

A COMPARATIVE ANALYSIS OF STUDENT ACTORS FOR SUSTAINABILITY IN
CANADIAN HIGHER EDUCATION

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By

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ABSTRACT

While higher education institutions (HEIs) work to incorporate sustainability within their policies and practices to alter behaviours of campus community members, there remains limited research on how student action contributes to sustainability in higher education (SHE). As the largest stakeholder group on campus, it is essential to understand how students support and drive institutional change for SHE, including what they identify as drivers and barriers to their actions. In response, this doctoral thesis reports on a portion of findings from a comparative study of six Canadian HEIs conducted by the Sustainability and Education Policy Network (SEPN). The SEPN project employed a multi-sited approach informed by critical policy studies and comparative case study methodologies. This thesis draws on data from semi-structured interviews, focus groups, research observations, and photo documentation.

The thesis addresses a lack of comparative research investigating student leadership roles with SHE, including through a policy lens; as well as a gap in prior literature engaging social movement theory to better understand student action for SHE. Findings suggest that students can act as policy enactors, influencers, critics, and initiators. While this study indicates that students face challenges due to a lack of access to influence institutional policies, it also highlights that their actions can catalyze change by altering informal policy processes, including changing the campus culture of sustainability and ultimately how policy ideas are taken up across HEIs. This study also proposes that students create and mobilize social movement (SM) groups to advance SHE across campuses. These student-led groups were found to emerge despite lacking political opportunities, a condition broader SM groups required to emerge. Finally, this work calls for a closer examination of the cultural impacts of student-led action for SHE, including how their actions influence informal policy responses and the campus culture of sustainability.

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Thank you, Woliwon

DEDICATION

This thesis is dedicated to my family: to my ancestors who have come before and hold me high upon their shoulders, to my elders who lend me their wisdom, and to our children and grandchildren who have yet to join us.

This is for you, in your memory and in hope for your futures.

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LIST OF ABBREVIATIONS

AASHE	Association for the Advancement of Sustainability in Higher Education
HEIs	Higher Education Institutions
MTA	Mount Allison University
NAC	Nunavut Arctic College
SEPN	Sustainability and Education Policy Network
SHE	Sustainability in higher education
SM	Social Movement
SMT	Social Movement Theory
STARS	Sustainability Tracking, Assessment, & Rating System
U of T	University of Toronto
UBC	University of British Columbia
UCN	University College of the North
UL	Université Laval
UNESCO	United Nations Educational, Scientific, and Cultural Organization

CHAPTER 1 - INTRODUCTION

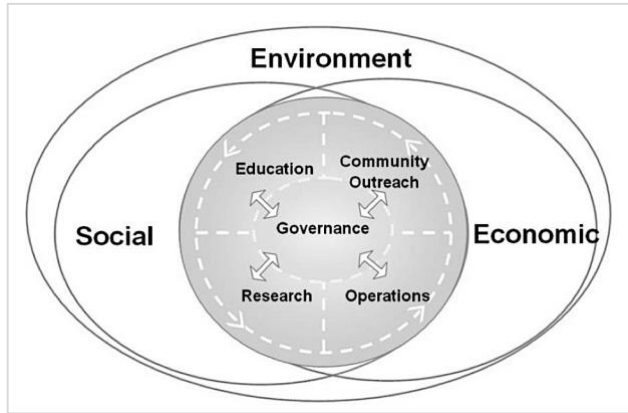
Over the past three decades, there has been an increasing awareness and acceptance that higher education institutions (HEIs) have an obligation to help build a sustainable future (Aleixo et al., 2018; Sibbel, 2009; Stephens et al., 2008; Waas et al., 2010). HEIs are well situated to this task (Sterling et al., 2013; Tilbury, 2011) as they can, and should, prepare their students with the awareness, skills, and technologies required to build sustainable societies (Cortese, 2003).

Through campus greening initiatives (Sharp, 2002; Shriberg et al., 2013), curriculum advancements (Wals & Blewitt, 2010; Wiek et al., 2015), international commitments (Sterling et al., 2013; Wright, 2002), and policy developments (Cheeseman et al., 2019; McKenzie et al., 2015; Wright & Horst, 2013), HEIs have been working on teaching and advancing sustainability in higher education (SHE) to equip their graduates with the necessary skills to build sustainable societies.

For the purposes of this thesis, sustainability is understood as a nested model where social and economic considerations are embedded within environmental capacities (University of Saskatchewan, 2012; Vaughter et al., 2016). Sustainability is understood to include “at minimum [a] consideration of the natural environment” (Bieler & McKenzie, 2017, p. 2). In other words, the environment must be considered alongside any social, cultural, and economic considerations in relation to sustainability (Bieler & McKenzie, 2017; see Figure 1.1). While various conceptualizations of sustainability exist, this one works particularly well for SHE as it situates the domains of HEI dynamics at the core (education, research, community outreach, operations, and governance) thus aligning with a whole institution approach to sustainability integration (Barth, 2013; Vaughter et al., 2016).

Figure 1.1

Conceptualization of Sustainability in Higher Education



Note. Adapted from Bieler and McKenzie, 2017

There are unique challenges with integrating SHE across the whole institution due to the various roles played by different internal (e.g. upper-level administrators, staff, faculty, students) and external stakeholders (e.g. community members, local and regional governments, and industry) (Aleixo et al., 2018; Brinkhurst et al., 2011; Cortese, 2003). These stakeholders can take up various roles as policy ‘actors.’ Actors are considered here to be more than simply recipients of policy, but those who are actively engaged with the policy process through developing, enacting, and/or resisting policies (Sin, 2014; Singh et al., 2014). While some HEIs identify top-down change from administrators as key to success, others report bottom-up change spurred by students as critical for SHE policy developments (Aleixo et al., 2018; Brinkhurst et al., 2011; Butt et al., 2014). Therefore, HEIs must examine each stakeholder group to understand the roles they play as actors for SHE, including what enables and constrains the different groups to take action.

While there are some SHE studies that focus on students’ roles, the majority refer to and examine students as participants in SHE initiatives rather than as contributors to the formation of

SHE policy or as leaders for change (Butt et al., 2014; Drupp et al., 2012). This is problematic as students have been found to be leaders for change on campuses, particularly within the campus sustainability movement (Barlett, 2011; Croog, 2016; Grady-Benson & Sarathy, 2015; Healy & Debski, 2016), demonstrating that students contribute more to SHE than being mere participants in other stakeholders' initiatives. While the role of students as participants with others' initiatives (e.g., curriculum and other university-led sustainability programming) are important to understand, examining how and to what extent students play a role leading sustainability action on campuses is an equally critical element to advance our understanding of SHE integration.

Indeed, student leadership with SHE has been identified as fundamental to the integration of sustainability across the whole institution (Brulé, 2015; Grady-Benson & Sarathy, 2015; Shriberg & Harris, 2012; Xypaki, 2015), with students being identified as key stakeholders for leading change across campuses (Barlett, 2011; Croog, 2016). In an analysis of institutional sustainability policies in Canadian HEIs, the policy documents at some institutions were found to frame students "as being 'responsible' for sustainability at an institution, while faculty and staff were given this obligation less frequently" (Vaughter et al., 2016, p. 32). Similarly, Wright and Horst (2013) found that faculty believed that students had the greatest power to elicit change and that pressure from students, in particular, was key to successful SHE uptake. Shriberg and Harris (2012) also suggested that students' active leadership is essential to achieving the deep organizational transformations necessary for SHE. However, despite an emphasis in the literature on the importance of students' active leadership with SHE, there remains a gap within SHE studies that specifically focuses on the leadership roles of students in campus sustainability developments (Drupp et al., 2012; Murray, 2018).

In response, this thesis addresses this gap through a multi-sited comparative case study methodology, informed by critical policy studies and social movement theory. It specifically examines the roles of students as actors¹ in both the enactment and development of SHE policies and practices. In addition, it addresses three other relevant gaps in the SHE field: the limited use of policy research in SHE (Beveridge et al., 2015; Blanco-Portela et al., 2017; Cheeseman et al., 2019; McKenzie et al., 2015); the absence of comparative studies on SHE (Barth & Thomas, 2012; Beveridge et al., 2015; Corcoran et al., 2004; Karatzoglou, 2013); and the lack of SHE analysis using a social movement lens to explore student-led action (Murray, 2018) and within education contexts more broadly (Niesz et al., 2018).

This study is part of a broader comparative research program conducted by the Sustainability and Education Policy Network² (SEPN) and is presented as a manuscript style thesis. In what follows, the remainder of the chapter outlines the study's theoretical framework, research objectives, and methodology and methods. Three manuscript chapters follow and provide a systematic literature review, a policy analysis of the roles students play as actors for SHE, and an examination of student-led sustainability movements using social movement theory.

¹ Student 'actors' are understood in this thesis to mean the various roles that students take with regard to SHE. This includes passive roles as receivers of SHE policy and participants of institutional SHE programs, but also the active roles students take up. These can include leadership roles organizing groups, initiatives, events, and campaigns that advocate for the integration of sustainability across institutions. Active roles can also include students resisting unsustainable institutional policies through their campus activities, among other leadership roles they might take on within the campus sustainability movement. The intention is to draw a distinction between their roles as passive participants in sustainability developments led by other campus stakeholders and their contributions leading change across campuses. As such, while the overarching focus of this thesis is to investigate the active roles students play with SHE, there is attention paid to the passive roles that students play on campuses as these were discussed by participants as important to SHE policy developments.

² SEPN is an international research network funded by the Social Science and Humanities Research Council (SSHRC) that examines and advances sustainability in education systems. It seeks to provide comparative "evidence-based understandings of policy to enable deeper responses to sustainability" (sepn.ca, n.d.). See sepn.ca for other related research databases, publications, and reports.

The final chapter outlines the implications of this study and offers recommendations for future research.

Theoretical Framework

As Margaret Kovach (2009) outlines, “nested within any methodology is both a knowledge belief system (encompassing ontology and epistemology) and the actual methods” (p. 25). Thus, I begin by situating myself through a brief presentation of my ontological and epistemological orientations to provide the necessary context to the theoretical framework on which this thesis is built. The subsequent sections outline critical policy research and social movement theory as the guiding theories that inform this thesis.

Orientation to research

Considering that text freezes something that is alive and ongoing, I often find it challenging to label my ontological and epistemological orientations. That said, I find that I resonate with elements of various ontologies and epistemologies, including Indigenous worldviews, social constructivism, interpretivism, and critical theories. First and foremost, I was taught by the Indigenous Elders who guided me that our realities are co-created through our interactions with the world around us. I come from a family of mixed heritage with both European settler and Indigenous ancestors. My ancestors hid the fact that we had Indigenous ancestry as best they could due to policies aimed at the erasure of Indigenous peoples, raising their families as white Canadians. Only in my lifetime has my family begun to reconnect to our heritage. As a student with Indigenous ancestry, I was enrolled as a First Nations student and attended cultural classes throughout my elementary and secondary school years. During these years, I had the honour of learning from Stó:lō elders about the importance of recognizing my ancestors, ancestral knowledge, and the connections with my more-than-human relatives. These

teachings form the foundation of my epistemology and remind me that we are not separate from the world around us, that our truths are constructed (on an ongoing basis) through our lived experiences, and that we co-create our realities and thus there are many realities.

My Indigenous teachings align somewhat with social constructivism and interpretivism in that they situate reality as a socially constructed truth, one that varies depending on the contexts, culture, and experiences of the individual or community. Social constructivism resonates particularly strongly with me as it “emphasizes the importance of culture and context in understanding what occurs in society and constructing knowledge based on this understanding” (Kim, 2010, p. 56). I use this as a foundation when I approach my research, understanding that each individual and HEI will approach sustainability differently. Relatedly, the interpretive paradigm is concerned with understanding the world as it is from the subjective experiences of individuals, thus recognizing the socially constructed nature of reality and truth (Creswell, 2007). Creswell (2007) explains that the interpretive approach is particularly useful in understanding the “conditions that serve to disadvantage and exclude individuals” (p. 24), and thus is beneficial in the context of SHE when seeking to understand how student communities are or are not involved with SHE developments. Finally, I understand that students are often disadvantaged when attempting to elicit institutional changes for SHE due to their position within the HEI hierarchy. In recognition of this, I draw on critical theories that enable the critique of society with end goals of empowering individuals and communities to transcend constraints and forms of oppression that have been placed on them (Bohman, 2019; Creswell, 2007).

My ontological and epistemological orientations guide my approach to research and analysis as I view reality as subjective and socially constructed, significantly influenced by systems of power. Therefore, I understand that there are many truths and that these constitute

systems of socio-political power articulated through discourses that create shared realities embedded in and controlled for rhetorical and political purposes. It is within these particular social, cultural, political, and power dynamics that I am particularly interested to investigate how our institutions decide which people can or cannot participate or affect a given situation.

Building on my ontological and epistemological orientations, my theoretical framework aims to unpack the interconnecting social, cultural, political, and power dynamics that influence policy development and enactment in HEIs. Thus, my research is theoretically informed by literatures on social movement theory (Amenta & Polletta, 2019; Diani, 1997; McAdam, 2017; Tilly, 1993; VanDyke & Taylor, 2019) and critical education policy (Ball, 2005, 2015a; Bowe et al., 1992; Gale, 2007; Lingard & Ozga, 2007). I use these bodies of literature to guide my understanding of the power relations that enable or constrain the rules and norms created and enacted within HEIs. This thesis combines the social movement lens with the critical policy work to specifically highlight the structures of power that impact student-led action for SHE. From this vantage point, I gain an understanding of not only the what and how of policy with regard to sustainability, but also of the interconnections between conditions of eligibility, power, and voice as they enable or constrain students' participation within HEI policy worlds. In what follows, I briefly outline each theoretical framework that my research is situated within.

Critical policy research

Policy-making is understood in this thesis to be an iterative process that is “jumbled, messy, contested” and rich with “creative and mundane social interactions [that] link text to practice” (Ball et al., 2012, p. 2). As “representations of knowledge and power” and predominant discourses (Maguire et al., 2011, p. 597), policies can change both “what we do (with implications for equity and social justice) and what we are (with implications for subjectivity)”

(Ball, 2015a, p. 306). In line with critical education policy work, I view policies not only as texts but also consider the discourses, contexts, materialities, and consequences that influence their development and enactment (Bacchi, 2000; Lingard & Ozga, 2007; McKenzie et al., 2015; Rizvi & Lingard, 2010). Thus, as policies move across sites and between actors, they are socially constructed as they are embedded within complex relationships between institutional limitations, ideological underpinnings, political priorities, and social relations (Gale, 1999; Maguire et al., 2011; Scott, 2018).

Along with the SEPN project more broadly, I draw on the work of Ball and colleagues (2011a, 2011b, 2012) in understanding policy, and specifically, viewing policy as a process. In their tripartite policy process model (Bowe et al., 1992, p. 20), Bowe and colleagues described three aspects of the policy process: context of influence (the discourses and social forces that influence the definition and social purposes of the policy), context of text production (representations of policy in text and formal and informal commentaries), and context of practice (enactments and translations of policies in diverse settings through contextual values, norms, and ideologies). As an iterative and ongoing process, these stages do not act in isolation from each other but rather continually interact (Bowe et al., 1992).

