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*Considering Indigenous Environmental  
Issues  
in Canadian Curricula:  
A Critical Discourse Analysis*

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**Abstract:**

This article presents insights from a curricular review of Canada's ten provinces and three territories with a focus on critical Indigenous environmental issues. This inquiry was conducted amidst nationally prominent events and socio-ecological movements such as the Truth and Reconciliation Commission, Idle No More, and numerous oil and gas pipeline protests. We share findings revealed through this review informed by Eisner's (2002) three curricula—the explicit, implicit and null—and a qualitative critical discourse analysis methodology.

**Keywords:** Indigenous; environmental; education; curriculum; discourse

## **La prise en compte des questions environnementales autochtones dans les programmes d'études canadiens : une analyse critique du discours**

### **Résumé :**

Cet article présente les points saillants de l'analyse des programmes d'études des dix provinces et trois territoires du Canada en mettant l'accent sur les questions environnementales autochtones. Cette enquête a été menée lors d'événements et de mouvements socio-écologiques d'envergure nationale comme La Commission de Vérité et Réconciliation, « Idle No More » et lors de nombreuses protestations contre les oléoducs et les gazoducs. Nous partageons les résultats révélés à travers l'analyse de trois programmes d'études de Eisner (2002)—l'explicite, l'implicite et le nul—et une méthodologie d'analyse qualitative critique du discours.

**Mots clés :** autochtones; environnemental; éducation; programme d'étude; discours

## Background

This article presents findings from a curricular review of all ten provinces and three territories in Canada with a focus on critical Indigenous environmental issues in social studies, the humanities, the sciences and other unique regionally developed courses in related areas. We, a professor of Métis and European descent (Greg), and a professor of mixed European ancestry (Teresa), both based in Alberta, conducted this inquiry amidst nationally prominent events and socio-ecological movements such as the Truth and Reconciliation Commission (TRC), Idle No More, as well as numerous protests related to proposed oil and gas pipelines such as Keystone XL, Northern Gateway, Trans Mountain and Energy East. We share insights gained through this curricular review guided by Eisner's (2002) three curricula—the explicit, implicit and null—and a qualitative critical discourse analysis methodology rooted in discourses related to sustainable development and the interconnected areas of environmental education, Indigenous education and Indigenous environmental education.

This inquiry builds upon a previous interview-based study with Indigenous and non-Indigenous educators across Canada regarding their experiences with engaging Indigenous environmental issues in their pedagogical praxis (Lowan-Trudeau, 2019a, 2019b). A key finding from the study was the call from several participants for increased resources relevant to provincial curricula to increase educators' knowledge of and confidence with teaching about Indigenous environmental issues in a variety of subject areas. Inherent to such an endeavour is the transdisciplinary or "wicked" (Vink et al., 2013) nature of Indigenous environmental issues, which are comprised of complex dynamics related to Indigenous land, water and ecological knowledge, as well as associated resistance to resource developments and other instances of environmental degradation that infringe upon Indigenous people's rights and territories.

We began this review with the intention of identifying existing curricular connections in order to assist educators in envisioning how they might critically engage with Indigenous environmental issues in their praxis. We produced a report (Lowan-Trudeau & Fowler, 2018) and associated website ([www.indigenousserved.ca](http://www.indigenousserved.ca)) that not only identified and provided suggestions for relevant curriculum links, but also offered background information for better understanding foundational concepts related to Indigenous land and environmental rights, to historical and contemporary case studies and to key terminology. In the course of our review, we identified intriguing regional and national trends, as well as specific exemplars, which led us to deeper theoretical insights and considerations as presented in the following.

### **Sustainability and Indigenous Environmental Education**

In framing our review of existing and possible connections to Indigenous environmental issues in Canadian curricula, we considered tensions, discourses and critical intersectional (Maina-Okori et al., 2018) points of overlap within and between the contested concept of sustainability (Jickling, 1992, 1994) and the interrelated fields of environmental education, Indigenous environmental education and Indigenous education.

Alberta provided an interesting base context for this Canada-wide inquiry. As Varzari (2001) astutely suggests, environmental discourse in this oil and gas-centric province has been charged for some time. Varzari also identifies a long-standing competition for rhetorical dominance between pro-oil and gas “utilitarian” and “environmental” paradigms in Alberta. Takahashi and Meisner (2012) describe such situations as struggles for discursive hegemony wherein formal and informal coalitions comprised of like-minded people seek to control the dominant discourse surrounding a given topic. However, Cunningham (2018) notes that discourses may also change over time. For example, Katz-Rosene (2017) argues that Alberta’s government and oil and gas industry have crafted a steadily shifting narrative from one of economic promise to the more contemporary co-option of the term and concept of sustainability in an attempt to “greenwash” tar sands development, in order to make it more palpable for environmentally minded consumers and voters.

Alberta’s tar sands and petroleum industry more broadly continue to receive well-deserved scrutiny and critique; however, the general dynamics and discourses described above are not entirely unique to this province. For example, in addition to oil and gas development in other provinces such as New Brunswick (Stuart, 2017), mines and large-scale hydroelectric developments in British Columbia (Booth, 2017; Roy, 2019) have faced significant Indigenous and allied resistance, as has clear-cut forestry in Ontario (Willow, 2012), among many other examples across Canada. A strong understanding of such dynamics, along with associated discourses and terminology, is key when considering their engagement in educational contexts.

## **Environmental Education**

There is a long history of challenging and discussing key terminology and associated concepts in the field of environmental education. For example, Jickling (1992, 1994), in foundational work, thoughtfully critiqued the popular notion of education for sustainable development. He adamantly argued against the very notion of sustainable development as merely perpetuating societal norms of consumption and assumptions in promoting growth and business as usual with a cleaner façade. In this influential scholarship, Jickling proposed that what is truly required is context-specific re-thinking of societal assumptions and consumptive habits, rather than innovative strategies of continuing and expanding the same behaviours in a more environmentally friendly manner. He also advocated for educational practices that encourage students to think critically for themselves in relation to environmental topics and beyond.

