2017) which has six phases: scan, focus, develop a hunch, learn, take-action, and check. The *scan* involved noticing that TCs were not taking ownership of their final practicum experience and being the agents of their learning during practicum. The *focus* was to find ways in which TCs could self-assess their teaching and learning during practicum in a meaningful and purposeful way. The *hunch* was comprised of three parts. First, was an understanding that the e-Portfolios were taught, learned, and completed in Term Three during *EDUC 431* with a focus on education technology. Second was that they were not used in Term Four during final practicum. Finally, TCs blogs were not included in the e-Portfolio as a reflective tool for sense-making. The *learn* phase determined if

TCs could maintain e-Portfolios during final practicum and if they helped TCs develop their professional identity. The *take-action* phase involved introducing TCs to e-Portfolios in Term Three, discussions about continuing the use of e-Portfolios during the final practicum, and direction on how to include artefacts and reflections from Term Four to create a digital narrative of their professional identity. The *check* involved e-Portfolio completion, the Celebration of Learning, Twitter posts, observations made by the faculty member, and notes of context and noteworthy events over a three-year period. The outcomes of the program evaluation informed next steps and future use of e-Portfolios.

At this small research university in British Columbia (BC), there are two cohorts per annual intake in the teacher education program (TEP): the secondary years (SY) and elementary years (EY). The implementation of the e-Portfolio initiative spanned over six cohorts (approximately 10-30 students each) over three years, from 2018 to 2020.

Implementation of e-Portfolio Initiative

The expectation of completing an e-Portfolio during EDUC 491 (the 10-week final practicum) was made evident in the course syllabus. Over three years, each set of EY and SY cohorts were introduced to the e-Portfolio initiative differently, depending on who taught EDUC 431 (the Education Technology course) or EDUC 490 (four-week practicum course) in Term Three of the TEP. Different people taught EDUC 431 over the three years (i.e., the faculty member taught EDUC 431 to both cohorts in 2019 but did not teach EDUC 431 in 2018 or 2020). However, the faculty member taught EDUC 490 to some of the cohorts over the three years and taught all six cohorts for EDUC 491 (final practicum course) in Term Four. As a result, extending the use of e-Portfolios from Term Three into Term Four was introduced in either EDUC 490 or EDUC 431.

The 2018 cohorts were encouraged to add additional artefacts, reflections, or exemplars from final practicum onto their Wix.com or Weebly.com site. The 2019 and 2020 cohorts did not create their e-Portfolio website; instead, they were provided an e-Portfolio template made on an open-sourced WordPress site from OpenETC (see Figure 1). Using OpenETC was desirable because it was free to use, FIPPA compliant, included extra plug-ins and template designs, and the university technology expert was a member of OpenETC who provided technical support during implementation. Much like the 2018 cohorts, the template included an *About Me* page and the *BC Teacher Standards*. The template also included a *Portfolio Components* tab, a *Practicum Experience* tab, and a blog as the landing page. Each tab allowed for additional sub-pages for TCs to personalize and highlight work experiences, values and beliefs, and exemplars of their Assessment for Learning, First Peoples Principles of Learning, and inclusive practices.

The 2020 cohorts were not required to make an e-Portfolio during EDUC 431. As a result, these cohorts did not draw upon the same education technology skills set as the previous cohorts. Cohorts were exposed to WordPress and web design experientially. All cohorts in the implementation were encouraged to use Twitter as a microblog and embed the feed into their e-Portfolios. However, Twitter use was not required due to personal choice, comfort with social media, and one's digital footprint. Final practicum concluded with a Celebration of Learning and capstone presentation. TCs prepared a short presentation on the big ideas learned during practicum and program and used their e-Portfolios for content. TCs presented to first year TCs, faculty, and school district staff. The 2018 cohorts presented individually in a four-minute Ignite

Figure 1

Screenshot of Landing Page of E-Portfolio Template

presentation, the 2019 cohorts submitted triad presentations and scripts electronically, and the 2020 cohorts presented online for 10 minutes with their triad. Individual and triad presentations self-identified big ideas to share with the audience that were important for them to learn during practicum.

Collection of Program Information

Program information was collected from the Celebration of Learning, observations made by the faculty member, Twitter posts, completed e-Portfolios, and notes taken by the faculty member during the three years of implementing the extension of e-Portfolio use during final practicum. Cohorts presented their learning differently each year at the Celebration of Learning due to unforeseen events and program delivery determined by the pandemic and COVID-19 safety protocols. Some presentations were in person, in triads, online, or completed asynchronously.