Considering that a policy rarely describes exactly what to do, policy texts must be mediated and struggled over and made sense of through ongoing and complex interactions between diverse policy actors and policy artifacts (texts, dialogue, objects, etc.) (Ball et al., 2012). Thus, policy-making and interpretation occur in a field of ongoing contestation dictated through structures of power, “economic and social forces, institutions, people, interests, events, and chance interact” (Ball et al., 2012, p. 3). Understanding these factors is especially important

when seeking to understand the particularities of policy work in HEIs. As critical policy scholars Taylor, Henry, Lingard, and Rizvi (1997) summarize,

In summary, then, we want to stress that policy is more than simply the policy text; it also involves processes prior to the articulation of the text and the processes which continue after the text has been produced, both in modifications to it as a statement of values and desired action, and in actual practice. Furthermore, contestation is involved right from the moment of appearance of an issue on the policy agenda, through the initiation of action to the inevitable trade-offs involved in formulation and implementation. Contestation is played out in regard to whose voices are heard and whose values are recognised or ‘authoritatively allocated’ in the policy and which groups ultimately benefit as a result of the policy. (pp. 28-29)

Thus, considering that education policy constitutes the “authoritative allocation of values” within education systems (Easton, 1953 as cited in Gale, 2007, p. 220), policy work must pay close attention to the political and social contexts. These contexts dictate whose values are upheld and which policy actors have the power to allocate those values within education policy work (Gale, 2007; Lingard & Ozga, 2007; Scott, 2018).

While it is recognized that policy work is negotiated through complex social interactions and contexts, there remains limited empirical work exploring the role of policy actors within HEI policy research (Scott, 2018). Various conceptualizations of policy actors exist, though broadly they include individuals who receive, enact, promote, introduce, disseminate, and/or resist policies (Ball et al., 2011; Haelg et al., 2020; Scott, 2018). Policy actors in HEIs include the various stakeholders within an institution, including administrators, faculty, staff, students, community members, and other external stakeholder groups (Scott, 2018; Taylor, 1983). Scott

(2020) outlines that policy work in HEIs must pay close attention to the hierarchies of power that exist within institutions and between the policy actors as these dictate who can participate and who is excluded from policy work. In recognition of this, portions of this thesis draw on the critical orientations to policy to examine the social and political contexts that dictate the allocation of values and the agency of various policy actors within the contexts of SHE policy development.

Social movement theory

The thesis also draws on social movement theory (SMT) as a framing and lens of analysis. SMT is an interdisciplinary field of study, pulling predominately from political science and sociology. As a field, it seeks to explain why mass social mobilization occurs around given issues, how it emerges, and what the outcomes or consequences are (Bevington & Dixon, 2005; Davis et al., 2005; McAdam, 2017; Staggenborg & Ramos, 2016; van Stekelenburg & Klandermans, 2008; VanDyke & Taylor, 2019). SMT research has identified that social movement (SM) organizations make use of a particular set of mechanisms to ensure mobilization emergence and success (Davis et al., 2005). These include the specific ways that organizers communicate to motivate collective action; the networks, groups, and/or constituencies organizers use to recruit participants; as well as the political and social capital that movement organizers possess, which dictate whether or not they are respected or ignored within political realms (Davis et al., 2005; McAdam, 2017; Staggenborg & Ramos, 2016). SM scholars have also explored the various tactics, strategies, and coalitions that groups use to make and communicate their demands (Bosco, 2001; Soule, 1997; Tarrow, 1993; Tilly, 1993). Considering that SM groups' emergence and success are said to rely on many of the factors above, understanding these in relation to student-led action for SHE could help guide student organizers

in their efforts as well as provide insight to other stakeholders on how best to support and empower students.

Additionally, SM research has shown that successful mobilization relies on coalitions, or collaborations, with individuals who hold higher levels of social or political capital than the SM organizers, known as ‘social brokers’ (Diani, 2003). Social brokers help organizers overcome specific political or social barriers to achieve their SM goals. Through coalitions with social brokers, SM organizers can also create networks with other groups with similar ideas, developing and sharing strategies. For example, Diani (1997) suggested that the success of social movements is based on these social connections:

the influence of social movements at a given political phase is dependent on their structural position, i.e., on the solidity of the linkages within the movement sector as well as—more crucially—of the bonds among movement actors, within their social milieu, and with cultural and political elites... Structural position will affect movement actors’ impact on both political decisions and cultural production. (p. 130)

In relation to SHE, we see students acting collectively across campuses, contributing their time to achieve actions that aim to alter the cultural and political structure of HEIs (Arthur, 2011; Barlett, 2011; Broadhurst & Martin, 2014; Helferty & Clarke, 2009; Martin et al., 2019; Murray, 2018). According to SMT, through these collective actions, students use their SM groups to catalyze change over time, developing distinct identities as they mobilize groups of students and other campus stakeholders. Understanding student-led action through an SMT framework offers an opportunity to learn more about their movements, constraints, strategies, and influence on institutional change for SHE. Finally, SMT also allows for a more in-depth analysis of the

various coalitions and collaborations that students use for their sustainability movements on campuses to overcome barriers to their organizing and mobilizing work.

By drawing on these two bodies of scholarship, this thesis helps extend existing research on the roles of students as actors for SHE through a multi-site analysis that brings in the above theoretical frames to better understand the mechanisms that enable and constrain student action.

Research Objectives and Questions

As part of the broader SEPN research project, this thesis takes as its central question, what are the varied roles of students as actors in advancing sustainability in HEIs. This includes examining the drivers and barriers that facilitate and constrain their actions for SHE, including how local culture, place, social movements, and other organizations influence their actions. The research questions are:

1. What roles do students play as actors in the development and enactment of sustainability policies and practices?
2. What do students identify as barriers and supports to their roles with SHE policy and practice? Including:
 - a. How do students identify culture, local place, social movements or other organizations (from municipal to international levels) as acting as barriers or supports to their action for SHE policy and practice?

Methodology and Methods

This thesis is situated within the site analysis component of SEPN's research program. SEPN employed a comparative case study methodology informed by critical education policy research (Ball et al., 2012; Rizvi & Lingard, 2010; Temenos & McCann, 2013) to examine the relationships between policy and practice uptake and enactment. The case study methodology

was selected as it is well suited to investigating SHE, as case studies provide a critical analysis that allows for a “holistic understanding of cultural systems of action” (Corcoran et al., 2004, p. 11), particularly when they offer comparisons across sites. The authors argue that when investigating cultural systems of action, the researcher must attend to the “interrelated activities engaged in by the actors” and must consider “not just the voice of individual actors, but also of the relevant group of actors and the interaction between them” (p. 11). Therefore, the critical comparative case study enabled this research to situate the “case within a wider landscape of relevant issues, factors, or trends,” allowing the tracking and tracing of concepts “across and through sites and scales” (Bartlett & Vavrus, 2017, p. 43).

As a methodology, case studies allow researchers to investigate “a contemporary phenomenon in depth and within its real-life context” (Yin, 2009, p. 18), thus contributing to our understanding “of individual, group, organizational, social, political, and related phenomena” (p. 4), particularly when approached through a critical lens. While single case studies have been critiqued for offering simplistic solutions to dynamic social challenges, critical multi-site and comparative case studies have been suggested as an alternative methodological approach (Corcoran et al., 2004). Vavrus and Bartlett (2006) explain that while some case studies may lack “contextualized knowledge that takes into account how larger forces, structures, and histories inform local social interactions and understandings” (p. 97), the comparative case study, they contend, specifically considers those elements. The comparative case study approach has been described as a heuristic that “considers similarities, differences, and possible linkages across sites, across hierarchies of power/levels, and across time” (Bartlett & Vavrus, 2017, p. 17). The authors stress that multi-level analyses and comparisons are particularly important to understand the flow of policies and practices, including *horizontal levels*, across distinct sites/locations,

vertical scales, across micro, meso, and macro levels, and *transversal aspects*, across time (Bartlett & Vavrus, 2017).

Thus this methodological approach informed by critical policy studies enables the researcher to examine SHE across different levels, scales, and elements to understand how institutional, local, national, and global sustainability-related policies and practices move across and between institutions. Additionally, it allows researchers to closely examine the roles of multiple actors, including considerations of power hierarchies, that influence SHE policy and practice developments.

While case studies, and qualitative research more broadly, have been critiqued for a lack of rigour (Creswell, 2007; Creswell & Poth, 2018; Onwuegbuzie & Leech, 2007; Shenton, 2004; Yin, 2009), this section of this thesis intends to provide an in-depth description of the research process to contribute to the rigour and trustworthiness of this research. The trustworthiness of qualitative research has been defined as credibility, transferability, dependability, and confirmability, terms coined by Lincoln and Guba (1985) and accepted by many qualitative researchers (Creswell & Poth, 2018; Nowell et al., 2017). In what follows, I briefly outline each of the elements in relation to the choices made for this research.

The credibility of this research was maintained through the choice of established and well trusted qualitative methods (Connelly, 2016; Polit & Beck, 2014; Shenton, 2004). As previously outlined, the use of the case study is deemed an appropriate methodological tool as it enables the researchers to investigate the perspectives of multiple stakeholders and examine the systems of action that facilitate SHE (Corcoran et al., 2004). Moreover, the multi-site comparative case study allowed for the investigation of SHE across multiple settings, enhancing the transferability of this research to different contexts as it does not focus solely on just one context. While it

certainly is not my intention here to imply that this research will be ‘generalizable’ to other locations, looking across multiple sites allows for a deeper understanding of what is (or is not) occurring across various HEIs, exposing the similarities, differences, and silences that emerge. This allows the research, when communicated with sufficient contextual details, to be more transferable to different locations as research users can develop their own impressions of what would work (or not) in their own settings (Connelly, 2016; Nowell et al., 2017; Shenton, 2004). The findings chapters of this thesis provide in-depth descriptions of both data analysis and contextual details to allow readers and potential research users to decide what is or is not applicable to or helpful for their situations.

In relation to dependability, the ability to reproduce the study and find similar results can be achieved through a rich description of the research design (Creswell & Poth, 2018; Shenton, 2004). The following section provides detailed information on the site and participant selection, as well as the methods of data collection that were used; see also Appendices A-E for detailed research method protocols. Finally, the element of confirmability intends to ensure, as far as possible, that the findings represent the opinions of the research participants (Creswell & Poth, 2018; Nowell et al., 2017). Ensuring confirmability includes triangulation through a variety of methods (in the case of this thesis, interviews, focus groups, photo documentation, and researcher observations), incorporation of multiple perspectives from participants (thus, we collected data across various participant types, as will be outlined below), and employing numerous investigators in the analysis of data to ensure the trustworthiness of the findings. In what follows, detailed descriptions of site selection, participant recruitment, data collection, and data analysis are provided.

Site Selection

Building on earlier stages of work, SEPN selected six institutions for its Canadian comparative site analysis research: University of British Columbia (UBC), University College of the North (UCN), University of Toronto (U of T), Université Laval (UL), Mount Allison University (MtA), and Nunavut Arctic College (NAC). These sites were chosen based on their inclusion in the first phase of SEPN's Canadian study, which examined policies from all 220 accredited post-secondary education institutions across Canada. This phase included the identification of sustainability policy initiatives (Beveridge et al., 2015) and analyses of institutional policy documents for integration of sustainability-related concepts (Vaughter et al., 2016). Beveridge and colleagues (2015) analyzed all of the 220 accredited universities, colleges, and CÉGEP³ institutions across Canada for sustainability initiatives. Through this work, they assigned each institution a sustainability initiative (SI) score out of four based on which high-level policy initiatives they had undertaken at the time of the review: sustainability assessments, sustainability office and/or officer, sustainability declarations, and/or sustainability policies or plans. For each type of initiative evident at institutions, they were assigned one point, with a possible four out of four points for the SI score for a given institution. Building on this work, Vaughter and colleagues (2016) selected a sub-sample of 50 institutions using specific site selection criteria to conduct a more in-depth content analysis of their policy documents. Using the same sub-sample of institutions, Henderson et al. (2017) reviewed institutional climate-

³ CÉGEP stands for 'College d'enseignement général et professionnel' which translates to English as "College of General and Vocational Education" and is the first level of post-secondary education in the Canadian province of Québec. CÉGEPS offer two to three-year bridging programs between secondary schools and other post-secondary institutes.

specific policies, and Bieler and McKenzie (2017) conducted content analyses of strategic plans to determine the extent to which sustainability was included. These earlier works provided a comparative analysis of the sustainability policies at these 50 Canadian HEIs to deepen our understanding of the institutions' conceptualizations of and priorities for SHE.

These studies afforded SEPN a deeper understanding of the particular cultures of sustainability at these 50 institutions and guided the site selection for SEPN's second phase of the Canadian study, the Site Analyses. Six research sites were selected for this phase. They were chosen to ensure a range of diversity in institutions across the following criteria: Canadian region, geographic location, institution size, SI score, U15⁴ representation, participation in STARS⁵ tracking system, and language of instruction (see **Error! Reference source not found.** for the site selection criteria applied to the subsample of 50 institutions and see Table 1.2 for the sites that were selected with the corresponding criteria).

In addition to the selected six HEIs, SEPN conducted a pilot study at the University of Saskatchewan. The SEPN project is housed at the University of Saskatchewan, therefore it was chosen due to the ease of accessibility and access to the site. SEPN used this site to train researchers and test the data collection methods and protocols.

⁴ U15 are the top 15 research institutions across Canada

⁵ The Sustainability Tracking, Assessment, and Rating System (STARS) is the Association for the Advancement of Sustainability in Higher Education's (AASHE) flagship voluntary program to track and assess institutional responses to sustainability (AASHE, 2019). Learn more at stars.aashe.org

Table 1.1*Site Selection Criteria for SEPN's Site Analyses*

Criteria	Description of Criteria
Institution Type	SEPN selected Universities where possible to allow for comparison across similar institution types. However, the northern region of Canada does not have universities, therefore, a college was selected to ensure regional representation
Region	The following six regions of Canada were used to guide regional selection (with corresponding provinces/territories in each region listed): North: Yukon, Northwest Territories, Nunavut West: British Columbia, Alberta Prairies: Saskatchewan, Manitoba Central West: Ontario Central East: Quebec Atlantic: Nova Scotia, New Brunswick, Newfoundland, Prince Edward Island
Centre Population Size	According to Statistics Canada (2016), large urban centers have populations over 100,000 residents. Small and medium centers have populations of 1,000-29,999, and 30,000-99,000, respectively SEPN selected institutions located in both large and small-medium centers, where small-medium was defined as a population between 1,000 - 100,000
Institution Size	SEPN selected institutions with a variable representation of student populations using the following student body sizes: Small - Medium: Up to 20,000 students Large: More than 20,000 students
U15	SEPN included three U15 institutions and three non-U15
Sustainability Uptake	Sustainability uptake was judged using SEPN's SI Scores and AASHE's STARS ratings; SEPN selected a range of SI scores and STARS ratings to ensure a diversity of levels of uptake
Language	SEPN ensured at least one French-language HEI was selected

Table 1.2*Site Selected for Analysis*

Institution	Region	Geographic location	Institution Size	SI Score	U15	STARS Rating	Language
UBC	West	Large urban center	Large	4	Yes	Gold	English
UCN	Prairie	Small remote community	Small-Medium	0	No	None	English
UL	Central East	Large urban center	Large	2	Yes	Gold	French & English
U of T	Central West	Large urban center	Large	3	Yes	None	English
MtA	Atlantic	Small rural community	Small-Medium	2	No	None	English
NAC	North	Small remote community	Small-Medium	0	No	None	English & Inuktitut

Participant Selection

Research participants included both internal and external stakeholders at each institution. They included: board of governors' members, university administrators, faculty members, staff (including sustainability officers/directors and facilities management staff), sustainability committee members, students⁶ (including the general student population, campus student leaders, and student sustainability leaders), and external community members (including representatives from local environmental, Indigenous, and social justice organizations, members of local chambers of commerce, and city staff). Overall, SEPN collected data from 502 participants across various methods; for the purposes of this thesis, data from 240 participants were used (see

⁶ 'Students' included the general campus student population, recruited through focus groups; 'Student leaders' included campus student leaders such as student union representatives and executives, recruited for interviews; and, 'Sustainability student leaders' included students who organized and lead sustainability initiatives, groups, or committees on campus, recruited for interviews.

below Table 1.3 for participants recruited by SEPN and Table 1.4 for data analyzed in this thesis).

