

Research Activities of the Canadian Standing Committee on Environmental and Sustainability Education in Teacher Education

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Abstract

This ongoing case study reports on the research activities of the Canadian Environmental and Sustainability Education in Teacher Education (ESE-TE) Standing Committee. A history of the Standing Committee's research activities, a literature review comparing the Standing Committee's ESE-TE research with international approaches to ESE-TE research, the identification and prioritizing of the Standing Committee's future ESE-TE research agenda, and a model for developing a research agenda amongst Standing Committee ESE-TE stakeholders comprise the work. Recommended future research consists of redefining ESE; reviewing Canadian and international ESE-TE research literature; and examining potential Canadian and international ESE-TE research topics including: connecting the social and the ecological; teacher "identity" and "agency"; community-based ESE; teaching/student learning and belief systems; and challenges in applying research to practice.

Résumé

Cette étude de cas (encore en cours) présente les activités de recherche du comité permanent canadien sur l'éducation à l'environnement et au développement durable (EEDD) dans la formation des enseignants (FE). Elle trace l'histoire des activités de recherche du comité permanent, recense les écrits comparant les travaux du comité avec ce qui se fait à l'international dans ce domaine, établit les projets de recherche à venir du comité permanent pour en déterminer la priorité, et propose un modèle pour convenir d'un programme de recherche parmi les parties prenantes du comité permanent. On recommande notamment de redéfinir l'éducation à l'environnement et au développement durable, de procéder à une revue de la recherche canadienne et internationale sur l'EEDD-FE, et d'examiner d'éventuels thèmes de recherche sur l'EEDD-FE (au Canada et à l'international), notamment : les liens entre les questions sociales et écologiques; « l'identité » et « l'agentivité » de l'enseignant; l'EEDD dans la collectivité; les systèmes d'apprentissage et de croyance des enseignants et des élèves; le défi d'appliquer la recherche à la pratique.

Keywords: Canadian ESE-TE Standing Committee, EECOM, environmental and sustainability education, teacher education, research

Mots-clés : comité permanent canadien sur l'éducation à l'environnement et au développement durable dans la formation des enseignants, Réseau canadien d'éducation et de communication relatives à l'environnement (EECOM), formation des enseignants, recherche

Research Activities of the Canadian Standing Committee on Environmental and Sustainability Education in Teacher Education

University teacher education¹ programs have an essential role in the preparation and ongoing professional development of teachers to support ESE learning from pre-kindergarten to Grade 12. Research into such programs enhances our knowledge base, mobilizes knowledge, and increases the profile of ESE-TE, an emerging field of study. Programmatic and research-driven ESE-TE activities are necessary to reorient teacher education for a sustainable future. Teachers are key to transforming the education of society. The annual reports of environmental and social injustice (Worldwatch, 2015) underscore the necessity of ESE-TE.

The purpose of this paper is to chronicle and reflect upon the research activities of the Canadian Environmental and Sustainability Education in Teacher Education (ESE-TE) Standing Committee (“Standing Committee”) of the Canadian Network for Environmental Education and Communication (EECOM), from its inception to today.² We chart a possible future for these research activities by considering a model for the development of a consensual research agenda among members of the Canadian ESE-TE stakeholder community.³

The paper is organized to address four questions that reflect our objectives:

1. What is the history of the research activities of the Standing Committee from its inception to the present?
2. How does Canadian ESE-TE Standing Committee research and international ESE-TE research compare?
3. What are possible future Canadian ESE-TE research priorities?
4. How might a consensual research agenda among Canadian ESE-TE stakeholders be developed?

The overall method of research chosen is a case study. The case under examination is the Standing Committee, the body responsible for the coordination of national ESE-TE research, practice, and advocacy for policy development. The research mandate of the Standing Committee serves as the single unit of analysis and, as such, qualifies as a holistic single-case design (Lockmiller & Lester, 2017). This is an ongoing case study and, for the purposes of this paper and its inquiry, a literature review on the status of international ESE-TE research is included. This is consistent with Merriam’s (1998) case study design:

Literature review is an *essential phase* [emphasis added] contributing to theory development and research design. Theoretical framework emerging from literature review helps mold research questions and points of emphasis (As cited in Yazan, 2015, pp. 148–49).

The findings of the literature review will support future work on the case study.