The information collected over the three years was used to determine the viability of e-Portfolio use during final practicum and to better understand the ways e-Portfolios can help TCs develop their professional identity and deepen their understanding of the professional standards. What was observed by the faculty member during the e-Portfolio implementation was context, content, and contribution.

Key Themes

Three themes were identified from the extended use of e-Portfolios during final practicum as Teacher Candidates (TCs) developed their professional identity as teachers: (a) overcoming obstacles (i.e., context), (b) getting the big ideas (i.e., content), and the (c) willingness to share

(i.e., contribution). During the initiative, all e-Portfolios were maintained and completed in Term Four and met program expectations, and all TCs participated in the Celebration of Learning.

Overcoming Obstacles

The first theme identified was the context in which the implementation took place each year. Over the three-year period, cohorts overcame unique challenges within the university and program that were not typical circumstances for the teacher education program (TEP). These obstacles were extraordinary and implementing a new initiative like e-Portfolios during final practicum would have been met with some resistance and refusal. Despite unprecedented events, TCs were able to follow through, demonstrate qualities of resilience, persistence, and grit, and complete the e-Portfolio by the end of practicum to participate in the Celebration of Learning. The next few sections describe the context of the learning environment during implementation.

Changing Faculty, Changing Expectations

The 2018 cohorts experienced significant changes in faculty, staff, and leadership mid-program, which resulted in changed expectations and varied levels of uncertainty and angst. The University was also changing its structure from two colleges to five faculties, several faculty members left or retired from the department, and leadership and support staff were in a state of flux with a new interim dean and temporary administrative staff. New faculty, new staff, and new leadership within the department had the effect of disrupting program expectations of the TEP. As result of this context, TCs in general expressed the desire to finish the program as soon as possible and move into K-12 teaching positions.

The 2018 cohorts initially pushed back at the idea of continuing e-Portfolios after Term Three. As an aggregate group, the 2018 cohort believed they met the course criteria for EDUC 431 and did not embrace the purpose of extending its use into Term Four. Although the learning intention for e-Portfolios would be different for final practicum, the initiative was perceived to be "add on" or additional work. In this first cycle, the 2018 cohort was encouraged to add new artefacts from final practicum into their e-Portfolio. Although informal feedback after the program ended indicated some overall group awareness of the benefit of the e-Portfolio as a tool for reflection, in general the 2018 cohort made little or no changes to their e-Portfolio in Term Four after completing it in Term Three. However, the 2018 cohorts met program expectations, submitted e-Portfolios, and presented a four-minute Ignite presentation using their e-Portfolio to highlight their learning.

Faculty Strike and the Pandemic

The 2019 cohorts experienced a faculty strike in Term Three and pivoted to remote learning in Term Four due to the COVID-19 pandemic and school closures in K-12. In both situations, approximately three weeks of instructional and practicum time were lost due to these unexpected interruptions. TCs started working on their e-Portfolios in EDUC 431 using WordPress and the template and were able to continue its use during final practicum. Because the introduction of the e-Portfolio and expectations of extended use were set during EDUC 431, the transition to e-Portfolios during final practicum was seamless despite the labour dispute and strike. The cohorts applied their EdTech knowledge to their e-Portfolio by incorporating applications like YouTube, Sketchnote, vlogs, audio recordings, photo collages, and Twitter. The 2019 cohorts used FIPPA compliant images, uploaded lesson plans, and blogged. Initially,

the 2019 cohorts expressed uncertainty about blogging, but over time they demonstrated the formative nature of e-Portfolios and use beyond showcasing achievements, earning a final grade, or getting a job interview. The blog was formative, and webpages were summative. Overall, artefacts chosen by TCs to represent the professional standards were intentional and the blog posts were reflective.

The final practicum ended early due to the pandemic and K-12 school closures. Although time was not spent teaching in the classroom for practicum, TCs used this time to complete their e-Portfolios and submit them at the end of the term. The TCs collaborated with their triad online to co-create their capstone presentation. The Celebration of Learning was cancelled due to the uncertainty of the pandemic. Triads submitted their presentations electronically by email with a written script as the adaptation for not presenting in person or synchronously online. All triad presentations were submitted and TCs were able to complete and maintain e-Portfolios.

Remote Learning and No Prep

The 2020 cohorts completed coursework online due to remote learning and COVID-19. K-12 schools reopened, and practicum resumed as planned with COVID-19 safety protocols in place. TCs were not required to create an e-Portfolio in EDUC 431, therefore these TCs were introduced to e-Portfolios during their 4-week practicum course, EDUC 490, in Term Three and continued their use in Term Four during final practicum. TCs used WordPress and the template and spent asynchronous course hours learning how to use the platform to experiment with web design and personalize their e-Portfolio. The formative and summative aspects of the e-Portfolio were emphasized as well as what was expected in the program by the end of Term Four.