Research ethics was received from the University of Saskatchewan's Research Ethics Board, with ethics clearance also sought from each institution to ensure proper local research protocols were respected⁷. After ethics approval was received, SEPN used purposive (Etikan et al., 2016) and snowball sampling procedures (Biernacki & Waldorf, 1981; Noy, 2008) to identify and recruit participants. Interview recruitment began with purposive searches on each institution's website using the following key terms to identify potential participants: 'Sustainability AND community outreach OR community engagement'; 'Environment AND community outreach OR community engagement'; 'Sustainability OR environment AND research'; and, 'Indigenous representative/elder/coordinator OR aboriginal OR aboriginal initiatives.' In addition to these search terms, SEPN researchers used the following three criteria to guide interview participant selection to ensure they had the necessary knowledge to participate in the study (Etikan et al., 2016): (i) participants must have knowledge of the institutional development and engagement with sustainability, (ii) their understanding of sustainability initiatives must be at the institutional level, rather than only at an individual departmental level, and (iii) diversity across academic disciplines and demographics of participants.

Individuals who were contacted were also asked to connect SEPN with other individuals they thought would be appropriate for the study and/or share SEPN's information with those individuals, adding a form of snowball sampling for 'key informants.' SEPN researchers

⁷ Each institution required a different level of clearance to conduct research. Some institutions accepted the University of Saskatchewan ethics certificate while others required an independent research ethics application. See Appendix I for the permissions received to conduct this research.

predominately used email invitations to recruit participants, though some institutions relied more heavily on phone and face to face interactions for locally appropriate recruitment processes (see Appendix A). The email invitations were also translated into French and Inuktitut for those settings where English was not the local region's primary language.

The interview recruitment phase facilitated the student focus group recruitment as some faculty participants offered to facilitate focus groups during class time. If they were not able to, then they shared the focus group details amongst their networks and/or suggested students and student groups we should connect with. The student groups either agreed to host a focus group with their members or shared our focus group details with their networks.

Recruitment for the community focus groups included purposive searches as well as snowball sampling. The purposive searches were conducted to identify and invite a range of community representatives from local environmental, Indigenous, and social justice organizations. The searches involved searching the internet using the following key terms⁸: “city AND eco-network,” “city AND climate change/action,” “city AND environment* network/advocacy/justice,” “city AND Indigenous environmental group.” SEPN also contacted members of local chambers of commerce, the mayor, and city councillors inviting them to participate in the focus groups. Interview participants also suggested potential community members who might be interested in participating in the study.

⁸ The equivalent French terms were also included in the searches when appropriate: développement durable, environnement, écologique, vert, Aborigène, Indigène, Premières Nations, Métis.

Data Collection

Data collection occurred for a minimum of five days by two SEPN researchers, with methods that consisted of interviews, sidewalk interviews⁹, walking interviews¹⁰, talking walls¹¹, focus groups, and field observations, including researcher notes and photo documentation (see Appendices B-F). Overall, SEPN collected data from 502 participants across the six HEIs using those methods (see **Error! Reference source not found.** for SEPN's methods and corresponding participant numbers).

While SEPN collected data from across those methods, this thesis analyzes the interview and focus group data only. This decision was made because the interview and focus group protocols asked questions related to the roles that students play with SHE, whereas the sidewalk interviews, walking interviews, and talking walls asked participants about the institutional approach to sustainability. Table 1.4 outlines each method used for this thesis with corresponding participant numbers; chapters three and four use different subsets of this data set, as outlined in each. The field observations, including researcher notes and photo documentations, were also used to contextualize the findings, particularly at sites with lower responses or those where I was not one of the researchers collecting the data. In what follows, I outline each of these methods further.

⁹ Sidewalk interviews were short 5-10 minute interactions with the general campus community to collect data on their knowledge of institutional engagement with sustainability. Sustainability ratings were collected using the Heat Diagram App as well as optional comment space for participants who wanted to expand on their ratings.

¹⁰ Walking interviews were campus tours conducted with a sustainability officer (or, if there was no officer available, a participant knowledgeable about campus sustainability) to demonstrate evidence of sustainability.

¹¹ Talking walls were interactive spaces where SEPN researchers installed large posters in common areas that asked the following questions: 'What is your university doing for sustainability?' and 'What do you wish it were doing for sustainability?' This provided an opportunity for passers-by to leave their thoughts and comments.

Interviews. The interview protocol began with a questionnaire to collect demographics and sustainability definition information. The second part included an interactive heat diagram on a collaboratively developed web application ('app'), which was used to evaluate participants' perceptions of their institution's sustainability performance (Figure 1.2; see also Appendix D). The heat diagram asked participants to rate their institution's action on sustainability practice and policy out of ten in five domains: governance, research, community outreach, curriculum, and operations. A sixth domain of 'Other' was included to allow participants to highlight other sustainability work that was not captured within the pre-determined domains. This was filled out either on paper or using the online app, depending on the context and the participants' comfort level using the app. The main section of the interview used the heat diagram ratings to facilitate a guided discussion of the development and enactment of a particular policy and practice within one 'hot' and one 'cold' domain¹², as well as a range of other questions on the influences on the development and mobilization of sustainability policy and practice at their site. The interviews were primarily conducted face-to-face during site visits, with one participant at a time, ranged in length from 40 to 90 minutes, and were audio-recorded and transcribed. Due to participant availability, some interviews were conducted over the phone or with up to two participants.

¹² As rated by the participant in the heat diagram; the highest rated domain was the 'hot' domain while the lowest rated was the 'cold' domain

Table 1.3*SEPN Methods with Corresponding Participant Type and Numbers*

Method	Participant Type	Total
Interviews	Administrators	18
	Board of Governors	3
	Faculty	30
	Staff (including sustainability officers and facilities management)	23
	Student leaders (including sustainability and student union leaders)	26
	Sustainability Committee Members	21^a
Walking Interviews	Various interview participants	7
Sidewalk interviews	Campus community	255
Focus groups	Students	107
	Community	32
Total		502

^a Participants were categorized according to their primary role within the institution. While 21 participants were sustainability committee members, 20 of them had a different primary role within their institution (i.e. faculty, administrator, staff, or student). Therefore, the total number of participants (502) represents the total number of unique participants in the higher education portion of the SEPN study.

Focus groups. Focus groups followed the same structure as the interviews: collection of demographic and sustainability definition information, heat diagram ratings (filled out on paper for large groups), and a final section of guided discussion based on the ratings provided and other questions (see Appendix C). The last section of the focus group protocol was different from the interview protocol to allow for large group discussions on sustainability-related practice and policy developments. Focus groups were one hour in length, facilitated by a team of two SEPN researchers, with participant numbers ranging from 4-30 people, and were also recorded and transcribed. SEPN researchers offered a minimum of two student focus groups and one community focus group at each site during the site visits. If the focus groups were not attended or had attendance under 4 participants, SEPN researchers returned to the site to offer another

opportunity at a later date (see Table 1.4 for participant numbers for each focus group held across sites).

Table 1.4

Data Used for this Thesis by Method and Participant Type

Data collection method	Participant type	Participants per site						Total
		UBC	UCN	UofT	UL	MtA	NAC	
Interviews	Administrators	2	3	2	1	3	7	18
	Board of Governors		1	1		1		3
	Faculty	6	4	6	5	6	3	30
	Staff	7	2	8	5	1		23
	Student leaders	4	1	7	4	9	1	26
	Sustainability committee member	5	0	4	5	7	0	21^a
Focus groups ^b	Community members	7	7	7		4	7	32
	Student focus group 1	12	2	3	8	17	10	107
	Student focus group 2	3	6	4		12	15	
	Student focus group 3	15						
Total participant numbers		56	26	38	23	54	43	240

^a Participants were categorized according to their main role within the institution. While 21 participants were sustainability committee members, 20 of them had a different primary role within their institution (i.e. faculty, administrator, staff, or student). Therefore, the total number of participants (240) represents the total number of unique participants in the higher education portion of the SEPN study.

^b There were two successful student focus groups held at most sites, with the exception of Laval where only one was attended and UBC where three were attended.

Field notes. All SEPN researchers recorded field observations on site and post-site visit, using field notes according to the SEPN Field Notes protocol (see Appendix E). Researchers were encouraged to record their perceptions, emotions, and reflections to provide context for the rest of the SEPN research team during analysis. While these observation documents were used to ensure that I had a fuller grasp of the institutional context at each site, they did not undergo formal analysis.

Figure 1.2

Sample Heat Diagram Application with Ratings

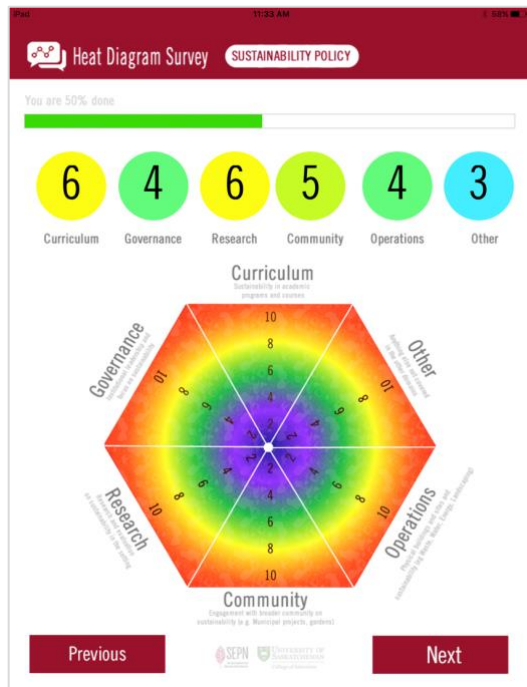


Photo documentation. Photo documentation allowed us to capture visual representations of sustainability aspects around each institution's campus grounds. The photo documentation protocol (Appendix E) was collaboratively developed with the SEPNI research team. Possible photo categories included indoor and outdoor common areas, natural spaces, transportation, housing, food areas (including waste management), recycling and other waste facilities (or lack thereof), emotional/affective messaging, sustainability reporting/assessments, and others. Researchers were instructed to capture photos within these categories that illustrated elements of sustainability and/or unsustainability policy or practice. These were not analyzed for this thesis but have been used as supplementary materials as appropriate.

Data Analysis

All interview and focus group transcripts were uploaded into NVivo 12 qualitative data management software to facilitate three different stages of analysis. The initial phase of analysis entailed data cleaning, organizing and auto-coding by the SEPN research team (Houghton et al., 2013). The interview and focus group questions were used to develop the auto-codes. As part of this phase, matrix-coding queries were created in NVivo to organize the data according to select attributes (i.e. across sites or participant types) and group responses together from various auto-codes. From this initial stage of data cleaning and organizing, SEPN researchers then conducted inductive thematic analysis on the open-ended interview and focus group questions (Nowell et al., 2017). SEPN researchers read each transcript, tracked emergent themes and sub-themes, and kept detailed coding memos, including sub-codes and their frequencies. These memos were then shared between SEPN researchers to ensure reliability and to align analyses processes.

For the purposes of my thesis, I conducted additional data cleaning and organizing specific to my thesis and the research questions for each chapter and then I employed a further inductive thematic analysis. While the SEPN research team identified overall themes related to student roles with SHE, my further analysis using the research questions and theoretical frameworks of this thesis suggested additional categories and sub-categories, described in greater detail in chapters three and four. The field notes and photo documentation from each site were also used to supplement the interview and focus group transcript analysis in the chapters that follow, providing contextual details to offer a deeper understanding of the findings.

Ethics

As previously mentioned, ethics approval was issued by the University of Saskatchewan's Research Ethics Board (REB) and at each institution through their respective

REBs to ensure that local protocols (including recruitment and cultural practices) were respected at each institution (see Appendix I). Each institution required a different level of approval to conduct research. For example, some institutions accepted the University of Saskatchewan REB certificate while others required an independent research ethics application. See Appendix I for the permissions received for this research.

Consent forms for interviews and focus groups (Appendices G and H) were developed in accordance with the University of Saskatchewan REB. Following the consent forms, participant identity was kept anonymous¹³. Participants were able to withdraw from the study at any time.

Research Limitations

The SEPN project was designed for comparability across K-12 and higher education levels to consider all actors and analyze various sustainability elements at the institutional level rather than in regards to student-led action specifically. Therefore, there were some limitations with participant responses speaking to institutional actions more broadly, rather than student actions specifically. I also faced limitations at the two remote institutions where student interview participation was low (one interview participant at UCN and NAC). At those sites, I relied more heavily on focus group responses and researcher observations. Additionally, due to financial and time restrictions, SEPN targeted the same number of people at each institution rather than using a per capita approach to sampling. Therefore, the small institutions had similar

¹³ SEPN project ethics materials and applications to institutions specified anonymity for individual participants rather than institutions as a whole; none of the institutions requested institutional anonymity for this study.

numbers for recruitment as the large institutions. This could present challenges in that we may have missed voices that needed to be heard, particularly at the larger institutions.

Regardless of these limitations, the SEPN project offers a rich data set from which to pull interesting and important findings to showcase and highlight the role of students as actors for SHE, allowing for this thesis to offer a contribution to a field that lacks a focus on student-led action for sustainability in higher education.

Organization of the Thesis

This thesis is presented in manuscript style with five chapters as per the University of Saskatchewan's College of Graduate and Postdoctoral Studies guidelines. Following this introductory chapter, chapter two provides a systematic literature review of student-led action with sustainability in higher education. That chapter provides an overview of research on student-led action for sustainability, including identifying existing gaps that need to be addressed in the literature base.

Chapter three responds to the research question, 'What roles do students play as actors in the development and enactment of sustainability policies and practices?' Data for this chapter included the interview and focus group transcripts from across all participant types. Interview questions analyzed for this chapter include 2(a)a&b, 2(b)a&b, 2(c)a,b,d&f, 2(e)a&b, 2(f), 5(a)a&b, 5(b)a&b, 5(c)a,b,d&f, 5(e)a&b, and 5(f) (Appendix B), and focus group questions 4(a) and 4(d) (Appendix C). These were investigated in relation to critical education policy studies to understand whether and how students contribute as policy actors. Full details on the specific data analysis methods are outlined within the chapter.

Chapter four reports on the comparative analysis of the data related to drivers and barriers to student-led action with SHE across the six sites using a social movement lens. This manuscript

responds to the research question, ‘What do students identify as barriers and supports to their engagement with SHE policy and practice’?, including, ‘How do students identify culture, local place, social movements or other organizations (from municipal to international levels), as acting as barriers or supports to their action for SHE policy and practice?’ For this chapter, I conducted an inductive thematic analysis of all student interview and focus group transcripts, as outlined in greater detail in that chapter.

Finally, chapter five is the conclusion for this manuscript style thesis, with brief outlines of the main findings and the implications of this doctoral research. This research is intended to benefit students organizing for SHE and other stakeholders seeking to support students in their efforts and provide recommendations for future research to advance our understanding of this critically important stakeholder group.