The literature on case studies references two approaches. The first has been commonly referred to as a “rapid review” (Khangura, Konnya, Chushman, Grimshaw, & Moher, 2012), and the second, a “historical review” (Hamilton, 1990). A rapid review is “a form of evidence synthesis that may provide more timely information for decision making compared with standard systematic reviews” (Khangura et al., 2012, p. 1). Given our timeline, this “method” proved useful. Second, a rapid review is supported through a historical review, or what Hamilton has referred to as curriculum history (Hamilton, 1990).

At this juncture, it is important to address the issues of *nomenclature* and *navigation*. Regarding the former, we clarify our use of the term ESE. Its history is complex and controversial, and we highlight here four points for consideration:

1. From our perspective (recognizing this is highly contested and debatable), the term ESE is the culmination of a history of evolution of terms reflecting complex, nuanced, and contested political, conceptual, methodological, philosophical, and axiological influences.
2. For simplicity, we are using ESE to reference a variety of traditions—e.g., environmental education (EE), education for sustainable development (ESD), sustainability education (SE), place-based education (PBE), ecojustice education (EJD)—while appreciating the saliency of the first point.
3. Where appropriate we may use terms other than ESE, reflecting a historical moment and/or the researcher’s predilection for a term.
4. Despite the debate over nomenclature, ESE is the term the Standing Committee has decided to adopt. It reflects our attempt to bridge the well-established discourses of EE, ESD, and others, while dropping explicit references in the latter to “development,” which have been convincingly problematized by many (Le Grange, 2017; Sauv e, 1999 ; Jickling, 1997, 1992).

Finally, regarding the matter of *navigation*, here is a map of the terrain to follow. Part I provides a history of the research activities of the Standing Committee from 2017 to today and describes establishing the Standing Committee as a research community. Part II presents a literature review organized by comparing the Standing Committee’s ESE-TE research with international approaches to ESE-TE research. This requires two antecedents:

1. Adapting the seminal works of Gough (2012), Hart and Nolan (1999), and Palmer (1998) to *identify* and *characterize* historical trends in international ESE research according to positivist, interpretivist, and critical research paradigms.
2. Basing projected *anticipations* for ESE-TE research, as TE is a sub-field of the broader ESE field (Pipere, Veisson, & Salite, 2015), on previously identified trends in international ESE research.

Completing the two antecedents facilitates a comparison of the Standing Committee's ESE-TE research with international ESE-TE research. We consider only the research activities of the Standing Committee since 2017, recognizing there is an emerging body of Canadian ESE-TE whose origins predate the research activities of the Standing Committee. Next, in Part III we prioritize a future Standing Committee ESE-TE research agenda. In Part IV, we introduce a model to develop a consensual research agenda among Canadian ESE-TE Standing Committee stakeholders. Part V concludes the paper by summarizing our findings and outlining next steps.

Part I: History of the Research Activities of the Standing Committee

Research and knowledge building are core objectives in the Action Plan adopted at the conclusion of the National Roundtable 2016 on ESE-TE ("National Roundtable 2016"). The Action Plan contained the foundational goal to institute a pan-Canadian body to organize, coordinate, promote, and support the future development of ESE-TE. Up to that time, no formally organized pan-Canadian body of ESE-TE stakeholders existed to further the previous core objectives. With the mission to create a new pan-Canadian body on ESE-TE, the organizational and political structure was in place to support ESE-TE as an emerging field of study and practice in Canada. It was recognized early that research would play an essential role in furthering the emerging field (Goodson, 2002), building upon a well-established history of ESE-TE research; while not exhaustive, we recognize the works of: Towler (1981); Hart and Nolan (1999); Russell, Bell, and Fawcett (2000); Lin (2002); Puk and Behm (2003); Hopkins and McKeown (2005); Swayze, Creech, Buckler, and Alfaro (2012); Dippro (2013); Sims and Falkenburg (2013); Sauvé (2005); Beckford (2008); Inwood and Jagger (2014); and Karrow et al. (2016). Therefore, promoting research is central to the mission of the pan-Canadian coordinating body, the Standing Committee, which was created in accordance with the National Action Plan.