Sauvé (1996) concurred with Jickling regarding the importance of fostering critical environmental thinking in students beyond education for sustainable development. She later provided a useful account of a wider range of “currents” in environmental education, such as those primarily influenced by ecofeminist, bioregional and socio-critical concerns (Sauvé, 2005). Sauvé also highlighted what she termed the “ethnographic” current to critically describe endeavours preoccupied with the study of, and engagement with, non-Western cultures. She critiqued Western ethnocentrism and the objectification of Indigenous peoples commonly associated with

ethnographic and anthropological traditions, and she argued for the grounding of culturally linked environmental initiatives in local paradigms and practices.

## **Indigenous Environmental Education**

Building on the work of foundational scholars such as Cajete (1994,1999), Armstrong (1987), Barnhardt and Kawagley (2005), and others, Indigenous scholars have increasingly taken a strong lead in environmental education scholarship and practice (e.g., Cole, 2002; Lowan, 2009; Simpson, 2002; Vizina, 2018); notable Indigenous-non-Indigenous collaborations have also emerged (e.g., Aikenhead & Michel, 2010; Tuck & McKenzie, 2015a, 2015b; Wildcat et al., 2014). However, important terminological and associated conceptual distinctions also exist in this sub-field. Terms such as Indigenous science education (Cajete, 1999), land-based education (Lowan, 2009; Wildcat et al., 2014) and land education (Tuck et al., 2014), among others, are used to describe initiatives and research related to the consideration of, and engagement with, Indigenous environmental knowledge.<sup>1</sup> While the term “land-based education” implies engaging with such knowledge in educational settings outside of brick and mortar classrooms, “land education” carries a more critical edge—it is strongly linked with social and environmental justice (Meyer, 2014; Tuck et al., 2014; Twance, 2019).

In the scope of this inquiry, Agyeman’s concept of “just sustainability” (Agyeman, 2013; Agyeman & Evans, 2004) also warrants mentioning. Just sustainability is an approach that attempts to link and balance the aspirations of sustainable development with social and environmental justice concerns. Related terms and concepts also come to mind such as environmental racism (Waldron, 2018) and intersectional environmental justice (Ceaser, 2014; Maina-Okori et al., 2018), which disrupt dominant societal norms and challenge the status quo. Framing Indigenous environmental education in this way also leads us to consider the recent and ongoing work of the TRC.

## **Truth, Reconciliation and Indigenous Education**

Due to the persistent and widespread efforts of the TRC (2015) and its extensive media coverage, reconciliation has arguably become the dominant discourse regarding Indigenous and non-Indigenous relations in Canada in recent years. The efforts of the TRC to address and respond to the ongoing impacts of systemic colonization and associated racism in a range of institutional and societal contexts are outlined in 94 important “Calls to Action”. However, reconciliation is not without its critics. For example, some Indigenous people challenge the etymological associations of the term itself in suggesting that reconciliation is impossible as no mutually beneficial relationship existed in the first place (Michelin, 2017; Walker, 2015).

Reconciliation has become a prominent topic of conversation in educational circles (e.g., Cutrara, 2018; Gibson, 2019). Related terms such as decolonization and Indigenization have also

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<sup>1</sup> Indigenous environmental knowledge may also be described as “Traditional Ecological Knowledge” (TEK; Kimmerer, 2002).

become commonplace in Canada and elsewhere (e.g., Chinn, 2007; Trinidad, 2012; Tuck & Yang, 2012). While often viewed as synonymous in practice, each term carries important nuances and connotations that bear discussing.

Decolonization may be interpreted more broadly as a term that implies critical deconstruction of colonial power structures and associated conscientization of Indigenous and non-Indigenous peoples alike. However, Tuck and Yang (2012) also remind us that “decolonization is not a metaphor”—associated action is required.

Indigenization is sometimes viewed as a response to, or partner of, decolonization—it denotes an action-oriented process that introduces Indigenous paradigms, which are comprised of epistemologies, ontologies, axiologies and methodologies (Wilson, 2001), into settings not previously grounded in Indigenous traditions (Holmes et al., 2016; Trinidad, 2012). This term has been adopted and popularized by numerous educational institutions and governing bodies.

Whether formally adopted or not, reconciliation, decolonization and Indigenization have entered curricular discourse in Canada, both explicitly and implicitly.

### **The Three Curricula**

The earlier interview-based study (Lowan-Trudeau, 2018, 2019) that led to the curricular review which is the focus of this article was framed through distinct, yet compatible, critical, Indigenous and interpretive paradigms (Lincoln et al., 2018; Reid et al., 2017; Wilson, 2001). It was also informed by decolonization theory (Battiste, 2005; Simpson, 2002), Marcuse’s (1965) notion of “repressive tolerance” and Eisner’s (2002) notion of three curricula. Upon observing emergent regional and national trends, along with notable exemplars in our curricular review, we increasingly turned to Eisner for guidance.

Eisner (2002) described the three curricula as the explicit, implicit and null: that which is taught directly through speech and texts; that which is implied through speech, texts, actions and the physical structures of our institutions; and that which is not even available for consideration. As Flinders et al. (1986) previously suggested, the null curricula, in particular, can prove particularly confounding at times, as it is ultimately impossible to enumerate all the possible topics for consideration in a given curriculum. However, despite such limitations, we still found the three curricula to be very useful for this inquiry as they assisted us in articulating significant inclusions, implications and absences in various documents. The three curricula align well with the intentions of critical discourse analysis as described below.