Transition 1

Chapter one introduced the research objectives and justifications for this thesis. Chapter two provides an analysis of the state of research within the SHE literature base focusing on student-led action for SHE. As part of a systematic review process, inclusion criteria for chapter two required that the literature explored student-led initiatives within SHE. This aligns with the specific aim of the chapter (and this thesis more broadly) of acquiring a deeper understanding of the research literature on sustainability initiatives¹⁴ led specifically by students. Findings demonstrate that while students are an understudied stakeholder group, there is a growing focus in the SHE literature on student-led contributions to SHE. The results suggest that students are working to increase the uptake of SHE through multi-stakeholder collaborations, collective action, and interdisciplinarity. The review identifies a lack of engagement with interrelated environmental and social issues and highlights the need to redirect future SHE research. It calls for increased comparative studies and research syntheses to provide greater depth to our understanding of student-led initiatives.

Chapter two has been published as:

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International Journal of Sustainability in Higher Education, 19(6), 1095–1110.

<https://doi.org/10.1108/IJSHE-09-2017-0164>

Note: Please see permission to reproduce this as a chapter for this thesis in Appendix I.

¹⁴ Student-led sustainability initiatives are understood hereafter to include the collective actions of students to integrate sustainability in HEIs and can be related to policies and/or practices within the institution.

CHAPTER 2 - STUDENT-LED ACTION FOR SUSTAINABILITY IN HIGHER EDUCATION: A LITERATURE REVIEW

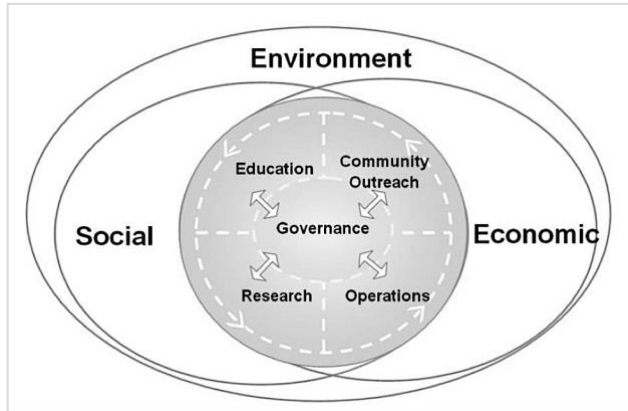
Introduction

In the face of growing environmental, social, and economic challenges, sustainability has evolved as a goal to address imbalances between human development and the environment (Elliott & Wright, 2013). Organizations, governments, and education institutions worldwide are grappling with how to encourage and implement sustainable behaviours and lifestyles to address such imbalances (Brinkhurst et al., 2011; DeYoung et al., 2016). Higher education institutions (HEIs), in particular, are taking steps to incorporate sustainability in their philosophies (Brinkhurst et al., 2011), formal and informal learning strategies (Hopkinson et al., 2008), campus members' lifestyles and behaviours (Shriberg, 2003), and university governance policies, research, and community outreach (Bieler & McKenzie, 2017; Tilbury, 2011).

In line with Bieler and McKenzie (2017), this review defines sustainability “as at minimum including consideration of the natural environment” (p.2). That is to say that the environment must be considered together with any social, cultural, economic, or other considerations with relation to sustainability (Bieler & McKenzie, 2017). Figure 2.1 offers a conceptualization of sustainability in higher education (SHE) that shows the all-encompassing importance of the natural environment as it embeds the institutional dynamics within the dimensions of sustainability. This conceptualization highlights the reliance of universities on the societies and economies that enable them, and ultimately on the environment that supports them all.

Figure 2.1

Conceptualization of Sustainability in Higher Education



Note. Adapted from Bieler and McKenzie, 2017

While many universities have started to incorporate sustainable policies and practices to support sustainability, there are many factors that inhibit their success (Butt et al., 2014). While the reasons for the lack of uptake are contested (Brinkhurst et al., 2011; Duram & Williams, 2015; Vaughter et al., 2016), scholars agree that campus stakeholder engagement (Butt et al., 2014), and, particularly, student engagement (Brulé, 2015; Grady-Benson & Sarathy, 2015; Xypaki, 2015) are fundamental to success. Shriberg and Harris (2012) have suggested that the active involvement and leadership of students is essential to achieving the deep organizational transformations necessary for SHE through the bottom up pressure they offer. Drupp et al. (2012) noted that while a significant focus of campus sustainability strategies require such student involvement, student-led action for sustainability remains understudied. Furthermore, they outlined that the “literature has not fully acknowledged the potential of [student initiatives] as actors in the transformation towards sustainable universities” (2012, p. 2). This paper

examines this gap in current knowledge by reporting on a literature review of student-led action¹⁵ for SHE.

The following section provides context on the history of the development of SHE, before describing the methods of review and presenting the findings. Against the backdrop of the findings, the final section identifies research gaps and implications for future research on student-led action for SHE.

Background

The responsibility of HEIs to contribute significantly to the global sustainability agenda has been recognized in numerous commitments and declarations requesting that signatory universities lead more environmentally and socially responsible institutions (Karatzoglou, 2013; Wright, 2002). Examples include the Stockholm Declaration (1972), Talloires Declaration (1990), Halifax Declaration (1991), Agenda 21(1992), and the Rio + 20 Declaration (2012) (Vaughter et al., 2013; Wright, 2002). The momentum built during the late 1900s through these commitments fed into the development of the UN Decade of Education for Sustainable Development (DESD) from 2005-2014. The DESD emphasized “the critical role of education in moving towards a more sustainable world” (Wals, 2014, p. 8). The years following the DESD marked a demand for the reorientation of universities as a whole, calling for universities to “embrace the responsibility to prepare students to shape the world in which they will live” (Hales, 2008, p. 24).

¹⁵‘Student-led action’ and ‘student initiatives’ are understood in this review to mean the same - that students are acting collectively to achieve a particular outcome through their collective actions, initiatives, or advocacy work on campus. Further discussion is provided below.

Students at higher education institutions shaping broader society is not new (VanDyke, 1998). The 1950s to 1970s were marked with student actions that spurred important social transformations in society at large (Staggenborg & Ramos, 2016; VanDyke, 1998; Winston, 2013). Today, there is a seeming resurgence in the face of mounting environmental concerns and the need to embrace sustainability in HEIs (Lange & Chubb, 2009). This resurgence is in line with social movement theorists who have suggested that collective action “comes about during a period of social disruption, when grievances are deeply felt” (Staggenborg & Ramos, 2016, p. 16). Worldwide, students are witness to a growing period of social disruption where individuals are standing together to defend against social and environmental injustices; examples include recent Dakota Access Pipeline protests (Knight, 2016; McCauley & Prupis, 2016), the Idle No More movement (Moscato, 2016), and the Occupy Wall Street movement (Suh et al., 2017)¹⁶. As a result, many universities have experienced the impacts of student action as they embrace sustainability and push for its implementation (Drupp et al., 2012; Kerr & Hart-Steffes, 2012).

Students offer a unique influence due to their bottom-up approach, their ability to operate outside traditional decision-making systems, and their capability to pressure their universities in ways that employees simply cannot (Helferty & Clarke, 2009). Understanding their collective actions¹⁷, particularly those they initiate, plan, and lead, are of specific interest when considering influences on sustainability uptake in HEIs (Butt et al., 2014). Sociologists define collective

¹⁶ Since the writing of this literature review, much has happened in regards to growing social disruptions that continue to influence the ways in which students respond to social imbalances and seek to use their voices to catalyze change. Most notably since the writing of this chapter has been the School Strike for the Climate (Thunberg, 2018) as well as the currently evolving movements addressing police brutality against Black, Indigenous, and People of Colour (Sobo et al., 2020).

¹⁷ For the purposes of this article, collective action, student-led actions, and student initiatives are seen to represent the same idea; a group of students who care enough about a sustainability issue that they act together to achieve specific outcomes.

action as a group of individuals “who care enough about [an] issue that they are prepared to incur significant costs and act to achieve their goals” (Oliver & Marwell, 1992, p. 252). Social movement theory examines the collective actions of special interest groups, investigating in what ways their actions influence society (Staggenborg & Ramos, 2016). For the purposes of this review, I will examine the collective actions of students on campuses documented in the academic literature through the lens of social movement theory to examine what they are doing and how this may be influencing sustainability uptake at institutions of higher education.

Methods

This literature review answers the question ‘*what research has been done on student-led action for sustainability in higher education?*’ The search for literature occurred throughout the year in 2016, spanning from January to March, followed by another scan in November 2016 to January 2017. Inclusion criteria included: (1) that articles focused on sustainability initiatives in higher education settings, and, (2) that the sustainability activity be led by students; in other words, the students had to have a primary role in developing the sustainability initiative (faculty and staff could be involved, however, students had to be the primary actor). Identifying these key dimensions allowed me to select articles based on relevancy (Rickinson, 2001). While selecting articles that focused specifically on student-led initiatives excluded those that examined initiatives led by other stakeholders (and might also mention student contributions), the specific aim of this review was to acquire a deep understanding of the research literature on initiatives led specifically by students.

The Academic Search Complete (ASC), Education Resources Information Centre (ERIC), Web of Science, Scopus, and Google Scholar search engines were searched for English language articles that matched the inclusion criteria. The following terms were used in Boolean

combinations to search the abstracts and subject terms of peer-reviewed articles: sustainab*, environment*, “higher education”, postsecondary, student*, “student initiatives”, and student-led. Abstracts were read to identify articles that met the criteria for this literature review.

Additional papers were identified while reading the selected articles (Rickinson, 2001). This process ensured the comprehensiveness of the literature search, ensuring that “searching continued until no new citations arose from the reference lists of included articles” (Rickinson, 2001, p. 212). In total, thirty-eight articles were selected. Analysis began with an open reading of each article to identify trends and emergent themes. Categories of analysis were inductively determined (Rickinson & Reid, 2016), including quantification of types of research and trends (Aikens et al., 2016).

Findings

Geographic Distribution

Despite efforts to provide an all-inclusive literature review, the search was limited by only including English language articles. Perhaps as a direct result, the data set primarily examines articles from North America, with few other countries represented; United States ($n=23$), Canada ($n=4$), Germany ($n=3$), United Kingdom ($n=3$), Netherlands ($n=2$), France ($n=1$), Hungary ($n=1$), and China ($n=1$). Gaps in geographical coverage of this literature review are evident in Figure 2.2, which highlights the lack of representation from countries in South America, Eastern Europe, Asia (with the exception of one from China), and Africa.

Figure 2.2

Geographic Distribution of Articles Selected for Review



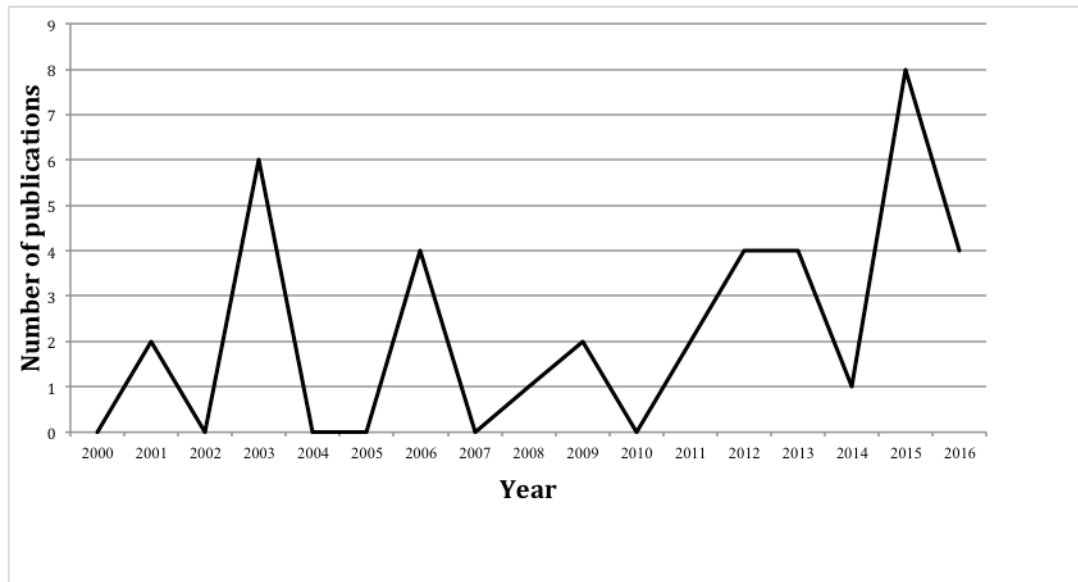
Note. Source: <https://www.amcharts.com>

Temporal Trends

The findings demonstrate a fluctuation in publications over the past 16 years (Figure 2.3). The increase in 2003 ($n=6$) was directly related to a special issue focused on student engagement with sustainability in the *International Journal of Sustainability in Higher Education*. From 2003 to 2011, the number of published articles varied between zero and four articles per year. While the number of articles published per year continues to fluctuate, the findings reveal a general upward trend, demonstrating a growing area of research.

Figure 2.3

Publications Per Year



Types of Research

Empirical studies were the most common type of research in the articles reviewed ($n=36$), while two non-empirical papers were also collected: one was a theoretical discussion and the other was an overview of the development of SHE with various examples of successful campus initiatives (see Table 2.1). The empirical studies were classified as ‘single case study’ ($n=26$), ‘multi-case study’ ($n=1$), ‘quantitative survey’ ($n=3$), ‘mixed-methods’ ($n=4$), ‘document analysis’ ($n=1$), and ‘other’ ($n=2$). Non-empirical studies included discussions that were categorized as ‘theoretical’ ($n=1$) and ‘overview’ ($n=1$).

Table 2.1*Types of Research Identified in Literature Review*

Research Approach	Categorization	Number of Articles
Empirical	Case Study	26
	Multi Case Study	1
	Other	2
	Quantitative Survey	3
	Mixed	4
	Document Analysis	1
	Total	36
Non-Empirical	Discussion - Theoretical	1
	Discussion - Overview	1
	Total	2

Types of Initiatives

Seven different types of student-led initiatives were identified in the literature¹⁸ (Table 2.2). Activities targeting behavioural change were the highest reported type of student-led sustainability initiative ($n=21$), followed by policy changes ($n=10$), education ($n=8$), campus gardens ($n=7$), and greening buildings ($n=5$). Conservation initiatives ($n=4$) and audits ($n=3$) were among the least reported.