The Standing Committee is committed "to advancing and supporting the development of high quality Environmental and Sustainability Education (ESE) through research, policy, and professional development in Teacher Education (TE) in Canada" (<http://eseinfacultiesofed.ca/about.html>). It may be argued that each strategic direction in this statement relies on the establishment of a robust and vital research tradition. Establishing a vibrant field of ESE-TE research grounds the emerging field as a contributor of knowledge that expands understanding while informing professional practice. Inquiry and discovery are meaning-making and contribute to thoughtful and relevant professional practice that evolves to meet real needs in real-time. In the pursuit of meaning, inquiry shapes policy and provides evidence by which hearts and minds may be transformed. One has only to read the Otonabee Declaration, signed by the National Roundtable 2016 attendees to ratify the National Action Plan, to understand the importance and

the sense of urgency communicated in that document. ([http://eseinfacultiesofed.ca/pdfs/events-pdfs/National%20Action%20Plan%20\(July%202016\).pdf](http://eseinfacultiesofed.ca/pdfs/events-pdfs/National%20Action%20Plan%20(July%202016).pdf))

Creating a Research Community

National Roundtable 2016, held at Trent University, brought together for the first time diverse individuals representing universities, environmental and sustainability NGOs, public schools and school districts, national ESE groups, provincial bodies, non-formal education sites (including parks, nature reserves, and outdoor education facilities), and early childhood education representatives, among others. Each had an expressed interest in ESE as it relates to teacher preparation and professional development. National Roundtable 2016 marked the first steps in the creation of a *research community*. Since 2016, the establishment of a pan-Canadian research community is well underway. A website has been created that provides an online presence, a point of contact, a repository, and an archive for relevant curriculum and research connected to ESE-TE (Environmental and Sustainability Education in Teacher Education, n.d).

In 2018, the Canadian Network for Environmental Education and Communication (EECOM) Conference, held at the St. Eugene Mission, Ktunaxa Nation in British Columbia, featured the first ESE-TE Research Roundtable since establishing the Standing Committee. Approximately 40 presenters from across Canada shared their work on a variety of topics related to ESE-TE. Such an event facilitates connecting researchers and practice professionals from within existing diverse communities, resulting in an ethos that is mutually supportive and creates the generative conditions for collaborative creativity and the forming of partnerships. To this end, members of the Standing Committee have begun to draw key academic and non-academic individuals together to secure funding to create a pan-Canadian Teacher Environmental and Sustainability Education Consortium (the “Consortium”).⁴

The Consortium would have two main objectives. First, it would establish a formal research *network* by strategically organizing and expanding partnerships and creating a physical presence through a research centre of Teacher Education for Environmental and Sustainability Education. A second objective would prioritize knowledge mobilization by establishing a special interest group within the Canadian Association for Teacher Education of the Canadian Society for Studies in Education and coordinating contributions to their annual national conference.

The Consortium would develop two key characteristics of community: *learning* and *influence*. In doing so, community members are provided with the support to mobilize research findings, and build forward momentum toward knowledge and awareness. The ability to influence the field of teacher education grows commensurately with the establishment of a vibrant research community.

Currently, the Standing Committee is leading research on ESE-TE programs across Canada, including surveys and interviews to update and build on previous research (Falkenburg & Babiuk, 2014; Swayze et al., 2012; Lin, 2002; Towler, 1981). The inquiry is designed to reveal what Canadian faculties, schools, and departments of education are doing to respond to Canadian commitments to UNESCO Education for Sustainability initiatives, the UN Sustainability Development Goals, and the long-standing calls for increased environmental education and increased ecological literacy for Canada's citizens. This important research will not only provide essential baseline data but will also highlight the diversity of approaches and further serve to connect individuals, institutions, and programs to continue to build the ESE-TE community and foster its emerging identity. Evidence of this can be seen in the recent appearance of publications dedicated to featuring research and practice in ESE-TE (Karrow & DiGiuseppe, 2019; Karrow et al., 2016; Inwood & Jagger, 2014).

The future looks bright as strong, inquiry-minded leadership is in place to promote the shared values and vision held by many individuals across the country. With the support of community and collective spaces to network, share, and build the knowledge needed, an emerging field of research and study in ESE-TE is being realized in Canada.