In triads, TCs presented their capstone presentations online via Zoom to new TCs, faculty, and school district staff. All e-Portfolios were completed and submitted at the end of final practicum. Although the 2020 cohorts did not have opportunity to develop the same education technology background as cohorts in previous years, the TCs were equally committed to contributing to their e-Portfolios. The TCs added items from coursework, such as their *Pedagogical Stance* from the Foundations of Education course, and content within their e-Portfolios generally focused on their teaching and learning experiences within the TEP, with exception to the About Me page and any personalized pages highlighting values and beliefs, work experiences, or interests. A couple of TCs created additional webpages to communicate with parents and students during final practicum. The 2020 cohorts were able to use the e-Portfolio during final practicum despite their varied experience in EDUC 431.

Summary

Regardless of exceptional and unpreceded circumstances during each year of implementation, TCs were able to maintain and complete an e-Portfolio during final practicum and include different applications, coursework, and additional pages to personalize their e-Portfolio. The potential of extending the use of e-Portfolios into final practicum and collaborating with other courses such as EDUC 431 and EDUC 490 under ordinary circumstances is unimaginable. The outcomes of the implementation would be potentially better and collaboration or integration with other courses would add more coherence to the program, practicum, and initiative.

Getting the Big Ideas

The second theme identified from using e-Portfolios during final practicum was getting the big ideas (or content) of the TEP (see Table 1) as presented during the Celebration of Learning. In 2018, the big ideas were collectively identified by the cohort of first year TCs who witnessed the capstone presentations and made note of the big ideas they heard from each presentation. A summary of these big ideas is listed in Table 1. In 2019 and 2020, the big ideas listed were self-identified by each triad, which were informed by their final practicum experiences and e-Portfolios.

Table 1

List of big ideas shared during the Celebration of Learning

2018 Cohorts[1]	2019 Cohorts[2]	2020 Cohorts[3]
Be authentic	Building relationships	Holistic education
Differentiate	Engaging activities	Experiential learning
Make learning accessible	Relationships	Student engagement
It's ok to be yourself	ADST	Outdoor education
Peers help to reduce stress	Diversity	Building relationships
Self-care matters	Flexibility	Holistic assessment
Build relationships	Motivation	Teacher wellness
Embrace who I am	Purposeful play	
Take advantage of your triad	Leadership	
Meet every student's needs	Relevance and engagement	
Be organized	Experiential learning	
Use your strengths	Authenticity	
More inquiry projects	Differentiation	
Different students need different strategies	Reflective and reflexive teaching	

Note: There are two cohorts per annual intake: elementary years and secondary years.
[1] Presented individually and in-person on campus. Topics derived from Year 1 TC notes.
[2] Presentations and scripts submitted to the instructor. Topics self-selected by each triad.
[3] Presented in triads remotely, online via Zoom. Topics self-selected by each triad.

The one big idea that was consistent throughout the three years was "building relationships," which represents Standard 1 (i.e., care for students) from the Professional Standards for British Columbia (BC) Educators (2019). Themes of differentiation, holistic assessment, and inquiry projects reflect Standard 5 (i.e., capacity to teach); and making learning accessible, motivation, and purposeful play highlight Standard 3 (i.e., student growth and development). The big ideas self-identified by TCs as individuals or triads at the Celebration of Learning revealed what they valued, what they have learned, and what best reflected their development of professional identity.

Furthermore, the e-Portfolio and Celebration of Learning provided TCs an opportunity to demonstrate the professional standards digitally as individuals and collectively as triads or cohorts, that is, Standard 2 (professionalism), Standard 7 (professional learning), and Standard 8 (contributing to the profession). Community and collegiality were also evident. For example, in 2020, the secondary cohort was relatively small, and they wanted to present together. They worked together for 2-years and demonstrated their agency to ask for what they wanted. The "septad" presented as one group for 20 minutes during the Celebration of Learning. e-Portfolios and Celebration of Learning provided a platform for TCs to share, collaborate, and celebrate their learning and achievements together. The use of e-Portfolios during final practicum was observed to help TCs to sense make, reflect, and make connections between each other, theory, and practice.