‘Behaviour change’ included initiatives identified in the literature that focused on changing campus community members’ behaviours for the benefit of decreasing individual environmental footprints (including awareness campaigns, departmental eco challenges, active transportation initiatives, etc.). ‘Policy changes’ led by students resulted in or pressured for the university to change various policies. These policy changes included developing a campus Green Office, renewable energy purchase programs, policies to reduce waste and energy usage, carbon offsets, green funds, and pressuring the institution to implement procurement and divestment

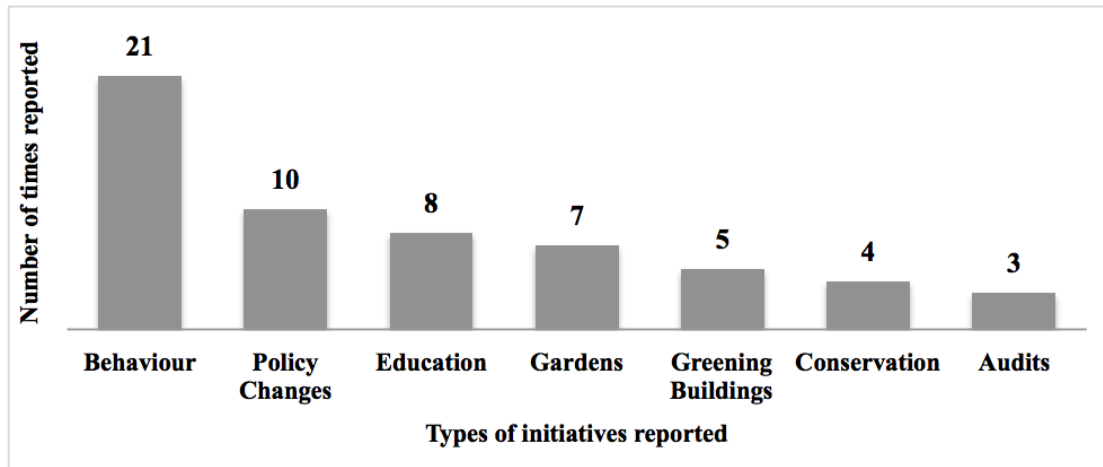
¹⁸ While some articles reported on one type of student-led initiative, others reported on multiple, therefore the total number of initiatives exceeds the numbers of articles reviewed.

policies. ‘Garden’ initiatives reported in the literature ranged from student gardens to intercultural community farms. ‘Greening buildings’ included initiatives where students tackled operational issues of buildings to improve energy and waste efficiency. ‘Conservation’ initiatives tended to bridge between student communities and the broader environmental and human communities to improve or advocate for the improvement of conditions for the surrounding biotic communities. Finally, ‘audits’ included student-led building and greenhouse gas audits, as well as the Campus Sustainability Assessment Framework (CSAF), developed by a master’s student and now used across various campuses in Canada.

The types of initiatives identified in the literature demonstrate a significant focus on behavioural changes (see Figure 2.4). While it is evident that students are contributing to change on their campuses, the question remains to what extent their actions influence change at their institutions. The discussions below highlight the common challenges and drivers that students experience across the types of initiatives; these may shed light on why student efforts tend to focus on individual behaviour changes rather than deeper institutional change.

Figure 2.4

Types of Student-led Initiatives



Barriers

While some articles reported on the development of an initiative, including the drivers and barriers (Elliott & Wright, 2013), others simply outlined what occurred (Asherman et al., 2016). Others still reported specifically on barriers (Zimmerman & Halfacre-Hitchcock, 2006) or highlighted different initiatives that the authors had encountered (Edwards, 2012). Therefore, due to the diversity in reporting between the articles, the findings for *barriers* and *drivers* are discussed across student-led action for SHE more broadly, rather than within specific types of initiatives. Three categories of barriers to student-led action emerged from the literature reviewed: student involvement, institutional dynamics, and funding. A brief discussion of each is provided below.

Student Involvement. The most common barriers reported in the literature reviewed was student involvement, or rather, lack thereof. Due to primarily relying on students volunteering, initiatives required a constant need for recruitment (Hongyan, 2003) and incentives (Helferty & Clarke, 2009; Marturano et al., 2011). De Young et al. (2016) found that students needed both

internal (passion) and external (incentives) motivations to participate. Moreover, they suggested that low student engagement was a result of minimal free time (Antal, 2013; McKinne & Halfacre, 2008; Mitton & Guevin, 2003; Owens & Halfacre-Hitchcock, 2006; Zimmerman & Halfacre-Hitchcock, 2006). Spira (2012) highlighted similar challenges in terms of the competition for student volunteers amongst campus groups. Finally, the high rate of student turnover was a challenge to the longevity of projects, often resulting in a loss of expertise and knowledge between student generations (Duram & Williams, 2015; Helferty & Clarke, 2009; Hongyan, 2003; Spira, 2012).

Institutional Dynamics. As evidenced by the substantial occurrence of behaviour change initiatives, students found greater success with influencing individual behaviours than institutional change. While the literature does not specifically speak to the reasons for this, certain barriers pointed towards potential explanations. It was suggested that students might struggle with challenging HEIs and eliciting institutional change due to their limited understanding and/or inexperience navigating the bureaucracy of the institution (Duram & Williams, 2015; McKinne & Halfacre, 2008; Spira, 2012). Duram and Williams (2015) spoke directly to this when they highlighted the lack of resources students have, paired with their “limited understanding of how the university itself is managed” (p. 4).

A general lack of power at the institutional level and limited opportunities to be heard and valued at the decision-making level were discussed across the articles as impeding students’ ability to elicit systemic change (Bhasin et al., 2003; Bratman et al., 2016; Duram & Williams, 2015; Helferty & Clarke, 2009; McKinne & Halfacre, 2008). Antal (2013) described hostility from the institution as a major barrier: “high level administrators often ignore carefully elaborated UGA [University Green Association] proposals. The Operations Department, which is

a key unit for campus sustainability, is not really receptive – sometimes openly hostile – to student initiatives” (pp. 369-370). Facing decision-makers who directly impact the success of an initiative and who are not supportive, or openly hostile, towards student initiatives reportedly lowered the opportunities for students to influence the institution as a whole.

Interestingly, there was a large gap in initiatives reported within this data set; despite there being more than 580 fossil fuel divestment campaigns at HEIs worldwide, which are predominately led by students (Grady-Benson & Sarathy, 2015), there were only three articles found for this review that discussed divestment¹⁹. In one case, the institutional dynamics impacting the divestment movement highlighted the challenges and politics of power dynamics between administrators and students, and reported that the financial bottom line always trumped environmental and/or social concerns (Bratman et al., 2016).

Funding. Financial support, or lack thereof, was a final frequently identified challenge for student-led action for SHE. Similar to SHE more broadly, the literature reported a lack of resources and funding that inhibited successful initiatives (Beringer, 2006; Grady-Benson & Sarathy, 2015; Helferty & Clarke, 2009; McKinne & Halfacre, 2008; Zimmerman & Halfacre-Hitchcock, 2006). Some linked the notion of neoliberalism and its impacts within higher education to the funding challenges (Healy & Debski, 2016; Lange & Chubb, 2009), highlighting that the growing emphasis of privatization and commercialization within the education sector has resulted in universities viewing themselves as businesses and students as customers (Elliott & Wright, 2013).

¹⁹ Divestment asks that institutions remove their financial holdings from the top 200 fossil fuel companies and re-invest in ecologically and socially just companies (FossilFree, 2016).

The literature highlighted significant barriers that student-led sustainability initiatives face. Challenges with maintaining student involvement, navigating institutional dynamics, and funding restrictions reportedly impeded the ability for their efforts to take root on campuses. These findings are in line with social movement theorists who posit that movements face significant barriers because they “confront powerful adversaries and long-standing structural arrangements” (Staggenborg & Ramos, 2016, p. 215). In examining the challenges that impede student-led action for SHE, we see that they are taking advantage of grassroots mobilization through “cultural and political openings” (Staggenborg & Ramos, 2016, p. 215), including direct action tactics and collaborative relationships as effective strategies for successful campaigns. In what follows, the drivers that students took advantage of to overcome the aforementioned challenges are discussed.

Drivers

In consideration of the barriers discussed above, student groups were creative in their solutions to overcome them. Two themes of drivers that supported student-led action emerged from the literature reviewed: collaborations and interdisciplinary approaches.

Collaborations. Students took a myriad of approaches to ensure the success of their initiatives, including collaborating with student unions/associations²⁰ or other student groups (Antal, 2013; Bhasin et al., 2003; Block et al., 2016; Bratman et al., 2016; Dautremont-Smith, 2003; Ferneyhough, 2015; Helferty & Clarke, 2009; Krasny & Delia, 2015; Lounsbury, 2001;

²⁰ The terms ‘student unions’ and ‘student associations’ can mean different things in different countries. For example, in the United States, student unions often refer to physical buildings owned by student government, while in Canada, it often refers to the student government itself. For the purposes of this review, student unions and student associations are understood as the student government of an institution.

Marturano et al., 2011); working with local or national environmental and/or social justice organizations (Bratman et al., 2016; Grady-Benson & Sarathy, 2015; Healy & Debski, 2016; Helferty & Clarke, 2009; Hongyan, 2003; Lounsbury, 2001; Winston, 2013; Xypaki, 2015); and working with faculty to develop a course and/or use course assignments to ensure longevity of their initiative (Asherman et al., 2016; DeYoung et al., 2016; Mitton & Guevin, 2003; Owens & Halfacre-Hitchcock, 2006; Pike et al., 2003; Spira & Baker-Shelley, 2015).

Collaborations and partnerships with stakeholders in and outside of the university were integral to successful student-led initiatives; students used these to overcome the challenges of lack of student involvement and institutional dynamics (Barth, 2013). Spira and Baker-Shelley (2015) contended that tying initiatives into the curriculum and coursework ensured project longevity. Spira (2012) described partnerships between staff and students to develop a student-led, staff supported campus Green Office at Maastricht University.

Another example of collaboration is when students formed coalitions with outside local and/or national groups (Asherman et al., 2016; Beringer, 2006; Bhasin et al., 2003; Bratman et al., 2016; Grady-Benson & Sarathy, 2015; Healy & Debski, 2016; Helferty & Clarke, 2009; Hongyan, 2003). Helferty and Clarke (2009) highlighted the successful partnerships of students on campuses with the Sierra Youth Coalition, a national student organization in Canada. Hongyan (2003) provided an overview of Student Environmental Association (SEAs) across China that linked student green groups together to share resources and knowledge between campuses. These acts of coalition building with broader special interest groups supports social movement theories that describe collective action groups banding together to pool resources and improve the reach and effectiveness of their campaigns (Staggenborg & Ramos, 2016). While this was noted with respect to campus groups and outside environmental groups, there is a gap in

the literature reviewed that discusses coalition building with social justice and Indigenous groups, discussed in greater detail below.

Interdisciplinary approaches. Similar to collaborations, students actively sought to expand the narrow confines of a singular approach to sustainability. Some of the articles described an interdisciplinary²¹ approach (Ferneyhough, 2015; Gebhard et al., 2015; Shriberg, 2003), while others suggested it as a tool to improve an initiative (Borgman et al., 2014; Elliott & Wright, 2013; Helferty & Clarke, 2009; Pike et al., 2003). Elliot and Wright (2013) found that student union leaders identified disciplinary silos as hindering the success of campus sustainability programmes. Shriberg (2003) reported students pushing for interdisciplinarity as a catalyst for campus change, stating that faculty became “more open to and positive about interdisciplinary collaboration on campus environmental issues than ever before” (p. 274).

This review demonstrates that student-led initiatives for SHE were found to require more than a dedicated group of students; they required collaborations with other campus stakeholders and surrounding local and/or national organizations to overcome the aforementioned challenges. This includes an interdisciplinary approach as students recognize that approaching a complex, multi-disciplinary issue from a single lens was not conducive to change; a strategy echoed in the broader SHE literature (Cortese, 2003; Orr, 2004; Tilbury, 2011).

²¹ An interdisciplinary approach spans across disciplines, rather than being bound within one. It is particularly suited to the advancement of SHE as it allows for the synthesis of knowledge from multiple disciplines, which facilitates “translating, reconciling, and integrating disparate discourses, traditions, and methodologies” (Steiner & Posch, 2006, p. 880).

Research Gaps and Implications

Understanding the relationships between the types of initiatives students undertake and the drivers and barriers they face when organizing for sustainability on campuses is important for universities to understand as they navigate institutional transformations for SHE. This review has answered some questions in regards to student-led action for sustainability, including common drivers and barriers and the types of initiatives students tend to undertake. In relation to advancing our understanding of SHE and institutional responses to sustainability, however, many questions remain. In consideration of this, the findings from this review were considered alongside the broader SHE literature to identify any gaps in our current knowledge of SHE and implications for how the field can move forward. Three overarching gaps and corresponding implications for future research were identified through this process, including institutional change, cultural influences, and future research. Finally, implications for students are discussed against the backdrop of these findings.

Institutional Change

A recent analysis of organisational transformations for SHE demonstrates that the actions of campus stakeholders significantly influence the uptake of SHE due to their collective behaviours and norms that guide the institution (Baker-Shelley et al., 2017). Considering that the “essential building block of organisations and institutions are individuals” (Baker-Shelley et al., 2017, p. 264), understanding to what extent students (the largest group of individuals on campuses) influence institutional change is an important element to consider for theoretical developments going forward.

This review suggests that students use behaviour change tactics to influence institutional sustainability. Future research should measure how successful this approach is; are students able

to effect institutional change by targeting individual behaviours to alter social norms on campuses (similar to broader social movements (Staggenborg & Ramos, 2016)). Baker-Shelly and colleagues (2017) explain that investigating individual transformations and social norms are critical to understanding change within an institution whose social complexity prevents quick change. Further, SHE research to explore such questions would be useful to better understand the role of students in the institutional change process, contributing to theories of institutional change and policy processes. Understanding to what extent students influence the development of policies could shed light on the extent of their influence within institutional change processes. This would be of particular interest to administrators, staff, and faculty as they face a reality of increased pressure from students, broader special interest groups, and global sustainability imperatives.

Cultural Influences

There was very little discussion in the articles reviewed about the impact that culture plays on the success or failure of student-led initiatives. While there were cursory mentions of ‘cultures of non-action’ (Barth, 2013), the absence of a ‘culture of engagement’ (DeYoung et al., 2016), ‘negative stereotypes of activism’ (Zimmerman & Halfacre-Hitchcock, 2006), and the influence of a ‘dominant conservative culture’ (Beringer, 2006), there was very little discussion on how these various cultures influence student-led action for SHE. Scholars of collective action have proposed the notion of “cultural environments, such as ideologies, that facilitate and constrain collective action along with political opportunities” (Staggenborg & Ramos, 2016, p. 26). This is supported by SHE scholars who contend that the social norms and behaviours of campus stakeholders significantly influence the ability of an institution to embed sustainability (Baker-Shelley et al., 2017). What then, could be discovered about the influence that students

have on institutional change if the impacts of the hegemonic culture were explored? What could be discovered through analyses of the influence(s) of non-dominant cultures? Research investigating how cultural environments and ideologies enable or impede student-led action for SHE could prove useful to understanding student action or inaction on campuses, possibly shedding light on how institutions seeking to respond to global sustainability imperatives can support the transition to sustainable institutions.

In relation to broader cultural influences, the articles reviewed offered little in the way of discussions around interrelated social and Indigenous rights issues. None of the articles reviewed here discussed Indigenous or traditional knowledges, or the interconnected issues of equity, social justice, power, and environmental health that sustainability should address. Only three of the articles analysed for this study analyzed the global Divestment movement (Bratman et al., 2016; Grady-Benson & Sarathy, 2015; Healy & Debski, 2016), and only two reported on connections with broader social justice organizations (Beringer, 2006; Helferty & Clarke, 2009). This lack of connection to broader socio-ecological justice movements is peculiar and suggests that future research could significantly contribute to our understanding of intersectionality and student-led action for SHE. Future research could explore the intersecting issues of social and environmental equity investigating whether and how students interact with broader social justice or Indigenous groups, and whether or not (and to what extent) such coalitions influence the institutional approaches to sustainability.