### **Critical Discourse Analysis**

In this inquiry, we employed a qualitative critical discourse analysis methodology (Gargett, 2005; Machyn & Mayr, 2012; Manuschevich et al., 2018; Wodak, 2004) to allow for closer inspection of key curricular texts with connections to broader contexts, trends and societal discourses that emerged in our curriculum review.

Inspired by the work of critical and interpretive linguists (e.g., van Dijk, 1993; Wodak, 2004), as well as theorists such as Foucault (1971) and Ricoeur (1971), critical discourse analysis involves the careful consideration of speech and text related to germane societal topics and streams of discourse.

Societal discourses contain both passive and active elements. Takahashi and Meisner (2012) suggest that “discourses do not mirror social reality, they build it” (p. 248). With echoes of Eisner’s (2002) three curricula—the explicit, implicit and null—van Dijk (2011) points to both the explicit and implicit aspects of discourse, asserting, however that “discourses . . . are like icebergs: most of their meanings are *implicit*” (p. 614). Noted Cree scholar Ermine (2007) also employs the analogy of the “undercurrent . . . to describe the subsurface interests and attitudes that continually influence communication and behaviours between individuals, organizations and nations” (pp. 197-198). As such, critical discourse analysis may unveil socio-cultural codes and signals that, in turn, reveal an author’s personal biases and positioning—what is implied, or perhaps even absent, within an author’s explicit statements may prove to be the most illuminating elements of a given text.

Critical discourse analysis has been employed in a range of Indigenous and environmental education scholarship. For example, analyses have been conducted of research literature (Hart & Nolan, 1999), interviews with educators regarding residential schools (Gebhard, 2017), United Nations environmental policy documents (Sauvé et al., 2002), textbooks (Hussein, 2018), job advertisements (Hardy, 2008) and proposed curricular standards (Hufnagel et al., 2018). Critical discourse analysis has also been employed in other educationally related fields, such as counselling psychology, to raise counselors’ reflexivity regarding their own word choices and conversation patterns during sessions with different clients (Strong, 2003).

We employed the methods described below, guided by a qualitative critical discourse analysis methodology, to highlight and interpret exemplar passages from selected provincial and territorial curricula related to critical Indigenous environmental issues.

## Methods

The initial findings of this inquiry emerged from a systematic review of science, math, social studies, humanities and other regionally specific curricula, along with supplementary documents from all ten provinces and three territories in Canada. As such, the primary sources of data for this inquiry were publicly available curricula and supporting documents, which were accessed via provincial and territorial websites beginning in early 2017 and concluding in the summer of 2019. All documents were initially reviewed by Teresa and subsequently revisited by Greg; this approach led to an insightful comparative dialogue that deepened and added validity to the inquiry (Belgrave & Smith, 2002).

Curriculum documents were reviewed with the intention of identifying general and specific expectations relevant to Indigenous environmental issues. However, we correctly anticipated that there would be limited curricular connections *directly* related to Indigenous environmental issues. As such, we also looked for possible links related to Indigenous and environmental topics more

generally. This approach was also based on a recognition of the intersectional nature of Indigenous environmental issues (Maina-Okori et al., 2018).

In keeping with qualitative critical discourse analysis methodologies (Machyn & Mayr, 2012; Wodak, 2004), documents were reviewed through close reading (Smith, 2016), with particular attention paid to identifying possible curricular connections as well as key terms and discourses relevant to this inquiry (Machyn & Mayr, 2012; Wodak, 2004). We also attempted to identify jurisdictional, regional and national trends, as well as similarities and differences thereof. Although the primary focus of this inquiry was English-language curricula, French curricula were also reviewed for comparison, most notably in Québec.

### **Findings and Interpretations**

Practitioner-oriented findings from this review were first presented in a report (Lowan-Trudeau & Fowler, 2018) and on an associated website ([www.indigenousevned.ca](http://www.indigenousevned.ca)) that provided suggestions for curriculum links, both of which offered background information for better understanding foundational concepts and key terminology related to Indigenous land and environmental rights. In the following, we provide an abridged overview of notable curricular connections, along with representative exemplars that we discovered for each province and territory (Table 1). Exemplars are presented verbatim from their original sources with minor adjustments to punctuation and grammar for consistency. We subsequently present and discuss curricular trends, discrete passages and terminology that caught our attention in relation to the broader discourses introduced above.

<b>Province/Territory</b>	<b>Notable Curricular Links</b>	<b>Exemplars</b>
British Columbia	<i>*Recently redesigned curricula are competency based and incorporate Indigenous ways of knowing throughout all subject areas.</i>	<p><i>Geology 12:</i> Apply First Peoples' perspectives and knowledge, other ways of knowing and local knowledge as sources of information (p. 2)</p> <p><i>English, K-9 Curricular Competencies:</i> Identify how story in First Peoples' cultures connects people to land (p. 13)</p> <p><i>Social Studies, Gr. 3:</i> Indigenous societies throughout the world value the well-being of the self, the land, spirits and ancestors. (p. 4)</p>
Alberta	<p><i>Science</i> Gr. 4: 4-5, 7 Gr. 7-9: Front Matter Gr. 10-12: Front Matter Gr. 10/Science 10: Unit D4</p>	<p><i>Science 30:</i> D1.6k Describe how the Aboriginal perspective of an interconnected environment demonstrates the need to balance resource extraction with environmental impact (p. 81).</p> <p><i>Bio 20:</i> 20-C1.2s</p>