Part II: A Comparison of the Standing Committee's ESE-TE Research with International ESE-TE Research

History of International ESE Research and its Character

The history of international ESE research and its character is well established and documented. The international works we consulted include Gough (2012), Reid and Scott (2012), Scott (2009), Hart and Nolan (1999), and Stevenson, Brody, Dillon, and Wals (2012). While this citation is not exhaustive, it is relevant and focussed (Maxwell, 2006). Several of these works, although not all, appear in the most recent *International Handbook of Research on Environmental Education* (Stevenson et al., 2012). Collectively, these international researchers have chronicled the major trends in ESE research and characterize the nature of that research.

Palmer (1998) has astutely noted that environmental education research has enjoyed three historical "paradigms," summarized in Table 1. Subsumed under each time period—positivist, interpretivist, and critical (approximate and overlapping)—we compare each of the research paradigms according to orienting philosophy, the derivative ontological and epistemological positions, definition(s) of ESE, the aims of ESE research, and methodological approaches. It is to be understood that any attempt to analyze "history" can be fraught with biases, generalizations, and oversimplifications. Historical research periods are not discrete, but fluid and to some degree contemporaneous.

Comparison Criteria	Time period (Approximate) ^a		
	1970s-1990s	1980s-2010	2000s-present
Research paradigm	<i>Positivistic</i> “Research is defined as investigating, employing systematic methods to study or interpret phenomena. It is data-based and employs valid observations with an intent to generalize results or build new models” (Iozzi, 1981, p. xiii).	<i>Interpretive</i> Research is defined as looking “for assumptions and meaning beneath the texture of everyday life” (Schubert, 1986, p.1).	<i>Critical</i> “Research is viewed as an enactment of power relations; the focus is on the development of a mutual, dialogic production of a multi-voice, multi-centered discourse. Research practices are more inscriptions of legitimization than procedures that help us get closer to some ‘truth’ capturable via language” (Lather, 1991, p. 11).
Philosophy	Liberalism	Existentialism	Postmodernism
Ontological position	Focus on the individual.	Focus on intersubjectivity.	Focus on the power structures of society: denigration of the subject. Focus on oneness of all entities in the cosmos, “living” and “non-living” (Le Grange, 2017, p. 101).
Epistemological view	Knowledge is linear, universal, consistent, and coherent, and the subject of knowledge is either culturally and historically disembodied or invisible and homogeneous and unitary (Gough, 1994). The “unknown” is considered to ultimately be resolvable.	“Knowledge is non-linear, and co-constituted through plurality, and dissent, and conflicting knowledge claims are central and inevitable components to understanding knowledge construction, deconstruction and reconstruction processes” (Ward, 2002, p. 29). The “unknown” is accepted.	No final knowledge. “The contingency and historical moment of all readings means that, whatever the object of our gaze, it ‘is contested, temporal and emergent’” (Lather, 1991, p. 111).

Definition of term(s)	<i>Environmental Education</i> “Environmental Education is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems and motivated to work toward their solution” (Stapp et al., 1969, pp. 30–31).	<i>Sustainability</i> “Engaging people in existential questions about the way human beings and other species live on this Earth” (Jickling & Wals, 2008, p. 18), and empowering them to work individually and collectively toward their visions of more sustainable communities and societies.	<i>Post-sustainability</i> “Becoming imperceptible: the disappearance of the atomized subject—rather than subjectivity being individual it is ecological; an ‘I’ that is embedded, embodied, extended, and enacted” (Le Grange, 2017, p. 102).
Aim of research	“. . . efforts to identify relationships among environmental knowledge, attitudes, and behaviors” (Hart & Nolan, 1999, pp. 25).	“Questions are being asked about the fundamental intents and purposes of the research, and about methods and methodologies as well as epistemologies and ontologies” (Hart & Nolan, 1999, p. 1–2). Shift toward an examination of how learning shapes beliefs and how those beliefs influence behaviour change (intellectual and emotional engagement).	To deconstruct inscribed and privileged forms of research as inscribed sources of power. The focus is on understanding, interpretation, and experimenting with expressive means and genres to challenge structured approaches to research.
Methodological approach(es)	Quantitative: largely descriptive and inferential, some experimental and quasi-experimental.	Qualitative: hermeneutics and descriptive or interpretive phenomenology, narrative, ethnography (duo and auto).	Varieties of approaches including quantitative, qualitative, feminist, Indigenous, and postcolonial, e.g., action research, participatory action research.

^a Although the times periods—positivistic, interpretive, and critical—are portrayed chronologically, to this day, the vast majority of ESE research is quantitative, belonging to the positivistic research paradigm.