Research

The literature in this review predominately provided descriptive accounts of self-described successful sustainability initiatives. With a few exceptions (Barth, 2013; Elliott & Wright, 2013; Gebhard et al., 2015; Grady-Benson & Sarathy, 2015; Helferty & Clarke, 2009;

Hongyan, 2003), the literature focused on best-case scenario case studies from single institutions that offered limited opportunities for generalizability and transferability. That being said, a few of the articles (Block et al., 2016; Helferty & Clarke, 2009; Spira, 2012) offered take-aways readers could implement. Providing something tangible to end-users falls in line with critiques of research that is not relevant for the movement itself (Bevington & Dixon, 2005; Karatzoglou, 2013). Future research should seek to be relevant to SHE, whereby the instrumentation of the research and the reporting are conducted and presented in a way that would allow for adaptation and implementation of the findings in different contexts (Bevington & Dixon, 2005; Karatzoglou, 2013).

Tangible outcomes for future researchers to consider could include instructions for how to implement a project (Block et al., 2016), steps for student leaders and other stakeholders to bring to their home institution (Helferty & Clarke, 2009), or challenges accompanied by innovative solutions that can be tailored to different settings (Spira, 2012). Future research could focus more on developing scholarship that is directly tangible and useful for students organizing for SHE through collaborative relationships between researchers and students organizing for change (potential research users). Moreover, it is recommended that researchers and faculty researching SHE conduct multi-site research that provides comparative analyses of student-led action to provide deeper understandings of their influence on institutional change.

Students

With respect to making this literature review relevant to students organizing for SHE, it is recommended that students take away the following: that student-led action does elicit change on campuses, although it is yet to be determined to what extent. It appears that students campaigning for behaviour changes is an effective tool to begin altering the campus culture and

overthrowing entrenched behaviours, both of which have been identified as steps in the institutional change process (Baker-Shelley et al., 2017). Furthermore, the drivers and barriers discussed above provide student groups with ideas to improve their initiatives. Collaborating with campus stakeholders and building coalitions with broader socio-ecological justice groups ensure longevity of projects and overcome typical barriers faced by students organizing for SHE. Finally, while there are a plethora of student activities occurring across campuses globally, there is little representation in the literature. It is recommended that students organizing for sustainability write about and publish their works to share their experiences, including perceived ‘failures’ to create change, and possibly developing heuristics or guides that other student groups organizing for SHE may employ.

Conclusion

In sum, this review has demonstrated an increasing area of activity and scholarship devoted to understanding student-led action for SHE. While representative of a relatively small sample size, conclusions can nonetheless be drawn from these results to guide future scholarship. Findings demonstrate that the geographical gaps represented by this literature review showcase the need for increased representation across the globe. It is suggested that future research should include multi-site and comparative studies to expand beyond single case study approaches, and should produce scholarship that provides tangible takeaways for students and institutions. While these findings demonstrate that students are influencing SHE through multi-stakeholder collaborations, collective action, and interdisciplinarity, gaps remain in our understanding of the extent to which students influence institutional change for sustainability, best practices to SHE, and the intersections with social justice more broadly.

While many gaps remain in our understandings of the extent of student influence on SHE

more broadly, many opportunities exist for HEIs to benefit from the collective actions of these stakeholders. As HEIs face the reality of increased calls to action, the development of global policy initiatives (such as the Sustainable Development Goals from the United Nations), and growing employer and student demands for a workforce capable of facing and addressing sustainability issues, working in collaboration with and empowering students will be of great benefit to institutional transformations for sustainability.

Transition 2

Chapter two provided a detailed overview of the current state of the literature base regarding student-led action for SHE. Findings revealed that while there are a plethora of research studies examining sustainability initiatives, there are few that specifically explore student-led action for SHE. Despite students being the largest stakeholder group on campus and leading initiatives that target institutional policies, the majority of existing SHE research explores their role in relation to their participation and engagement with other stakeholders' initiatives, rather than an exploration of how they drive policy change at their institutions. In response, Chapter three draws on empirical data to examine the specific roles that students play as policy actors in SHE within a sample of Canadian post-secondary institutions. While their engagement with other stakeholders' activities is important, this chapter specifically analyzes student-led initiatives and their roles with sustainability-related policy changes at the institutional level. Findings suggest that students act as SHE policy enactors, influencers, critics, and initiators across Canadian HEIs. This chapter contributes to extending policy analyses into the SHE literature, as to date, there are limited SHE studies that apply policy analyses. Thus, this chapter aims to contribute to filling this gap within the SHE literature.

This chapter is intended to be submitted as:

Murray, J. & McKenzie, M.. Students as Policy Actors: Integrating Sustainability in Higher Education. *Journal of Cleaner Production*.

The student, Jaylene Murray, is the primary author of this paper with the majority of contribution. The study was collaboratively developed by the SEPN team (which included both authors). The student was part of the team that collected the data, she conducted 100% of the analysis, and wrote the chapter with input and guidance from the second author, Dr. McKenzie.

CHAPTER 3 - STUDENTS AS POLICY ACTORS: INTEGRATING SUSTAINABILITY IN HIGHER EDUCATION

Introduction

With growing public awareness of global environmental, social, and economic issues, sustainability²² has become a priority for governments, communities, and institutions worldwide. As a result, increasing numbers of higher education institutions (HEIs) are developing sustainability-related policies across institutional domains of activity. Taking a whole-institution approach includes addressing sustainability through overall governance, curriculum, facility operations, research, and community engagement (Leal Filho et al., 2019; Vaughter et al., 2016). Prior research suggests that students are fundamental to the successful integration of sustainability across these domains (Adomßent et al., 2019; Butt et al., 2014; Murray, 2019; Tilbury, 2013). However, there is limited research to date that examines, in detail, how students contribute to the successful integration of sustainability in higher education (SHE). Prior research that has examined the role of students within SHE has been criticized for mainly examining their participation in programs led by other stakeholders or for offering single descriptive case studies of initiatives led by students rather than analyses that explore whether and how students play a role with sustainability uptake across multiple institutions (Murray, 2018; Nejati & Nejati, 2013).

²² ‘Sustainability’ is understood here as, at minimum, consideration of the natural environment, often in conjunction with other social, cultural, or economic concerns (Bieler & McKenzie, 2017).

The current study responds to this research gap on students and examines the specific roles that students play in the development of sustainability-related policy at HEIs. It draws on data from a larger comparative study of sustainability engagement at six Canadian higher education institutions conducted by the Sustainability and Education Policy Network (SEPN)²³. Findings of the current analysis suggest that students advance sustainability in policy across Canadian campuses through various roles mobilizing, critiquing, and initiating sustainability rhetoric, practices, and policies. The study aims to inform the future engagement and action of this fundamentally important group, as well as subsequent studies on policy uptake of SHE.

Understanding Student-led Action for SHE

While scholars agree that students are significant contributors to the successful integration of SHE (Brulé, 2015; Grady-Benson & Sarathy, 2015; Murray, 2019; Shriberg & Harris, 2012; Xypaki, 2015), we have a more limited understanding of their specific roles and influences on institutional change in this area. A recent literature review on student-led action for SHE found that prior empirical research has predominately been single case study descriptions of particular student initiatives, with limited comparative analyses across sites and initiatives (Murray, 2018). Additionally, despite some exceptions (Barlett, 2011; Barth, 2013; Hull, 2018; Spira, 2012), the majority of the empirical studies examining student-led action for SHE lack reflections on how these initiatives contribute to overall institutional policy change for fuller integration of SHE.

²³ SEPN, a SSHRC-funded international network of researchers and organizations, undertook a Canadian comparative research project to examine and compare the situated contexts of sustainability uptake in formal education policy and practice. It had several phases of document analysis, survey, and site analysis. Learn more at sepn.ca.

Those that did reflect on policy change suggest that students disseminate and legitimize sustainability discourse across campuses, thus influencing policies and altering the culture of sustainability across institutions (Barlett, 2011). Similarly, Barth (2013) found that student pressure through their organizing was one of the primary catalysts for the uptake of SHE across eight German HEIs. Students' organizing efforts in sustainable food campaigns were also found to have lasting impacts on institutional changes across four American HEIs (Hull, 2018). In addition to institutional policy changes, Broadhurst and Martin (2014) identified that student activists could also significantly influence societal policy as their actions on campuses influence society more broadly. For example, there is growing action across campuses aimed to change both HEIs and society through fossil fuel divestment. This predominately student-led campus movement has been growing in influence and success as students challenge institutional power relations and demand a reconceptualization of SHE policies (Bratman et al., 2016; Maina et al., 2020). This HEI movement has fed into broader divestment initiatives in businesses and other public institutions, demonstrating that student-led actions can contribute to social and institutional policy change (Healy & Debski, 2016).

Critical Policy Research

The current study is informed by critical policy research, including prior research on sustainability in education policy (Ball et al., 2012; Lingard & Ozga, 2007; McKenzie et al., 2015). For the purposes of this article, policies are taken to be institutional understandings intended to guide individual and organizational behaviours (Maguire et al., 2011) and encompass all texts "which seek to frame, constitute and change educational practices" (Lingard & Ozga, 2007, p. 2). In addition to policy texts themselves, 'policy' can be considered to include the discursive and material processes through which policy ideas and understandings are developed

and enacted (Ball et al., 2012, p. 3; Lingard & Ozga, 2007). Considering that policies generally represent dominant priorities and reflect structures of power, understanding the ideological underpinnings, political priorities, and power relations that constitute policy work are crucial (Ball, 2015b; Gale, 1999, 2007; Maguire et al., 2011).

While it is understood that policy work is determined through social and power relations mediated between various actors, there remains limited empirical work exploring the role of policy actors within this body of research (Haelg et al., 2020). Policy actors can be understood as those who introduce, promote, disseminate, and/or resist policies and have been conceptualized in various ways across the different policy research fields. Broadly, they have been described as ‘policy designers’ and “epistemic communities, discursive agents, and instrument constituencies” (Haelg et al., 2020, p. 310). More specifically, the policy entrepreneur has been identified in a range of literature as a policy actor who travels around exploiting opportunities to promote or ‘sell’ particular policies to advance personal interests (Bakir & Jarvis, 2017; Cohen, 2016; Haelg et al., 2020; Mintrom, 2019; Temenos & McCann, 2013). While there have been some critiques of policy entrepreneurs as those who sell policy ideas to advance their own interests (Cohen, 2016), other policy scholars propose that policy entrepreneurs play a significant role as they attempt “to transform policy ideas into policy innovations and, hence, disrupt status quo policy arrangements” (Mintrom, 2019, p. 307).

Some critical education policy scholars offer more detailed conceptualizations of policy actors in K-12 education systems. Ball, Braun, Maguire, and Hoskins (2011) suggested that there are seven types of policy actors who influence and mobilize policy in schools. These types include: *narrators* who interpret, select, and enforce policies; *entrepreneurs* who “champion and represent particular policies;” *outsiders* who are external to the school and support or monitor

policy interpretations; *transactors* who were internally responsible for reporting and monitoring policy enactments; *enthusiasts/translators* who act as policy models translating policies into actions and recruiting others to policy enactment; *critics* who introduce and maintain counter-discourses to challenge or irritate policy; and, *receivers* who enact policies (pp. 628-634). It is important to note that these roles are considered fluid rather than fixed and that actors can move across multiple roles and specialize in different positions at different times.

While limited, there has been some attention to conceptualizing policy actors within the field of higher education policy. In relation to policy-making processes within HEIs, Taylor (1983) identifies that administrators, faculty, students, and community members act as HEI policy actors. He explains that each group can function as a ‘power block’ or an ‘interest group’ that can at times have “irreconcilable differences in objectives which can not be resolved through a consensual process but which must be accommodated through a system of confrontation, compromise, negotiation, and legislation” (p. 18). More recently, Scott (2018) outlines the importance of paying attention to structures of power in HEIs, including the resistances, silences, and absences as policies are mediated between policy actors through social interactions. Within HEI policy processes, he explains that much of the work that actually influences the development of policy ideas occurs in these types of informal processes that receive limited attention. Further, he outlines the significant importance of exploring the “existing administrative structures and institutional patterns, as well as historically determined values and political and ideological preferences (and prejudices)” (p. 2) of the policy actors within HEIs. Thus, policy research must pay close attention to the contexts that dictate whose values and norms are institutionalized and which policy actors have the power to decide which are taken up in education policy (Gale, 2007; Lingard & Ozga, 2007; Scott, 2018).

The current study seeks to contribute to these understandings by examining the roles that students play as policy actors in SHE, including in relation to the structures of power of the policy processes in HEIs. In what follows, the methods are outlined before introducing the findings of the current study.

Methodology and Methods

To examine this issue of the role of students as policy actors in SHE, we draw on data from six higher education institutions across Canada. The sites were selected as part of a larger project of the Sustainability and Education Policy Network (SEPN) and included: University of British Columbia (UBC), University College of the North (UCN), University of Toronto (U of T), Université Laval (UL), Mount Allison University (MtA), and Nunavut Arctic College (NAC) (see SEPN, 2020). From initial research on all 220 accredited HEIs in Canada and policy analysis of a sub-set of 50 HEIs, SEPN then selected six sites for field visits, chosen to ensure a range of diversity across the following criteria: region of Canada (e.g., west, central, east, north), urban vs rural, institution size, language of instruction, and extent of sustainability policy initiatives ('SI score,' see Table 3.1).

Following appropriate ethics approvals, contact was made with the office of sustainability at each institution to discuss possible interview candidates as a form of snowball sampling (Noy, 2008) and get input on other methods of data collection. For those sites that did not have offices of sustainability, purposive searches of institutional websites were used using key terms to identify individuals who were knowledgeable about campus sustainability, after which snowball sampling procedures followed. Participants selected for this study included board of governors members, administrators, staff, faculty, students, and community members. The interview

recruitment facilitated the focus group recruitment as participating faculty participants allocated class time for student focus groups or recommended student contacts.

Table 3.1

Research Sites and Corresponding Selection Criteria

Institution Name	Region	Geographic Location	Institution Size	Student Body	Language of Instruction	SI Score^a
UBC	West	Large urban center	Large	51,768 ^b	English	4
UCN	Prairie	Small remote community	Small-Medium	2,700	English	0
U of T	Central West	Large urban center	Large	61,339 ^c	English	3
UL	Central East	Large urban center	Large	43,400	French	2
MtA	Atlantic	Small rural community	Small-Medium	2,694	English	2
NAC	North	Small remote community	Small-Medium	1,229	English & Inuktitut	0

^a As part of the first phase of SEPN's research, Beveridge and colleagues (2015) analyzed all 220 accredited Canadian HEIs to assign a sustainability initiative (SI) score. The score was out of four based on whether an institution had any of the following: a dedicated sustainability office and/or officer, sustainability assessments, sustainability declarations, and/or sustainability policies or plans. One point was assigned per initiative, with a total possible SI score of four.

In addition to pre-arranging interview times and conducting some interviews at a distance, SEPN researchers collected data over a minimum of one week at each institution. Focus groups were conducted with the general student body and with broader community members, such as organization representatives, city councillors, and other invited and interested individuals. In all, interview and focus group data from 240 participants were drawn on in the analysis for this paper (see Table 3.2), including interviews with board of governors members (n = 3), administrators (n = 18), faculty (n = 30), staff (facilities management and sustainability

staff) (n = 23), student leaders (sustainability leaders and student union leaders) (n = 26), sustainability committee members (n = 21); and focus groups with students (n = 107) and community members (representatives from local environmental, Indigenous, and social justice organizations, members of local chambers of commerce, city staff, etc.) (n = 32). In addition, researcher field observations were used to contextualize the findings.