Willingness to Share

The third theme identified was the willingness of TCs to share e-Portfolio content and learning with others. Aside from presenting a few big ideas from their e-Portfolio during the Celebration of Learning, TCs willingly shared their e-Portfolio, voluntarily or on request, in the following ways:

- Using the About Me page to introduce themselves to school principals before practicum
- Presenting at WestCAST and using parts of their e-Portfolios in the PowerPoint
- Participating on Twitter and sharing links to their e-Portfolio in their bio or tweet
- Setting their e-Portfolio privacy settings as public and websites as searchable online
- Sharing their e-Portfolio links with course instructors for exemplars and course syllabus
- Giving permission to research faculty to share e-Portfolios at conference presentations
- Submitting e-Portfolio links as part of job applications, certification, or interviews

Sharing is a form of contribution to the profession (Standard 8). By extending the use of e-Portfolios into final practicum, TCs were able to synthesize and summarize their teaching and learning experiences. TCs expressed pride in their accomplishments in the TEP and e-Portfolios. TCs did not hesitate to say yes to sharing their e-Portfolios with other TCs, faculty, and others who were learning more about e-Portfolios and their use and potential in teacher education. TCs were also vulnerable and personal in their blog posts as part of their willingness to share. Some made connections with their struggles, new learning, and reflections. Others shared stories about their cultural heritage, family, or aspects of their personal life. Some TCs shared lesson plans, assignments, and coursework in their e-Portfolios, while others continue to use their e-Portfolios as practicing teachers to critically reflect or communicate with students and parents.

Learning was made visible using e-Portfolios. Another place where TCs were willing to share their teaching and learning experiences was with Twitter and microblogging. Although not all TCs participated on Twitter, TCs who chose to engage shared what was happening in their classroom, reflected on their teaching and learning, and expressed moments of gratitude. Some TCs participated on #BCEdChat, an edu-chat on Twitter, as part of their professional learning or made connections with other BC educators or educators with a common interest. TCs shared

their reflections, ideas about teaching and learning, and practicum updates on Twitter. Some TCs showed pictures of doing math in the snow, some had images of student work, while others shared photos with their triad at school visits or observations. All photos were FIPPA compliant. TCs also posted lesson plan ideas online, added their e-Portfolio link in their Twitter bio, noted participation in leadership roles such as coaching the volleyball team or leading the GSA club, or revealed special moments worth celebrating like getting their first teaching job.

Conclusions

Through this program evaluation, the initiative to extend the use of e-Portfolios into the final practicum at this teacher education program (TEP) was considered a worthwhile endeavour because teacher candidates (TCs) were able to maintain an e-Portfolio with artefacts that demonstrated their understanding of the professional standards and e-Portfolios were personalized to reflect who they were as learners and educators. TCs found appropriate artefacts from practicum and coursework and composed additional webpages that introduced themselves, highlighted their understanding of BC's Curriculum, and articulated any additional skills, values, competencies, or work experience to create a digital narrative of their professional identity. The e-Portfolio served both summative and formative purposes by providing a space for TCs to reflect and sense-make about theory and practice using a blog, but also choose artefacts and write rationales that represented their professional identity.

The e-Portfolio was used by TCs to make tacit moments and understandings more visible. It provided a vehicle for TCs to develop the Core Competencies, such as communication, reflective thinking, and positive personal identity, as described in BC's Curriculum. Furthermore, TCs were engaged in the First Peoples Principles of Learning (FNESC, 2008) as learners and reflective practitioners who reflect in and on practice (Schon, 1984). Learning was experiential, holistic, and embedded in memory, history, and story (FNESC, 2008). They explored their identities and recognized that "some knowledge is sacred and only shared with permission and/or in certain situations" (Chrona, 2014, title). They composed their digital narrative with the understanding of FIPPA, digital citizenship, and their digital footprint. Their actions online reflected what was expected of them and from them based on the Professional Standards for British Columbia Educators (2019). TCs were learning the professional standards and digital literacy experientially, learning by doing, and self-assessing each action or thought to inform the next (Earl, 2003; Kolb, 1984).

The e-Portfolio was used for reflection and assessment as learning (Earl, 2003) to provide ongoing formative feedback to the end of the program. The Celebration of Learning and completed e-Portfolio were summative, but the opportunities to collaborate with others, reflect on teaching, and find artefacts that represent the professional standards and who they are as educators (Palmer, 1989) were formative. Assessment as Learning (Earl, 2003) helped TCs to think about their thinking (and doing) and to develop their metacognitive skills as reflective practitioners. The ability to choose artefacts, design a website, and personalize content provided TCs with a sense of agency and pride. TCs shifted from a mindset of studenting (Liljedahl & Allan, 2013) to one of learning and ownership. The use of e-Portfolios revealed professional qualities of TCs, such as agency, sense of community, and teacher efficacy, within the e-Portfolios, but also from *the doing* of e-Portfolios. They overcame extraordinary challenges during the implementation but remained professional, diligent, and on-task to effectively demonstrate their learning.