Table 1. Environmental education research paradigms (adapted from Gough, 2012; Hart and Nolan, 1999; and Palmer, 1998).

Over the past 40 years, ESE research reflects the more general tendencies of education research writ large as it adapts to the larger social-political realities of the time period. More specifically, during the 1970s, most ESE research was oriented to scientific positivism in what Palmer (1998) has referred to as the positivistic research paradigm. Inherent to this is a philosophy of Liberalism espousing the importance of the individual. Most ESE research of this time period set out to examine, because of its view of the purpose of education (to improve the lot of the individual), how it could instill within the individual the knowledge, attitudes, and skills necessary to respond appropriately to changing environmental phenomena. Hence, a disproportionate amount (90%) of ESE research since the 1970s has been directed toward quantitative studies aiming to examine the general phenomenon of “behaviour change” (Gough, 2012).

To reflect the larger societal change, during the 1980s ESE research evolved, moving from the positivist paradigm to the interpretivist paradigm. Such an interpretivist research paradigm aimed to uncover the assumptions and meanings that undergird everyday life. The backgrounding philosophy was Existentialism, with its more inter-subjective ontology. Moreover, epistemology shifted toward being non-linear through “plurality,” “dissent,” and “conflicting” knowledge claims that contributed to its construction, deconstruction, and reconstruction. The definition of ESE expanded to include the meaning of life in relation to society and nature. Such existential motivations oriented toward a vision for life that was more “sustainable.” It is no coincidence that such an expanding definition for ESE coincided with the discourse on sustainability (1980s–2010). During this time of expansion, ESE research assumed two primary roles: one, to examine the fundamental purposes and aims of its own research activities, where questions about worldview, philosophy, ontology, and epistemology became meta-organizing principles; and two, to foster an interest in “learning” as the principle phenomenon in shaping beliefs, which in turn, influences behavior change along intellectual and emotional dimensions. Methodology shifted to becoming more qualitatively oriented through a variety of research designs including, for instance, hermeneutics, phenomenology, narrative inquiry, and various forms of ethnography.

Lastly, the critical research paradigm emerged during the late 1990s, shifting its focus from the shared and intersubjective construction of “meaning” to an examination of the roles that society and its institutional structures use to create, share, and monopolize “power.” Research was viewed as one way to enact power relations. As such, research was viewed as circumspect, as one more “inscription of legitimization,” rather than as “the procedures followed to obtain truth” (Lather, 1991, p. 111). The principle orientation to ontology was an acceptance that *being* and its examination through metaphysics were replaced with a critical and all-consuming examination of the manner people “are” through power. The epistemological stance on knowledge was that it is “contested,” “temporal,” and “emergent” (Lather, 1991, p. 111). It is interesting and revealing, according to our

research, that there are a few individuals (Jickling & Sterling, 2017) beginning conversations about the need to redefine the ESE term [post-sustainability]. Methodologically, while research tends toward more qualitative methods, facilitated through such research methods as action research and/or participatory action research, there is a growing acceptance that all methodologies, and various research designs, are useful in answering a variety of questions.

Trends in and Anticipations for ESE-TE Research

With an overview of the history of international ESE research in hand and a description of its character, we are now in a position to anticipate how the sub-field of ESE-TE may reflect larger ESE research trends. This is based on the reasonable assumption that international ESE research, as the overarching field, has subsumed within it several sub-fields, of which ESE-TE research is one (Pipere, Veisson, & Salite, 2015; Hart & Nolan, 1999; Reid & Scott, 2012). It should be added, that while the history of international ESE research is relatively new, at 40 years, the history of ESE-TE is even more recent. To date, there are few comprehensive reviews of the sub-field of international ESE-TE research, with the exception of the work of Pipere et al. (2015), that specifically examine the development of teacher education research for sustainability education. Yet Pipere et al.'s bibliometric review is limited to work exclusively published in the *Journal of Teacher Education for Sustainability*. A more comprehensive review of the literature on approaches to embedding sustainability in teacher education has just recently been published by Evans, Stevenson, Lasen, Ferreira and Davies (2017).

Based on this rapid review of the international ESE research, we observe the following:

1. We note a variety of research paradigms: positivistic, interpretive, and critical.
2. The previous research paradigms reflect more philosophical (metaphysical: epistemological and ontological; and axiological), theoretical and methodological perspectives.