Table 3.2

Data Collected by Method and Participant Type

Data collection method	Participant type	Participants per site						Total
		UBC	UCN	UofT	UL	MtA	NAC	
Interviews	Administrators	2	3	2	1	3	7	18
	Board of Governors		1	1		1		3
	Faculty	6	4	6	5	6	3	30
	Staff	7	2	8	5	1		23
	Student leaders	4	1	7	4	9	1	26
	Sustainability committee member	5	0	4	5	7	0	21^a
Focus groups ^b	Community members	7	7	7		4	7	32
	Student focus group 1	12	2	3	8	17	10	107
	Student focus group 2	3	6	4		12	15	
	Student focus group 3	15						
Total participant numbers		56	26	38	23	54	43	240

^a Participants were categorized according to their main role within the institution. While there were a total of 21 participants who were sustainability committee members, 20 of them had a different primary role within their institution (i.e. faculty, administrator, staff, or student). Therefore, the total number of participants (240) represents the total number of unique participants in the higher education portion of the SEPN study.

^b There were two successful student focus groups held at each site, with the exception of Laval where only one was attended and UBC where three were attended.

NVivo qualitative management software was used to manage and analyze the interview and focus group transcripts. Analysis occurred in three separate stages; the first two stages of coding were conducted by SEPN researchers for the overall project, and the third stage was the

further analysis of a subset of the data used for this paper. The first stage of coding consisted of data cleaning, organizing, and auto-coding by research questions (Houghton et al., 2013). As part of this stage, we ran matrix-coding queries in NVivo, which enabled the analysis of patterns across particular attributes (site, participant type, etc.) of the auto-coded data. A second stage included at least two readings of the data in each auto-coded area to develop themes inductively. Researchers kept analytic memos to record those themes, noting interesting similarities and divergences within and across sites.

The final stage of coding for this paper was conducted by the primary author and began with a further inductive analysis of the data regarding the roles students played in the development of sustainability-related policy. While this process was not initially approached using ‘a priori’ themes, the decision was made during analysis to borrow from prior typologies (Ball et al., 2011; Haelg et al., 2020; Scott, 2018) to categorize the roles of students in SHE. The decision was made to borrow from across different typologies because no one typology worked for the findings that emerged from this study.

Findings on the Roles of Students as Policy Actors in SHE

Based on our analysis, students in the current study were categorized as policy *enactors*, *influencers*, *critics*, and *initiators*. In line with broader policy actor conceptualizations, it is important to note that these roles are not static and that students moved fluidly between them. For example, they could act as policy influencers then move into a more contentious role as policy critics, and eventually, for some, act as policy initiators. Their movement across roles did not always occur through a linear process, as students could act across different roles and move among them. In what follows, we describe what we mean by each actor type and provide

examples of how our analysis suggested that students acted in these various capacities in relation to SHE policy.

Policy Enactors

The data suggest that some students at each of the six sites were engaged as, what we have categorized, *policy enactors*, or in other words, policy actors who enact sustainability-related policies through their actions on campuses. As the largest stakeholder group on campus, students represent a critical mass of individuals whose participation is essential to the success of sustainability policy. Across all participant types, students were predominately discussed as enacting sustainability-related policies in curriculum and operations, including participating in university sustainability programming, waste management systems, and facilities infrastructure (such as water bottle refilling stations, bicycle racks, electric car charging stations, and public transit). This role also includes elements of how their resistance to enacting sustainability-related policies resulted in policy amendments to increase enactment.

For example, some participants discussed students' roles in enacting institutional waste management policies for recycling, compost, and waste. Every time students disposed of something, they enacted the policy by following appropriate waste guidelines or resisted the policy by not throwing their waste in the correct bin. Participants discussed institutional and departmental responses to students' behaviour and their ability to enact waste management policies, including increasing educational programming and/or signage to ensure the policies were followed. Participants also discussed the role of students in realizing policy when they registered for sustainability courses and/or programs. As one student participant explained, students essentially vote with their course registrations, which influence the course offerings:

I guess we are involved whether we know it or not because when we pick our majors if we pick that major then we're saying that we like it and we want to know more.

Therefore, the University might put more because we like it. (Student sustainability leader, UBC).

Similarly, faculty explained that courses evolved according to students' feedback and whether or not they were engaged in the sustainability content being offered. As one faculty member explained, previous disengagement from students and feedback about courses resulted in the revamping of programs to ensure student retention;

[U]sing the feedback from students from previous years saying I really didn't like this course, I didn't get much out of it, kind of influenced the way that I approached redeveloping that course but also the communications course, the professional life skills course, where it's like okay, we need to get these students engaged and interested. So I think they participated, just in their feedback. But it was really helpful. (Faculty, NAC)

Other faculty described "informal consultations getting [student] thoughts on what they would like to see in the program" (Faculty, U of T) and how student interest and buy-in contributed to the development of sustainability content in courses. In these ways, students informally influenced policy developments within the curriculum by being actively engaged or disengaged with the content, which caused other stakeholders to adjust how sustainability was taken up in curriculum documents.

On the other hand, we heard of instances of students resisting policies and sustainability in general, with participants discussing apathy, consumeristic cultures, and lack of time as causes for such resistance. As one participant elaborated,

This might be really pessimistic, but the local in culture in a city like Toronto is to just consume and make as much money as you can, if I had to describe it as a culture. So that definitely influences the way people act with [sustainability], with their actions on campus. It goes back to, there's not too much concern for it here. (Student sustainability leader, U of T)

Other participants explained that when introducing sustainability initiatives and policies, there were always some who were not receptive to the changes, actively resisting them;

[O]ne of Environmental Students' Union's projects last year was to develop an environmental policy that would be implemented, or at least adjusted, to the greater students' union. One of them was actually the Bring Your Own²⁴. Like during your events, just say you won't bring it. Obviously this was met with a lot of resistance.

Because they were like, why do we have to do this. You can't tell us what to do. Blah blah blah. (Student sustainability leader, U of T)

Further discussion by participants highlighted that the apathy or resistance that some students exhibited towards sustainability-related policies could be due to lack of time and energy and that students are overwhelmed with life and studies in general, and therefore do not have the capacity (or energy or desire) to enact sustainability-related policies.

²⁴ 'Bring your own' campaigns refer to initiatives/events where participants are expected to bring their own supplies, such as their own mug for coffee, or plates/cutlery for events with food. The intention behind this initiative was described as waste reduction and bringing awareness to issues of single use materials.

Policy Influencers

Participants of all types often discussed students acting as, what we have termed ‘policy influencers.’ In line with Scott (2018) who defines influencers as “interest and pressure groups and wider public opinion” (p. 2), we conceptualize the role of policy influencers as instances where students use their sustainability-related groups (interest and pressure groups) to alter campus opinion on issues related to SHE. Examples included students hosting sustainability speaker series, creating educational programs, running sustainability-related student groups/organizations, sitting on institutional sustainability-related committees, enacting Indigenous values and protocols that enhance sustainability, and conducting campus energy/waste audits. These groups and events served to introduce alternative practices that aligned with sustainability, encouraging broader campus stakeholders to change their behaviours accordingly;

We have a number of sustainability-themed student-run volunteer groups on campus, and the students that are involved in those initiatives and those groups are on a whole other scale of passionate and involved. The way that they form partnerships and collaborate with non-sustainability based groups ... is very impressive. The way that [the student groups] work and the way that they approach the idea of food waste and sustainable practice is very impressive. [T]here is also the Student Life and Sustainability Center through which we’re looking at teaching the general student population about sustainability and making it as accessible as possible. (Student leader, UBC)

This provides an example of how participants discussed the importance of student groups through their initiatives that introduced and disseminated sustainability-related discourse across

campuses, bringing awareness to issues that may not have been prevalent in the minds of wider campus stakeholders.

Other examples of students acting as policy influencers included through their community gardens, bicycle coops, residence challenges, mug share programs, and sustainability education events, all of which increased the profile of sustainability on campus. In these initiatives, students were described as modelling sustainability behaviours that ultimately encouraged other campus stakeholders to change their own actions. Students also used their voices as policy influencers to question and encourage others to take up sustainability in their roles across campus, including through curriculum. As one participant explained,

I think students are actually some of the best leaders on campus these days, because they're pushing [sustainability], which is fabulous. We have a very wide variety of student groups... [they] tend to be quite activist when it comes to sustainability and they are the ones going to professors saying 'Why aren't we seeing more of this in our classes?' They're the ones saying, 'Okay, if this work isn't being done then we're going to do it.' They're the ones often leading recycling, reducing, reusing campaigns in their colleges or in their dorm rooms, in their residences. So they're fabulous. (Faculty, U of T)

While many of these activities did not result in formal policy changes, they were often referenced across sites as an essential element to the campus culture of sustainability, with a culture of sustainability being an important contributor to supporting and calling for policy change on sustainability (Adams et al., 2018).

Policy Critics

Students took on being policy influencers to a greater degree across some sites and were then classified in our analysis as ‘policy critics.’ In this role, students introduced counter-discourses to existing institutional policies and actively created spaces of political participation and resistance through protests and rallies. Ball et al. (2011) defined policy critics as actors who pressure for changes to educational policies and keep “counter-discourses alive in sites” as they provide “a different way of talking and thinking about policy” (p. 632). Our analysis suggests that some students created these spaces of disruption and contention to challenge institutional policies and norms, introducing alternative ways to talk and think about sustainability in policy. As one participant explained, students pressured their administrators to bring different policy ideas to the table;

Yes, there is a student group called UniversLaval, and they are [on the policy committee].

Are they the ones who are behind the policy? I cannot say, but I think the students push [the university administration] to make sure it's done well. (Facilities staff, Laval)

Another participant described these types of contributions by students as important to the overall evolution of sustainability-related policies, explaining that students

pressured the president very hard, as well as a number of senior executives in the university. So there were some very prominent and brilliant students who kind of championed sustainability on campus, and I would say made quite a big difference.

(Faculty, U of T)

These examples highlight how students introduced different ways of thinking by pressuring their administrators to make sustainability-related policy changes.

The ways in which students approached their roles as policy critics varied, with some using their roles on university committees and others approaching it through more direct action tactics. As the Laval and U of T examples above show, some students used their positions on university committees to introduce alternative policy ideas and/or critique existing policies. Other approaches included more direct action tactics such as campaigns, marches, protests, and sit-ins to advocate for change. For example, Mount Allison participants most often described students as using more contentious approaches to critiquing their institutions. In one example, a participant described a sit-in students held;

They're not afraid to protest... For example, a couple of years ago, we had a student strike, and about seventy-five percent of the students just moved desks in the Students' Centre, and all sat down – students are not afraid to use their voice and try to get their opinions heard. (Student sustainability leader, MtA)

Students on this campus were described as having “good success with their protests,” protesting various issues such as tuition hikes, funding cuts to the Women and Gender Studies program, as well as procurement and divestment policies, that “have all led to the administration actually changing their behaviour” (Member of Board of Governors, MtA). That said, student efforts did not always have the overall policy impact they hoped for. While the majority of student policy critics called for specific policy changes, it was less common that our findings indicated that policy change was caused directly by the student efforts. This was evident in the comment above by the facilities staff, where the participant questioned whether or not student actions were directly responsible for actual policy changes.

Those categorized in this study as policy critics were often involved in the student-led divestment campaign, which is organized around critiquing and challenging institutions for their

investment policies that contribute to global unsustainability. Participants in this study most often described students involved with the divestment movement as introducing alternative policy ideas, increasing sustainability awareness across campus, and contributing to policy developments at the institutional level. That said, the actual influence on formal policy change that these policy critics had on investment policies varied significantly across sites and was largely dependent on the institutional context within which they operated. For example, participants at Laval described a campus environment where students and administrators worked closely together. In this environment, the student policy critics saw nearly immediate policy changes (shortly after our site visit and three months after student campaigning began, Laval publicly announced their commitment to divest their investment portfolio (Maina et al., 2020)). In contrast, student policy critics at the other sites using the divestment campaign described much longer timelines. For example, participants at UBC, MtA, and U of T²⁵ described multi-year campaigns that faced ongoing rejections to their calls for policy change.

Policy Initiators

Students who contributed directly to the development of sustainability-related policies at the institutional level²⁶ were categorized as ‘*policy initiators*.’ This role was initially conceptualized based on the literature of ‘policy decision-makers’ (Scott, 2018). However, it was renamed as students were not described as institutional policy ‘decision-makers’ due to their

²⁵ Since our site visit UBC has committed to divestment (UBC, 2020), while UofT and MtA have yet to announce plans to divest (Maina et al., 2020).

²⁶ It is important to note here that students can and did play a direct role as policy decision makers within their own student unions; however, the purpose of this article is to examine the ways in which students altered policies at the institutional level.

positions within HEI hierarchies. While it was less common for students to play this role at the institutional level²⁷, we found evidence at some of the sites where students were key players in developing formal policy texts. For example, these included initiating policies focused on creating institution-wide environmental committees and banning the sale of water bottles; co-writing institutional environmental policies; and altering existing investment policies to reflect sustainability principles.

For example, participants at Laval discussed students co-developing the institution's initial environmental policy, "the institutional sustainable development policy follows the first environmental policy that we have had since 1994. And this environmental policy was I believe co-written with the students" (Sustainability staff, Laval). Across all participant types at Laval, responses indicated a strong relationship between students and administrators, including historically, as outlined by an administrator,

Yes, students play a very important role. You should understand that at this institution, students are very active with university governance at different levels. So on the university board, on the executive. We have a governance structure that stimulates the participation of students in the major initiatives. Their presence on the committees is important and helps us keep open communication, so we hear their input on the policies.

(Administrator, Laval)

This approach of inclusion and valuing student opinions on committees was unique to this site, with student comments expressing that they were heard and valued on committees, which

²⁷ While this study looks at the role that students play with policy development at the institutional level, it is important to note that they are the policy decision makers within their own student unions.

aligned with comments like the above from administrators and other participant types. This differed from the experience of other sites where student participants lamented the limited roles they could play on university committees as they were often under-represented with only one or two students sitting on a large committee, thus their voices were often muted or outvoted. However, the comments at this site from administrators, sustainability staff, and students alike referenced the role of students initiating formal policy changes through these roles and was evidenced by the quick divestment policy changes initiated by students. This brings to light issues of power and legitimacy that students face when attempting to elicit policy changes through the structures of change (i.e., the committees) and will be discussed in greater detail below.

Students at Mount Allison were described as initiating the institution's Environmental Issues Committee (EIC). Their role in establishing this institution-wide committee was described by all participant types, with participants indicating that this committee would not have been established if it were not for student efforts;

I know for a fact the environmental issues committee was created through pressure of students in conjunction with some faculty... the environmental issues committee was developed because the students didn't like what the university was doing and they were concerned about environmental issues.” (Student sustainability leader 1, MtA)

Moreover, the composition of the membership for this committee stood out from other sites; “It has three faculty members, five students, three administrators who are key people, and one chairperson and one community person” (Administrator, MtA). In this case, the administrator explained that a group of students pressured the institution to formalize an environmental committee. Through discussions with administrators, students, and faculty, the central role

students played in creating the committee appeared to impact the number of seats allocated for students. This is an important finding, particularly when compared to comments at other sites where students described the lack of “student parity on any committee,” explaining that students “always [being] a minority” resulted in them having a limited impact as policy initiators (Student leader, U of T).

Discussion and Implications

Based on our analysis of the four types of roles (enactors, influencers, critics, and initiators), students were found to influence SHE policy, both informally and formally across these Canadian HEIs. Informally, students influence the culture of sustainability on campuses, which contributes to the formation of and support for future policy ideas and developments. More formally, students can initiate and influence policy texts and processes, for example through committees and co-authorship, though these roles are challenged with issues of power and legitimacy. In what follows, we discuss each of these in more detail.