	<p>Gr. 12/Science 30: 30-D1.1k, 30-D1.5k, 30-D1.6k</p> <p><i>Bio 20</i> 20-C1.2s</p> <p>Bio 30 30C3.4s, 30CD2.1sts</p> <p><i>Social Studies</i> Front Matter Gr. 2: 2.12, 2.13 Gr. 3: 3.2.2 Gr. 4: 4.14, 4.2.2 Gr. 5: 5.1.3, 5.2.2 Gr. 6: 6.1.6, 6.2</p>	<p>Use local histories obtained from Aboriginal Elders to describe the importance of plant productivity to human sustainability</p> <p><i>Social Studies, Gr. 5: 5.2.2</i> Examine, critically, the ways of life of Aboriginal peoples in Canada by exploring and reflecting upon the following questions and issues:</p> <ul style="list-style-type: none"> <li>• What do the stories of First Nations, Métis and Inuit peoples tell us about their beliefs regarding the relationship between people and the land?</li> <li>• How were the natural environment and geography of each region of Canada determining factors of the diversity among Aboriginal groups (e.g., languages, symbolism)?</li> </ul>
<p>Saskatchewan</p>	<p><i>Math</i> Gr. 6: N6.9</p> <p><i>Foundations of Math and Pre-Calculus 10.</i> FP10.3 m</p> <p><i>Science</i> Front Matter Gr. 2: AW2.2c Gr. 4: HC4.1e Gr. 5: WE5.3g Gr. 6: DL6.1e, DL6.2de Gr. 7: E7.1, EC7.1 Gr. 8: WS8.3 Gr. 10: SCI10-CD1</p> <p><i>Social Studies</i> Gr. 2: RW2.2 Gr. 4: DR4.2 Gr. 5: DR5.1, DR5.2, RW5.1 Gr. 6: DR6.1E Gr. 8: DR8.1, RW8.3 Gr. 9: DR9.3</p> <p><i>English</i> Gr. 7: CR7.1</p>	<p><i>Foundations of Math and Pre-Calculus 10.</i> FP10.3 m Analyze a treaty for its inclusion of measurements, such as in the surveying for land entitlement, and create and solve situational questions that are relevant to self, family and community (p. 29)</p> <p><i>Science, Front Matter:</i> A strong science program recognizes that modern science is not the only form of empirical knowledge about nature and aims to broaden student understanding of traditional and local knowledge systems. The dialogue between scientists and traditional knowledge holders has an extensive history and continues to grow as researchers and practitioners seek to understand our complex world (p. 13)</p> <p><i>Science, Gr. 2: AW2.2c</i> Recognize the importance of air and water as two of the four elements (i.e., air, water, earth, fire) in Mother Earth in First Nations, Métis and other cultures</p> <p><i>Social Studies, Gr. 4: DR4.2</i> Explain the relationship of First Nations and Métis people with the land</p>

<p>Manitoba</p>	<p><i>Science</i> Front Matter Gr. 4: 4-1-05, 4-1-17</p> <p><i>Social Studies</i> General Outcome: The Land- Places and People Gr. 1: 1VP-011A Gr. 3: 3-VP-011A, 3-KL-019, 3-VL-006 Gr.4: 4-KL-020A, 4-KL-023, 4-KL-024, 4-Ki-009A Gr. 6: 6-KL-026A Gr. 7: 7-VP-013, 7-KE-053, 7-KE054, 7-VL-009 Gr. 9: KL-027, VL-006, VL007 Gr. 10: KL-018, VL-005, S-103, S-107, KI-004 Gr. 12: 6E.1, 6E.2, 6E.3, 6E.4, 6E.5, 6E.6</p>	<p><i>Science, Front Matter.</i> Sustainable development is a decision-making model that considers the needs of both present and future generations, and integrates and balances the impact of economic activities, the environment, and the health and well-being of the community.</p> <p><i>Social Studies, General Outcome: The Land- Places and People</i> Students will explore the dynamic relationships of people with the land, places and environments</p> <p><i>Social Studies, Gr. 4: KL-024:</i> Give examples of Aboriginal peoples' traditional relationships with the land</p> <p><i>Social Studies, Gr. 6: 6-KL-026A:</i> Describe the influence of the land on their First Nation, Inuit or Métis identity</p>
<p>Ontario</p>	<p><i>Science</i> Gr. 6: 1.1, 3.9 Gr. 8: 1.2</p> <p><i>Biology</i> Gr. 11 &amp; 12: Front matter</p> <p><i>Social Studies, History, &amp; Geography: Front matter</i></p> <p><i>History</i> Gr. 7: B1.3 Gr. 10: D3.3, E2.3</p> <p><i>Economics</i> Gr. 11: E1.2</p> <p><i>Living in a Sustainable World</i> Gr. 12: E1.2</p>	<p><i>Science, Gr. 6: 1.1</i> Analyse a local issue related to biodiversity (e.g., the effects of human activities on urban biodiversity, flooding of traditional Aboriginal hunting and gathering areas as a result of dam construction). Taking different points of view into consideration (e.g., the points of view of members of the local community, business owners, people concerned about the environment, mine owners, local First Nations, Métis, Inuit), propose action that can be taken to preserve biodiversity and act on the proposal</p> <p><i>Social Studies, History, and Geography, Front Matter: Equity and inclusive education</i> By drawing attention to the contributions of women, the perspectives of various ethnocultural, religious, and racial communities, and the beliefs and practices of First Nations, Métis and Inuit peoples, teachers enable students from a wide range of backgrounds to see themselves reflected in the curriculum. There are numerous opportunities to break through stereotypes and to learn about various religious, social and ethnocultural groups,</p>