From the previous observations we anticipate that international ESE-TE research may have greater tolerance and acceptance of research diversity, in response to 1. and 2. (above) in addressing the research questions being posed (recognizing too that the nature of research questions will also reflect these paradigms). Research questions will increasingly diversify, selecting appropriate research methodologies and research designs to address these questions. We anticipate greater diversity of marginalized voices, e.g., gender, Indigenous, race, ethnicity, class, sexual orientation, and body size. We also anticipate definitions of ESE and ESE-TE may change to reflect such paradigmatic diversity, over time.

Comparison of the Standing Committee's ESE-TE Research with International ESE-TE Research

To date, most of the research activities of the Standing Committee have been directed at mapping ESE-TE practices across Canada (Karrow & DiGiuseppe, 2019; Karrow et al., 2016). To a large extent, these have been descriptive studies of ESE-TE programs in various Canadian faculties of education. The *modus operandi* has been to provide descriptions of existing ESE-TE programs. These may serve as models for others, to be experimented with at different sites. Such studies are essential to the Standing Committee's research agenda as "they provide possible pathways, apparent success factors, challenges to explore, and opportunities to create the conditions, relationships, and networks to transform the contexts in which they are embedded" (H. Inwood, personal communication, July 24, 2019). Notwithstanding these efforts, (of which we have been a part), the assumption is that distinct programs, *without* regard for their complex social-political-economic operating contexts, could be replicated at different institutions. While well-intentioned, such anthologies of practice are sometimes adopted uncritically, without due consideration of the complex and nuanced realities of any given institutional context, e.g., what works in one faculty of education may, for a variety of reasons, does not work in another; and, conversely, what doesn't work in a faculty of education might work in another (Greenwood, 2010; Rickinson, 2005). Further empirical research into the effectiveness of such descriptive research and its general application is necessary.

The anticipations we summarized in the previous subsection regarding what we might expect of Canadian ESE-TE research are examined in relation to the research activities of the Standing Committee. To date, the Standing Committee has undertaken two research initiatives to survey Canadian ESE-TE scholars about their ESE-TE research (Karrow & DiGiuseppe, 2019; Karrow et al., 2016). While the sample size is small (limiting generalizations about the character of Canadian ESE-TE research) and limited in time frame (since 2016), there are several important findings worth highlighting. The Call for Proposals asked for researchers to share their experiences with ESE-TE programming (research on programming). Across the two research initiatives, 21 manuscripts (excluding introductory chapters) were reviewed and published, representing a variety of Canadian provinces/territories sharing ESE-TE research. These have been analyzed and classified as to their research paradigm.

Not surprisingly, almost two-thirds, or 15 out of 21 manuscripts, fall within either an interpretive or critical research paradigm with the balance—about a third, or 6 manuscripts—aligning with the positivist research paradigm. This seems to confirm our anticipation that international ESE-TE research might demonstrate a diversity of research paradigms. Despite this small sample size, Standing Committee research appears to support this anticipation. Research falling within the positivist paradigm has concerned itself primarily with

developing, in the language of “competencies,” the knowledge, skills, and attitudes (dispositions) necessary to bring about significant behaviour change required to respond to various environmental problems. Most of these works have used some form of case study research; however none were experimental or quasi-experimental. Research falling within the interpretive paradigm has chronicled educators’ and students’ meanings of their ESE programming. Examples of research aligning with the critical paradigm have exhibited varieties of shared experiences, representing diverse voices and perspectives. The results from our limited research to date point toward many of the anticipations we have for international ESE-TE research; however, further research is necessary to confirm and expand upon these preliminary findings.

Part III: Identifying and Prioritizing the Standing Committee’s Future ESE-TE Research Agenda

The comparison of our anticipations about international ESE-TE research and the Canadian ESE-TE research we have undertaken to date is suggestive. Next, we identify those gaps in the research as catalysts to stimulate ongoing conversation between various stakeholders. In Part IV, these “conversation catalysts” will articulate a future ESE-TE research agenda of the Standing Committee.