In the end, engaging in e-Portfolios during final their practicum was a humanizing endeavour. As a whole, the e-Portfolios were personalized and unique even though some TCs started with a template. The self-selected big ideas presented at the Celebration of Learning based on their e-Portfolios, such as building relationships, experiential learning, and differentiation, captured TC learning in the TEP from practicum, and reflected parts of TCs professional identity. Although not part of this investigation, the implementation of the other two initiatives to improve the practicum experience (i.e., triads and the single point rubric) may have complemented or enhanced what was observed and produced in the e-Portfolios in terms of self-assessment and understanding of the professional standards. TCs created a digital narrative of their teaching and learning using e-Portfolios (and Twitter) that reflected the professional standards and aspects of their professional identity. As a whole, TCs were vulnerable, willing to share and contribute, and made their learning and pedagogical stance visible to others. The extended use of e-Portfolios during final practicum was viable, but our next question is, can it be used throughout the program?

Next Steps

The next step towards action (and future program evaluation) is to design and implement a new course focused on reflective practice and e-Portfolios in the redesigned teacher education program (TEP) at this university. This course would be "cross cutting" throughout the TEP, meaning that this three-credit course, called EDUC 405, would replace EDUC 431 and continue throughout the four terms of the program. The redesigned program is intended to be a continuous 16-month program instead of a two-year program, and e-Portfolios would be primarily used for critical reflection, documentation, and demonstration of the professional standards. Teacher candidates (TCs) would be able to make visible their professional growth and identity formation over the entire program and be inclusive to other coursework and practicum. Although EDUC 405 would weave through and into other courses in the program, it would be expected that TCs would attempt to weave theory and practice together within their e-Portfolios.

Student agency, student choice, and personalization would be essential outcomes for this new course in addition to making connections to BC's Curriculum, First Peoples Principles of Learning, and the Core Competencies to develop a reflective practice and one's professional identity. The following is a list of recommendations for EDUC 405 based on what was learned over the last three years from the e-Portfolio initiative and program evaluation:

- Use open-sourced WordPress from OpenETC (which is FIPPA compliant)
- Introduce e-Portfolios with a template which includes the minimum number of pages
- Choose artefacts and exemplars from practicum experiences and coursework
- Add additional pages that highlight personal competencies, strengths, or interests
- Maintain a blog for ongoing critical reflection and opportunities to sense make
- Encourage TCs to incorporate different types of media or applications
- Find opportunities for triads to collaborate, brainstorm, and provide peer feedback
- Include Twitter as part of the reflective practice and e-portfolio (optional use)

- Conclude the program with a Celebration of Learning (and refer to e-Portfolios)
- Design the Celebration of Learning to be participatory and formative feedback

EDUC 405 would be implemented in the Fall term and conclude in the following Fall term.

Final Reflections

The program evaluation of extending the use of e-Portfolios into final practicum in this two-year teacher education program (TEP) was determined to be viable such that teacher candidates were able to maintain an e-Portfolio during final practicum, find artefacts that would best reflect their practice and professional standards, and share ideas during the Celebration of Learning and beyond. In doing so, TCs were able to develop their professional identity and reflective practice as new K-12 educators, make connections between theory and practice, and curate a digital narrative of who they are as a learner and educator as they deepened their understanding of the professional standards through practice. The e-Portfolio provided a digital platform for ongoing formative assessment during and after final practicum and served as a vehicle for reflection, sense-making, and self-assessment. E-Portfolios were personalized, and learning was made visible and public. The implementation revealed professional qualities of teacher candidates and they were in turn able to practice some of the professional standards and experience parts of BC's Curriculum. e-Portfolios during final practicum humanized the learning experience as it created space and time for teacher candidates to pause, reflect, and celebrate. The potential of using e-Portfolios throughout the teacher education program to develop a reflective practice through inquiry is plausible, but it may also help with creating more cohesion and coherence between coursework, practicum, the professional standards, and one's professional identity.

Author's Contributions

The author confirms sole responsibility for the following: program evaluation conception and design, collection of information, interpretation of information, and manuscript preparation.

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Ethics Statement

Ethics review was not applicable because the inquiry was about evaluating and improving the program.

Conflict of Interest

The author does not declare any conflict of interest.

Data Availability Statement

Data sharing is not applicable to this article as no new data were created or analyzed in this program evaluation.

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