		including First Nations, Métis and Inuit people, and their distinct traditions.
Quebec	<p><i>*Cycles, rather than grade levels provide base structure, with emphasis on general competencies rather than specific expectations, especially in primary grades; General encouragement to foster environmental awareness across curricula</i></p> <p><i>Primary Science</i> Cycles 2 &amp; 3</p> <p><i>Secondary Science</i> Science &amp; Environment stream</p> <p><i>Social Studies (K-9)</i> Cycle 3</p> <p><i>Social Studies (Secondary)</i> Cycles 1 &amp; 2</p>	<p><i>Secondary Science</i> Science and Environment stream; General connections to exploring energy challenges, community resources and environmental groups</p> <p><i>Social Studies (K-9): Cycle 3</i> Focus on Inuit and Mi'kmaq peoples, colonization, assets and limitations of land</p> <p><i>Social Studies (Secondary): Cycles 1 &amp; 2</i> Foci include territorial issues, cultural landmark references, human action and social change, environmental risks</p>
Nova Scotia	<p><i>Social Studies</i> Gr. 3: Outcome 2</p> <p><i>Geography</i> Gr. 10: 7.5, 8.2</p> <p><i>Geography of Canada</i> Gr. 11: 7.3</p> <p><i>Global Geography</i> Gr. 12: 6.2</p> <p><i>History</i> Gr. 10: J2</p> <p><i>Global History</i> Gr. 12: 4.2, 5.5</p> <p><i>Science</i></p>	<p><i>Science, Gr. 4: Outcome 2</i> Students will investigate the interrelatedness among animals, plants and the environment in local habitats: investigate and compare local habitats and their associated populations of plants and animals, inclusive of Aboriginal perspectives; describe how human actions and natural phenomena can change and/or conserve the environments of habitats, inclusive of Aboriginal perspectives</p> <p><i>Social Studies, Gr. 3: Outcome 2</i> Students will take age-appropriate action to practice responsible behaviour in caring for the environment: ask questions to gain information about the need to protect the environment, discuss responsible behaviour and caring for the environment (Teacher note: Be mindful of Mi'kmaq beliefs and practices in relation to the</p>

	<p>Gr. 4: Outcome 2 Gr. 7: 112-4, 112-8, 113-11, 209-5, 211-5, 113-1</p>	<p>environment], engage in a practice(s) that can help to solve problems and promote environmental sustainability in their community)</p>
<p>New Brunswick</p>	<p><i>Social Studies (K-12)</i> Key Stage Curriculum Outcomes within People, Place and Environment strand</p> <p><i>Math</i> Gr. 9: SCO-SP1</p> <p><i>English</i> Gr. 4-6: SCO#3</p>	<p><i>Social Studies (K-12):</i> Key Stage Curriculum Outcomes—People, Place and Environment</p> <p>By end of Gr. 9, analyse ways in which social, political, economic and cultural systems develop in response to the physical environment</p> <p>By end of Gr. 12, evaluate the role of perspective, power and authority in the use of and development of policies to manage Earth’s resources</p>
<p>Prince Edward Island</p>	<p><i>Social Studies</i> Gr. 1: 1.3.3 Gr. 2: 2.4.1, 2.4.2, 2.4.3 Gr. 6: 6.3.2 Gr. 7: 7.2.1 Gr. 9: 9.4.2, 9.4.3</p> <p><i>Canadian Geography 401A:</i> 10-1-4, 10-2-4</p> <p><i>Geography 531A:</i> 3.6</p> <p><i>Geography 621A &amp; 631A:</i> [General focus = sustainability in global context]</p> <p><i>Geography 621B:</i> 1.3, 1.4</p> <p><i>History 621A:</i> J2, GL2</p> <p><i>Science</i> Gr. 2: General outcome = Protecting our water sources Gr. 5: 105-2</p>	<p><i>Social Studies Gr. 9:</i> 9.4.3 Investigate a current environmental issue using an inquiry process</p> <p><i>Geography 621A:</i> J2 Demonstrate an understanding of the relationship between land and culture and analyse the effects of displacement</p> <p><i>History 621A:</i> GL2 Analyse the effects of contact and subsequent colonization</p>

<p>Newfoundland &amp; Labrador</p>	<p><i>Social Studies</i> Gr. 1: 1.3.3 Gr. 5: Learning About the Past [Unit]: 4.0, 5.0, 6.0 Gr. 6: 7.3.1, 7.4.3 Gr. 7: 4.5.10, 4.5.11 Gr. 9: 7.1, 7.5</p> <p><i>Environmental Science</i> 3205: 1.03</p>	<p><i>Social Studies, Gr. 6: 7.4.3</i> Analyse the degree of empowerment and disempowerment for Aboriginal peoples in present day Atlantic Canada during this period; identify the various Aboriginal groups in present day Atlantic Canada during this period; explore how national policies, treaties and the Indian Act had an impact on the Aboriginal peoples of present day Atlantic Canada</p> <p><i>Environmental Science 3205: 1.03</i> Describe the Newfoundland and Labrador transition, from Aboriginals, European settlers, to present day, in terms of how they impacted the land</p>
<p>Yukon</p>	<p><i>*Yukon schools follow the British Columbia curricula; Yukon will use the new B.C. curriculum, with modifications, adaptations, additional courses and experiential learning initiatives to reflect the Yukon context and Yukon First Nations' ways of knowing and doing in all areas.</i></p> <p><i>Community, Heritage, Arts, Outdoors and Skills (CHAOS) program: Wood Street Center, Whitehorse</i></p> <p><i>Tr'ondek Hwëchin Traditional Camp: Robert Service School, Dawson City</i></p> <p><i>Land-based education program: Vuntut Gwich'in First Nation, Chief Zzeh Gittlit School, Old Crow</i></p> <p><i>Social Studies, Gr. 10:</i></p>	<p><i>Community, Heritage, Arts, Outdoors and Skills (CHAOS) program:</i> The C.H.A.O.S. program is an outdoor experiential program open to students enrolled in the Yukon and will be delivered as an enrichment program to regular courses offered to students. . . . Integration of subject areas, as well as Yukon First Nation and Western knowledge will be the focus during the semester (<a href="https://chaosyukon.weebly.com">https://chaosyukon.weebly.com</a>)</p> <p><i>Ancestral Technology 9, Course Description:</i> Ancestral Technology allows students to explore, research, document and share the rich and diverse technological and artistic opportunities of Yukon First Nations. . . . With the assistance of mentoring adults, students will complete the process of recreating a number of traditional technologies utilized in the Yukon (<a href="https://chaosyukon.weebly.com/chaos-9.html">https://chaosyukon.weebly.com/chaos-9.html</a>)</p>