Initiating a Conversation about Future Standing Committee ESE-TE Research Priorities

First, there are a few in the field who are interrogating traditional definitions of ESE by considering alternate philosophies, theoretical frameworks, concepts, and language. Some of these individuals were mentioned previously (see Jickling & Sterling, 2017). Nonetheless, there is a need to contribute to this conversation about redefining ESE to reflect current critical research paradigms.

Second, there is a need to provide a selective and/or comprehensive review of international ESE-TE research and Canadian ESE-TE research, elaborating and confirming some of the preliminary work introduced here. Our inferences, through “anticipations” of international ESE-TE research, remain only that. There is an opportunity for Canadian ESE-TE researchers to take a lead on this important research initiative in collaboration with international researchers. There is also the need to examine international research topics to further inform international and Canadian ESE-TE research. This important work has been initiated by some, such as Hart and Nolan (1999); Hart (2010); Gough (2012); Stevenson et al. (2012); Ardoin, Clark, and Kelsey (2013), and Rickinson (2005). This work demonstrates a need for future ESE research on such topics as connections between the social and the ecological; teacher “identity” and “agency”; urban, digital, interdisciplinary, community-based,

and marginalized ESE; teaching/student learning and belief systems; and limitations and challenges in applying research to practice. These may also have some bearing on future Canadian ESE-TE research.

Part IV: Developing a Consensual ESE-TE Research Agenda Among Standing Committee Stakeholders

In this section, we explore a model to develop a consensual research agenda among Canadian ESE-TE stakeholders. The model we adapted was originally developed within the clinical nursing profession. We chose it for its consultative approach, a similar organization-stakeholder relationship, and its contemporary status (Foster et al., 2018).

Description of the Process

Working group of the Standing Committee on ESE-TE. Acting on one of the items of the National Roundtable 2016 Action Plan—to survey Canadian faculty of education ESE-TE practices—it was suggested by one of the authors of this paper that a Working Group on ESE-TE Research (the “Working Group”) of the Standing Committee be struck. Several Standing Committee members and general members stepped forward to assist. To date, Working Group members have been invited to assist as reviewers of research proposals for conferences, research roundtables, and publication opportunities.

In 2017 the Working Group developed a survey tool to assess the status of ESE-TE in Canadian faculties of education. Originally, the survey was going to recast Lin’s (2002) survey; however, through extensive research and consultation, a newly developed bilingual (English/French) survey reflecting the evolution of the field was incorporated into their assessment. Two versions of the survey were tailored to the unique perspectives of two survey populations: deans and faculty members. Currently, the survey of faculty is being conducted; the survey of deans will follow. Important base-line data informing future research priorities will result from these surveys.

Review of the literature and existing processes. Concurrent with the previous activities, through the work of this manuscript, a “rapid review” of the literature has been completed. One of the future research priorities identified through this rapid review is the need to conduct a selective and/or comprehensive literature review of Canadian and international ESE-TE research. According to Foster et al. (2018), it would be prudent for us to consult with other organizations, our parent organization (EECOM), the Environmental Education Special Interest Group of the American Association for Studies in Education (AERA), the Canadian Association for Teacher Education (CATE), Learning for a Sustainable Future (LSF), and other organizations who may have data-driven mechanisms for setting research priorities. Regardless, it will be important for us to remain

transparent and consultative through this step of the process. Developing opportunities to establish consensus among organizational leaders will also be important.

Developing a model of research priorities. Results of the *National Survey on Canadian Faculty of Education ESE-TE Practices* (DiGiuseppe, Karrow, & Kool, 2019), mechanisms used by other ESE organizations, and priority-setting methodologies (such as this one) will be used by the Working Group to draft a proposed model for ESE-TE research priorities. The consensus among Working Group members, Standing Committee members, general members, EECOM, and other participating organizations will be facilitated either through telephone/video conferences or through a face-to-face partnership network meeting to be hosted as part of EECOM's annual conference in the spring of 2021, in Toronto, Ontario. A one-day Research Symposium in advance of the annual conference is planned for this purpose.

Member feedback. It will be important for the Working Group to solicit member feedback on ESE-TE research priorities through face-to-face or virtual forums as part of the Research Symposium, in advance of EECOM's annual conference in 2021. Promotion of this symposium will take place through calls for proposals to attend the EECOM conference. This model will be presented to attendees, inviting them to comment on research categories/subcategories. A draft of the model, reflecting attendees' feedback, will be evaluated. The initial electronic survey will be administered shortly thereafter, with respondents being recruited through an email invitation from our Standing Committee membership.