	<p>Our Stories of Residential Schools in Canada [addition]</p> <p><i>Social Studies, Gr. 5:</i> Yukon First Nations Governance; Yukon First Nations Citizenship [addition]</p> <p><i>Ancestral Technology, Gr. 9/10</i> [full course]</p>	
Northwest Territories	<p><i>*Social Studies K-9— NWT follows Manitoba &amp; AB; Science K-6 follows Ontario; Science 7+ follows Alberta. Additional resources and curricula have been created to support northern and Indigenous perspectives.</i></p> <p><i>Northern Studies 10</i> [full course]</p> <p><i>Dene Kede &amp; Inuuqatigiit</i> [cross-curricular language support resources]</p>	<p><i>Northern Studies 10: Rationale</i> In 1991, the Department of Education, Culture and Employment created the original Northern Studies curriculum with the goal that all students would know about our land, languages, histories and cultures (p. 1)</p> <p><i>Dene Kede, Foreword:</i> The Dene Kede Curriculum works for survival through our children. The children are viewed as our pathway into the future. It is hoped that if our children are given Dene perspectives to guide them in establishing good relationships with the land, the spiritual world, other people and themselves, not only will our identity be maintained, but we will all be closer to survival (p. xiv)</p>
Nunavut	<p><i>*Nunavut draws upon provincial curricula from BC, Alberta, Saskatchewan and Manitoba with notable territorial adaptations, additions and foundational supportive resources. For example:</i></p> <p><i>Inuit Qaujimagatuqangit Education Framework for Nunavut Curriculum</i></p> <p><i>Science 7-9</i> [Adaptation of Alberta Curriculum]</p>	<p><i>Inuit Qaujimagatuqangit Education Framework for Nunavut Curriculum, Front Matter:</i> It is critical to read this document to understand the Inuit Qaujimagatuqangit (IQ) perspectives that are changing curriculum, learning and teaching in Nunavut schools. Curriculum in Nunavut is different because Inuit perspectives inform the basic elements of curriculum. The Department of Education expects educators to develop an understanding of: Inuit Qaujimagatuqangit (IQ); how IQ affects the basic elements of curriculum; how the new basic elements of curriculum influence learning and teaching (p. 5)</p> <p><i>Science 7-9, Program Rationale &amp; Philosophy:</i></p>

	<p><i>Social Studies 10-1:</i> Inuuqatigiitsiarniq- Seeking Harmony Teacher’s Handbook</p> <p><i>Social Studies 10-2:</i> Inuuqatigiitsiarniq- Seeking Harmony Teacher’s Handbook</p>	<p>Students graduating from Nunavut schools require the scientific and related technological knowledge and skills that will enable them to understand and interpret their world and become productive members of society. They also need opportunities to apply the Inuit Qaujimajatuqangit principles and develop attitudes that will motivate them to use their knowledge and skills in a responsible manner. Science programs provide opportunities for students to develop knowledge, skills and attitudes that they need to explore interests and prepare for further education and careers (p. 5)</p>
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Table 1. Notable curricular links to, and resources for, engaging with Indigenous environmental issues. (See Lowan-Trudeau and Fowler (2018) for further details.)

As demonstrated by Table 1, the majority of notable curricular connections to Indigenous environmental issues were found within courses related to social studies and the sciences, with limited exceptions.

While conducting this review, we also noticed several regional and national trends. For example, most, if not all, provinces and territories across Canada appear to be in the midst of, or have recently undergone, a curriculum review and transformation in explicit, if not implicit, response to the recommendations of the TRC (2015). Moreover, we identified several documents that have been adopted by multiple provinces and/or territories to further guide and arguably standardize curricula, such as the curricular guidelines of the Western and Northern Canadian Protocol for Collaboration in Education (1993), the *Pan-Canadian Framework of Science Learning Outcomes* of the Council of Ministers of Education of Canada(1997) and the *Essential Graduation Competencies* of the Council of Atlantic Ministers of Education and Training (2015). Intriguing differences also emerged between and within provinces regarding how Indigenous and environmental issues are introduced and described that behoove further consideration as presented below.

We engaged the following passages through a critical lens, with reference to Eisner’s (2002) three curricula and in keeping with methods of critical discourse analysis, giving particular attention to linguistic elements such as lexical choices (Machyn and Mayr, 2012) that signal awareness, or lack thereof, of the discourses introduced earlier. We acknowledge that these subjectively selected passages are not exhaustive; however, as Ricoeur (1971) might suggest, we believe that they invite broader consideration and understanding of critical contemporary discourse in Indigenous and environmental curricula and education. Moreover, we recognize the complexity of curricular endeavours—our intention is not to malign, ostracize, nor celebrate, any particular province; rather, we hope to invite further consideration, discussion and nuanced growth in these areas across Canada.

## **Key Terms: From Just Sustainability to the “Indigenous Trap”**

During the course of our review, the use of particular terms in certain provincial curricula caught our attention in relation to the broader discourses of sustainability and the interrelated areas of Indigenous, environmental and Indigenous environmental education, as previously described. Several examples are presented in the following.