Obtaining membership consensus on the final model. Analysis of the survey data will be provided through a summary of the results. The Working Group will make recommendations to the Standing Committee and the general membership, to adopt the research priorities. It may be necessary to prioritize the shortlist of research interests and establish a timeframe for their investigation.

Operationalizing a Future ESE-TE Standing Committee Research Agenda

Once a model for the prioritized research agenda is finalized and appropriate and adjusted timelines have been determined, stakeholder researchers will be required to familiarize themselves with components of the research agenda. This is necessary to optimize the overall research agenda itself (Foster et al., 2018). Careful and thorough communication of the research agenda will be facilitated by the Working Group.

Communicating the agenda. The research agenda could be advertised and promoted through various means, such as through the Standing Committee's and EECOM's websites; social media; publications in academic and practitioner journals; and newsletters. It could also be integrated into future research roundtables or networking partnership meetings as well as into presentations at conferences and annual meetings.

Enhancing research strategic goals. As “research” is one of the Standing Committee’s mandates, it would be necessary to communicate the research agenda and priorities to the Standing Committee and the EECOM Board. Foster et al. (2018) have recommended assigning “guardianship” of the research agenda and priorities to the Working Group (p. 26). Furthermore, it is recommended that the research agenda be promoted during a future EECOM conference (and other related conferences), and the research agenda and priorities remain current and relevant to the Standing Committee’s mission, vision, and strategic priorities.

Advocating with external audiences and potential funders. To implement this research agenda, it will be necessary to explore external audiences for potential research funding. These will include foundations, NGOs, ministries, teachers’ federations, colleges of teachers, and federal and provincial agencies. It may be necessary to develop a formal process for funding research projects that address one or more of the priorities through collaboration between an internal foundation and an external enterprise. The Standing Committee has recently approved such a formal process for the vetting and approval of future research proposals.

Recognizing no model is perfect or complete, we propose this as a starting point to solicit feedback from our membership. We view this as the catalyst stimulating future conversation about *how* to identify and prioritize a research agenda, and *what* that research agenda may consist of.

Conclusions

Since its creation in 2017, the Standing Committee has taken bold steps to establish itself as a leader in Canadian ESE-TE. Consistent with its mission, vision, and strategic priorities, it has taken definitive steps to nurture and cultivate an emerging ESE-TE research community. Documentation of the Standing Committee’s ESE-TE research activities, while anticipating future research initiatives, and their relationship with international ESE-TE research, has helped establish ESE-TE as a viable, credible, and important field of study. Preliminary results of our literature review suggest there is great capacity for conducting more critically-oriented research as much ESE and ESE-TE research continues to disproportionately affiliate with the positivistic research paradigm. Such critical research will be invaluable to tackle challenges with redefining ESE in an emerging era of post-sustainability, to support in-depth literature reviews of Canadian and international ESE-TE research, and to explore a diversity of topics, including: connections between the social and the ecological; teacher “identity” and “agency”; urban, digital, interdisciplinary inquiry, community-based and marginalized perspectives on ESE; teaching/student learning and belief systems; and limitations of and challenges in applying research to practice. These initial steps will be furthered through Foster et al.’s (2018) model to develop a research agenda through broad-based community stakeholder consultation, a priority of the Standing Committee in the near future.

The Standing Committee is currently securing sources of funding to back the ongoing mission of supporting the emerging field of ESE-TE. Additionally, it continues to explore international collaborations in an effort to advance the field in Canada and more broadly. Ultimately, through these initiatives and actions, ESE-TE will gradually attain the status and profile it requires to educate a future generation of teachers and children about the ecological and social challenges we face now and in the near future.

Notes

- ¹ Teacher education includes “preservice teacher education” (prior to certification) and “inservice teacher education” (post certification).
- ² The authors recognize that research on Canadian ESE-TE predates the Standing Committee’s inception in 2017. The reasons for delimiting our survey of this history to this time period are provided in the paper.
- ³ The stakeholder community has yet to be defined and may include: provincial Ministries of Education, Colleges of Teachers, faculties of education, teaching federations, deans of education, boards of education, relevant non-governmental organizations (NGOs), etc.
- ⁴ At present, the Consortium does not exist. We are currently reapplying for federal funding to support it.

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