### ***Sustainable Development or Just Sustainability?***

Newfoundland and Labrador’s Environmental Science 3205 curriculum, last updated in 2010, explicitly employs key terms that allude to the environmentally related discourses discussed earlier. One passage from this optional high school course regarding mining and resource extraction technology is particularly illuminating:

Teachers should encourage students to consider the three facets of sustainable development (environment, economy, and social/culture) as they discuss the impact of mining operations. Through their study and discussion of this topic, students should come to appreciate the complexity of the issues. For example, our modern society can not [sic] function without many of the materials produced in various mining operations and many communities depend on the income from the jobs created at the various stages of operation. However, the extraction and processing of these minerals can have serious implications to the environment and may also lead to cultural and/or social justice issues. (Government of Newfoundland and Labrador: Education and Early Childhood Development, 2010, Unit 3, p. 106)

The explicit use of terms such as “sustainable development” and “cultural and/or social justice issues” in the passage above is intriguing. These words choices are illustrative of the concerns raised by Jickling (1992; 1994) and Sauvé (1996; 2005) regarding education for sustainable development, as well as Agyeman’s (2013) propositions regarding just sustainability. Consideration of such terminology, associated dynamics, and potential contradictions in educational settings, could facilitate rich explorations related to mining and critical perspectives on sustainable development in general.

### ***Internal Contradictions***

In the course of this review, we also identified two intriguing internal contradictions. We recognize that curricular documents are often evolving, however language choices related to Indigenous identities always bear careful consideration (Younging, 2018). For example, upon reviewing Quebec’s elementary English-language curricula (Éducation et Enseignement Supérieur Québec, 2001a, e.g., p. 196), we were surprised to find Indigenous peoples and territories referred to using terms that are considered by many to be outdated and offensive such as “the Natives” and “the Native world” respectively (Younging, 2018). However, the French-language elementary curriculum documents use the term “Autochtones” (e.g., Éducation et Enseignement Supérieur Québec, 2001b, p. 181), which is the preferred French equivalent of “Indigenous” (Gouvernement de



Canada, 2002). Further comparative exploration of Quebec's French and English curricula in this sphere is needed and would certainly prove insightful.

We discovered another internal contradiction in Saskatchewan, where recently updated curricula have received well-deserved recognition (Dubé, 2019). We were generally impressed both by the range and tone of critically informed Indigenous and environmental content. However, Saskatchewan presents an interesting internal anomaly—although most of its curricula were recently updated, the high school social studies curriculum dates to the 1990s (1992-1997) and had yet to be revised at the time of this study. Publicly available statements regarding potential updates to Saskatchewan's social studies curricula indicate that they have been in progress for some time but have not yet been completed nor implemented (Jardine, 2018; Kripps, 2017). Unfortunately, the social studies curricula contain several examples of explicitly prejudicial perspectives on Indigenous and socio-critical topics. Most shockingly, we encountered the following concept/knowledge objective in Social Studies 20 (Grade 11):

Indigenous Trap

Know that Aboriginal people fall into the trap of being unable to find their cultural identity and being unable to join the modern society thus turning to solutions such as alcohol etc.  
(Saskatchewan Education, 1994, p. 424)

We found this short passage deeply disturbing in multiple regards, as this is still part of the mandated curriculum for Saskatchewan high school students and teachers.

Moving through this short passage in a lexical fashion, one encounters a number of troubling terms and associated assumptions. First, the idea of the trap, along with the repeated use of the word "unable", are problematic as they imply that Indigenous people are generally weak, unwitting and incapable of making prudent life choices. Associating this limited capacity with "modern society" further perpetuates racist notions of superiority and the belief that Euro-Western societies are more advanced than those of Indigenous peoples (Bruyneel, 2007). Moreover, stating that Indigenous people, firstly described as not capable of securing their own cultural identity, nor of joining modern society, thus turn to alcohol and, presumably, other illicit escapes is even more inflammatory as it reinforces prejudiced stereotypes regarding Indigenous peoples, alcohol and other addictions (Tang & Browne, 2008).

Finally, beginning with the authoritative phrase, "know that Aboriginal people", rather than qualifying it somehow through a phrase such as "know that *some* Aboriginal people," clearly indicates that Indigenous people are to be viewed as a singular "other", lacking in diversity and nuance, an approach that is misaligned with contemporary approaches to social justice education (DiAngelo & Sensoy, 2014). Regardless, this expectation should have no place in any curriculum, regardless of publication era. The explicit and implicit messages are clear—this patronizing and racist curriculum expectation was written by a predominantly non-Indigenous group, intended for non-Indigenous students.

### ***Environmental Racism***

The following, albeit optional, outcome from Nova Scotia's Geography 11 curriculum (Nova Scotia Department of Education and Early Childhood Development, 2015) also caught our attention: "7.3 Demonstrate an understanding of the issue of environmental racism" (p. 136). The explicit use of the term "environmental racism" in the Nova Scotia curriculum is notable. This is a direct acknowledgement, and prompt for further investigation, of environmentally related racism in Nova Scotia, a dynamic that is not exclusive to Indigenous peoples. African-Canadian communities have also been significantly impacted by environmental pollution due to government and industry entities (Donovan, 2016; Waldron, 2018). Acknowledging this legacy and ongoing associated issues by using the unequivocal term "environmental racism" in formal curriculum documents is significant as it compels educators to broach these issues through an intersectional environmental justice lens (Ceaser, 2014; Maina-Okori et al., 2018) that moves beyond more general, and typically less controversial, discussions of sustainability or similar.

### **Towards Reconciliation and Local Foci**

Several provinces also provide explicit and implicit connections to current discourses related to reconciliation and land-based Indigenous and environmental education. For example, both Manitoba and British Columbia's curricula have been recently revised with explicit connections to the TRC and critical environmental perspectives (British Columbia Ministry of Education, 2018; Manitoba Education and Training, 2018). In the case of British Columbia, a significant redesign began in 2015-2016 with rolling implementation into 2019-2020 (Knack, 2018). Subjects across the curricula were revised with strong connections to Indigenous and environmental topics. The TRC (2015) is mentioned explicitly in Social Studies 10 and New Media 12, for example. Although the implied tone and explicit language of British Columbia's new curricula affords teachers in many subject areas multiple opportunities to critically engage with critical Indigenous environmental issues, in a large province with dozens of Indigenous groups from multiple language and cultural families, we recognize the potential difficulty and associated implications of achieving such tasks for teachers who may not be adequately prepared, connected to, and/or versed in locally-relevant Indigenous cultures and languages.

On a related note, the three territories—Yukon, Nunavut and the Northwest Territories—provide interesting examples of more longstanding locally-grounded curricula. While all three territories draw upon their southern neighbours' curricula to varying degrees, each have also been leaders in developing locally relevant curricula with specific cultural knowledge and languages embedded in the curriculum documents themselves.

For example, although Yukon's curriculum is largely based upon that of British Columbia, it also contains embedded Indigenous principles and practices (Yukon Department of Education, 2018a). Government support is also provided for land-based culture and language camps with explicit curricular links (Yukon Department of Education, 2018b).

The Northwest Territories (2018a) curriculum similarly relies heavily upon curricula from Alberta, as well Manitoba and Ontario. However, noteworthy locally focused curricula also exist such as the Dene Kede resource supplement (2018b) that provides specific cultural information from Elders and other cultural knowledge holders. A Northern studies course is also mandatory for all students in the Northwest Territories.

Nunavut is guided by a range of curricula from Saskatchewan, Alberta, British Columbia and Ontario, but also presents many strong examples of locally generated curricula as mandated by its own Education Act (Government of Nunavut, 2008; Nunavut Ministry of Education, 2016). For example, Inuktitut language and associated concepts are used explicitly throughout the curricula and Education Act itself. Further supplements are also available for specific subjects, such as a teacher's handbook for Social Studies 10: *Inuuqatigiitsiarniq-Seeking Harmony*.

These more specific examples of regional and territorial curricula, resources and initiatives provided by the territories might serve as further inspiration and guides for southern provinces that have recently made great strides but are now seeking to apply new curricula in locally relevant ways.

### Final Thoughts

This curriculum review was initiated in response to challenges described by educators who would like to engage more deeply with Indigenous environmental issues in their respective subject areas, but often lack the confidence and subject knowledge to do so effectively. In the course of our initial explorations, we quickly realized that there were also great theoretical insights to be gained. As such, it is our hope that the collective findings and outcomes of this inquiry serve both practicing educators and the academic community, Indigenous and non-Indigenous alike. In considering this endeavour through Eisner's (2002) three curricula and through a critical discourse analysis, we revealed the explicit, implicit and null aspects at work in a range of curricula in provinces and territories across Canada in relation to Indigenous environmental issues.

As demonstrated in Table 1, explicit curricular links to Indigenous environmental issues do exist in a variety of curricula in most provinces and territories across Canada, primarily in courses within social studies and the sciences. It was also encouraging to find more general connections to critical Indigenous and environmental issues in a variety of documents. However, when compared to the total number of general and specific curricular expectations in a given province or territory, explicit links to specifically Indigenous environmental issues remain extremely limited. Moreover, as described above, we realized that several of the strongest explicit inclusions of Indigenous environmental issues were found in elective courses or optional sections of mandatory courses. The implicit message conveyed by this positioning is significant—Indigenous environmental issues are not a priority area. As such, they are persistently null within Canadian curricula.

This realization led us back to Marcuse's (1965) notion of repressive tolerance, which contributed to our initial theoretical framework, but had not featured prominently in our initial interpretations. Repressive tolerance denotes situations wherein those in power in a given state, society or institution allow a modest amount of critical protest and/or action in order to create the

superficial impression of being open to change but maintain the same essential underlying structures that created the originally problematic situation. As such, truly transformational change proves elusive, despite initial impressions to the contrary. Parallels may also be drawn here with Jickling's (1992, 1994) critique of sustainable development as previously discussed—are we striving to merely create a critical façade while maintaining business as usual beneath the surface, or fostering the growth of critically thoughtful students who will lead us towards an environmentally intersectional and just future (Agyeman, 2013; Ceaser, 2014; Maina-Okori et al., 2018)?

Keeping repressive tolerance in mind, we therefore exhort educational scholars and practitioners alike to persist in advocating for the deeper structural changes collectively demonstrated by British Columbia and the three territories as described above. Although inevitably imperfect, curricula and practice that explicitly mandate the consideration of Indigenous environmental issues across a wide range of subject areas in a respectful manner, complimented by government supported, regionally grounded experiential learning opportunities with traditional knowledge holders, are ideal. Debatable as the overall aspirations of reconciliation may be (Michelin, 2017; Walker, 2015), such approaches enact decolonization and Indigenization (Chinn, 2007; Trinidad, 2012; Tuck & Yang, 2012) along with many of the TRC's (2015) valuable calls to action.

It is also crucial that curriculum developers pay close attention to their lexical choices in the midst of curricular redesigns and updates. As demonstrated by the selected passages above, terminology can serve to either significantly enhance or detract from a given document in relation to critical topics such as Indigenous environmental issues.

Several promising areas for future inquiry emerged from this study. For example, comparative exploration of French and English curricula in Quebec and elsewhere would be well warranted. Exploring the experiences of educators who are implementing newly revised curricula in relation to Indigenous environmental issues, and engaging students in participatory critical discourse inquiry (McKinnon et al., 2016), to consider the implications of terminology and associated discourses in this area for themselves are two other intriguing possibilities.

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