Informal Policy Change: Culture of Sustainability and Policy Ideas

Our analysis found that students predominately acted as policy enactors, influencers, and critics, influencing informal policy changes. As influencers and critics, student advocacy for sustainability-related policy uptake was most often described as contributing to altering the culture of sustainability on campuses. Within HEIs, a ‘culture of sustainability’ has been conceptualized as:

the idea that groups of people in assemblages of different size share, in common, a specific set of ideas, norms, values, beliefs and understandings and that these become manifest in and are reinforced by and in the routines, practices, symbols and stories of their community. These manifestations are more or less observable at different ‘layers’ of

the group or organization and, importantly, govern the way in which people and the group/organization work... [This culture] provide[s] a sense of identity, ‘who we are’, and are also a representation of behaviour and practice ‘how things get done around here.’ (Adams et al., 2018, p. 437)

Pulling from organizational culture, Adams and colleagues (2018) apply this to sustainability uptake in HEIs and explain that within a culture of sustainability, there are visible and invisible elements that influence how an HEI approaches SHE. These elements can include the actions, behaviours, discourse, values, norms, and assumptions of individuals within the HEI that ultimately dictate how SHE is taken up. Similarly, some policy scholars discuss that individuals’ attitudes and behaviours contribute to developing ‘policy ideas’ in what they term the context of influence, which eventually inform policy text productions (Bowe et al., 1992). HEI policy scholar Scott (2018) has termed these elements the ‘informal policy processes’ that dictate how policy is eventually taken up (or not) within an institution. Thus, the actions of student influencers and critics in the current study were seen to contribute to the informal policy processes for SHE by influencing the campus culture of sustainability and introducing policy ideas.

This finding extends current policy models that largely overlook these informal policy processes in HEIs (Scott, 2018). In line with Scott (2018), we suggest that student policy actors introduce informal policy processes through their sustainability actions, practices, and discourses. More specifically, this study suggests that students had three main impacts in relation to institutional policy processes; (1) they introduced alternative policy ideas, (2) they mobilized these policy ideas through ongoing actions that served to increase awareness of sustainability, and (3) they brought voice to students who were typically silenced within policy processes.

Within policy studies, this finding supports and extends Ball's (2015a) position that "policy discourses and technologies mobilize truth claims and constitute rather than reflect social reality" (p. 307). Thus, through their various initiatives and roles as policy influencers and critics, our data reveals that students developed and mobilized policy discourse across campuses in a way that did not necessarily reflect society but reflected and modelled the type of reality students wanted to see. Through their actions and campaigns, they introduced alternative ways that HEIs could function (for example, through divestment policies that uphold sustainability). As Bacchi (2000) explains, policy as discourse draws attention "to the ways in which 'social problems' or policy problems get 'created' in discourse" (p. 48). Thus, we see the influence of student-led actions as creating and altering discourse when they introduce ideas for change and then work to increase the demand for this change. For example, through their protests, awareness campaigns, and/or educational programs that raise awareness of campus sustainability issues and challenges.

Across sites, we saw evidence of multiple student groups working together, building a critical mass of individuals enacting and/or demanding change. There was a range of initiatives led by students, including sustainable food cafes, student residence competitions to reduce waste and energy usage, campus energy audits, week-long campus-wide sustainability challenges, and divestment campaigns. The roles of these student-led groups and initiatives were discussed across all participant types in this study, with administrators, faculty, staff, community members, and the general study body referencing the contributions of these actions that led to changes in how sustainability was approached across campus. Comments highlighted the role of these groups in bringing sustainability issues into the forefront of the campus conscience, disseminating sustainability knowledge, and educating campus stakeholders on sustainability-

related changes that students wished to see. These are significant contributions to how individuals within HEI organizations accept and approach sustainability ideologies as part of the campus sustainability culture, which eventually contributes to the institutionalization of policy (Adams et al., 2018; Bowe et al., 1992; Temenos & McCann, 2012).

Finally, we saw evidence of how local Indigenous cultures and worldviews influenced institutional and individual behaviours toward and engagement with SHE. At the two remote institutions, while there were limited discussions of ‘sustainability’ and how students influenced SHE policy, there were significant examples in relation to students maintaining their traditional cultural practices. While participants did not often conceptualize these as ‘sustainability’ contributions, SEPN researchers noted the considerable influence of students practicing their traditional cultures and the impact this had on campus discourse surrounding issues of sustainability. This highlights the fact that non-Western views are typically not incorporated into sustainability discourse and action (Maina-Okori et al., 2018), and thus represents a significant opportunity for growth for the field. Understanding how Indigenous students practice their cultures as a form of policy discourse and even political resistance could lend some important insights into understanding how students influence SHE policies. This can occur both formally through text production and informally by altering campus discourse to reflect Indigenous worldviews.

Formal Policy Contributions: Conditions of Eligibility, Legitimacy, and Power

While students moved between the various policy actor roles, their influence on formal policy was dictated through existing structures of power and control of the individual HEI policy processes. Scott (2018) outlines that policy processes in HEIs are heavily influenced and “constrained by existing administrative structures and institutional patterns, as well as

historically determined values and political and ideological preferences (and prejudices)” (p. 2). This is in line with what Gale (2007) terms the “conditions of eligibility” or, in other words, how the positioning of different policy actors as ‘eligible’ to contribute within policy-making fields impacts which stakeholders can participate in policy developments. As Gale (2007) explains,

[a] condition that determines policy actors’ access to contexts of policy making is related to the particular structure of their capitals (the resources they draw on to produce policy) and how these are valued within the field... Eligible policy actors, therefore, are those who possess a particular kind of political expertise, which necessarily has implications regarding the allocation of values. (p. 226-227)

Considering participants expressed that students struggled to have their voices heard on most university committees, and the incidence of them acting as policy initiators was significantly lower than the other actor types, it is evident that students did not possess the appropriate capital to be heard at that policy-making level. This calls into question whose voices are considered legitimate, who creates and sets the conditions of eligibility, and therefore whose values are institutionalized within the higher education policy arena.

In the current study, it is clear that most students had limited power and legitimacy to influence formal policy changes. However, one site demonstrated a possible solution to overcome this shortcoming: a strong collaborative relationship between administrators and students. In a way, there was a sense of ‘power lending’ by administrators at Laval, whereby they included students in formal policy changes in meaningful ways. These findings support Broadhurst and Martin’s (2014) research that states that student activists operating within what they termed ‘positive campus climates’ (with the support of administrators) can influence change

much more rapidly than those working within ‘negative campus climates’ (without the support of their administrators).

In addition to the relationships between stakeholders and the campus climate, another factor that influenced students’ roles as policy actors was the informal policy processes discussed above, and specifically the sustainability culture of an institution. As Temenos and McCann (2012) explain, the “orientation toward sustainability in policy is not purely technical... Rather, it is also an ideological and political framing of the municipality’s past, present, and potential futures” (p. 1390). While they were discussing a municipality’s orientation to sustainability, the same can be said for institutions and the ideological and political orientations of campus stakeholders. These ideologies and political orientations significantly influence the policy processes of HEIs and raise questions about whose values are institutionalized and thus taken up in formal policy (Adams et al., 2018; Scott, 2018). As students worked to elicit changes within their HEIs, those that found the greatest success operated in environments where they had the support of the upper-level administrators. As at Laval, participants described their administrators being willing to fund and support sustainability in ways that participants at other institutions did not.

Implications

This research has important implications for students working to create institutional policy changes for other campus stakeholders seeking to engage and harness the energy of students and for future research on SHE policy. Our findings fall in line with policy work that calls into question *who* has the power to create policies (Gale, 2007) by demonstrating that students often lack the power and eligibility to elicit policy changes at the institutional level as they are rarely considered to be legitimate policy actors. This was apparent in the greater number

of student initiatives that addressed ‘low hanging fruit’ (i.e. recycling, gardening, etc.) versus those aimed at dismantling systems of marginalization that would have a greater impact on sustainability and society as a whole. For example, we saw this evidenced in the resistance to student campaigns like fossil fuel divestment and the lack of engagement with Indigenous cultural practices across institutions. This has important implications for administrators who hold much of the control over policy decision-making and can lend their power to open pathways for students to effect policy changes and contribute as policy initiators to address systemic sustainability challenges rather than just operational issues like recycling. Combining the top-down influence of administrators with the bottom-up pressure from students can result in transformative change at the institutional level, as demonstrated by students at Laval University with the divestment campaign.

Similarly, for students working to create policy changes at the institutional level, our research highlights the strategic importance of working closely with those policy actors who have the appropriate ‘capital’ and are therefore considered ‘eligible’ policy actors. In other words, students who borrowed power from administrators could elicit change in a much more effective fashion. For those operating within an institutional context that is less supportive, strive to build alliances with faculty and key administrators to bridge those gaps and build the necessary political capital and eligibility. Mount Allison students demonstrated that their bottom-up influence had to be targeted and consistent to successfully catalyze change when working in an institutional context with a historically tense relationship between administrators and students. These students had to become a little bit more creative and had to build alliances with key campus stakeholders to propel themselves into positions where their voices were heard, and their policy ideas accepted as valid.

This research highlights multiple opportunities for future research on policy work in HEIs, particularly concerning sustainability. First, future projects could work to expand our understanding of higher education policy processes through a closer examination of the various contexts and cultures that exist in HEIs and how they influence policy actors and policy developments. This research suggests where students fit into the policy actor roles; however, future research could extend this to complete our understanding of policy actors within the institutional contexts of HEIs. Second, there is a gap in our knowledge of how the resistances, silences, and absences of policy actors influence the policy process. While this research offers a preliminary understanding of student resistance and absence, exploring how policy actors with more capital resist or remain silent or absent from the policy-making tables would provide much-needed insights into SHE policy processes.

Third, this research suggests that a closer examination of informal policy changes is required. As highlighted in relation to the culture of sustainability (Adams et al., 2018) and policy work on HEIs (Scott, 2018), there remains a gap in our understanding of the informal and tacit processes that influence the culture of sustainability and policy developments within institutions. Participants in the current study often commented on the influence of students' collective actions and how they successfully changed behaviours and discourse on campus, and presumably, the opinions of the campus community towards SHE. An investigation into how these changes ultimately influence SHE policy would help our understanding of HEI policy changes more broadly. This could be achieved by exploring students' collective actions using social movement theory to understand better how their activities catalyze change for SHE. A social movement lens would allow researchers to examine the specific elements that enable and/or constrain student-led actions and their ability to influence sustainability-related policy

development. It could also provide insight into what other stakeholders can do to support students' collective actions and increase this critical stakeholder group's impact on SHE policy.

Conclusion

This article addresses gaps in our understanding of the policy process within HEIs and the role of students as policy actors for sustainability in higher education. The roles of students at six Canadian higher education institutions were investigated and revealed that students acted as policy enactors, influencers, critics, and initiators on campuses. In their roles as policy enactors, students enacted sustainability-related policies and, in doing so, effectively supported the institution's transition to becoming more sustainable; they could also play an opposing role resisting SHE policies and thus slowing an institutions' integration of SHE. As influencers, students increased sustainability rhetoric and discourse across campuses, introduced alternative policy ideas, and influenced the opinions of campus stakeholders towards sustainability. As policy critics, students challenged the institutional status quo by introducing and maintaining counter-discourses to institutional policies and reinforcing the validity of the alternative policy ideas that they introduced as influencers. Although less common, some students successfully acted as policy initiators catalyzing formal policy change at institutional levels, commonly using consistent long-term campaigns as the vehicle for these changes. Their roles and their effect on SHE policy were influenced by the institutional contexts that enabled or constrained students' opportunities to be considered eligible policy actors.

The current study highlights the need for future research to investigate whose values and norms are upheld and legitimized in HEIs, including whether and how the silences and absences of particular campus stakeholders impact what is formalized in SHE policy. It also extends calls for research to examine the role of informal policy processes and how discourse within an

institution towards a particular issue is taken up. As students were seen to contribute significantly to SHE through their collective actions that ultimately influenced discourse and behaviours, examining these movements using a social movement framework could prove useful in better understanding how students contribute to SHE. As we see an increase in climate activism globally, it stands to reason we will see this mirrored on campuses as students mobilize to push our society towards a more sustainable future. For institutions looking to embrace and support that activism, the options above provide an initial step to support students to be a significant force for change.

Transition 3

Chapter three identified that students acted as policy enactors, influencers, critics, and initiators in SHE. Data suggest that students influenced informal policy processes through their roles as policy enactors, influencers, and critics introducing alternative policy ideas and sustainability related discourse. While less common, some students in this study successfully catalyzed formal policy changes as policy initiators, contributing to the development of institutional policy documents. The findings of the chapter call into question the power dynamics within HEIs that enable and constrain students' roles as policy actors. The chapter concluded with a recommendation for future studies to explore how student policy actors use their groups and organizations to influence SHE policy.

Using a social movement lens, chapter four examines the drivers and barriers to student-led action for SHE. Findings indicate that the most common barrier to student action for SHE was a lack of political opportunities and capital. In response, student participants reported building social movement (SM) groups and creating collaborative networks to overcome these barriers and mobilize sustainability action. The findings suggest that student-led groups do not require the same political opportunities to emerge as broader SM organizations. In fact, student-led action might begin despite the lack of opportunity as they feel aggrieved and seek to have their voices heard. The findings also indicate that student groups use and share framing perspectives to inspire and motivate action across campuses, mobilize large groups of individuals, and contribute to altering the campus culture of sustainability.

This chapter is intended to be submitted as:

Murray, J., McKenzie, M, & Wright, T. (in progress). Student networks of action and mobilization across Canadian campuses. *Environmental Education Research*.

The student, Jaylene Murray, is the primary author of this chapter with the majority of contribution. The study was collaboratively developed by the SEPN team, which included all three authors. The student was part of the research team that collected the data, she conducted 100% of the analysis, and wrote the chapter with input and guidance from the second and third authors, Dr. McKenzie and Dr. Wright.

CHAPTER 4 - STUDENT NETWORKS OF ACTION AND MOBILIZATION ACROSS CANADIAN CAMPUSES

Introduction

Student empowerment and leadership are often cited as necessary components for universities to successfully integrate sustainability in higher education (SHE) (Jacoby, 2017; Murray, 2019; Shriberg & Harris, 2012). The United Nations Educational, Scientific, and Cultural Organization (UNESCO) suggests that part of the equation in achieving SHE includes engaging “the commitment, solidarity and potential of youth and their organizations and networks” (2009, p. 2). For many years, students have been taking the lead across campuses, pressuring and educating for change through their initiatives that target various sustainability²⁸ issues (Jacoby, 2017; Lange & Chubb, 2009; Martin et al., 2019; Staggenborg & Ramos, 2016). Indeed, student-led action has been identified as a contributing factor to the advancement of the campus sustainability movement (Croog, 2016). However, there remains limited research that explores whether and how student-led action influences SHE uptake, including what barriers students face in their organizing and how they overcome them (Murray, 2018). This research gap is problematic because as students advocate for SHE integration, they lack an adequate understanding of what barriers they will most likely encounter and what supports they could potentially leverage (and/or create) to influence sustainability uptake more efficiently.

²⁸ The current study defines sustainability as at minimum consideration of the natural environment, alongside any other social and economic elements (Bieler & McKenzie, 2017). In other words, the environment must be included, along with other social, cultural, economic, or other, considerations with relation to sustainability in higher education.

In response, this article shares findings that are part of a larger research study conducted by the Sustainability and Education Policy Network (SEPN)²⁹. Specifically, the paper addresses the following research question: What do students identify as the common barriers and drivers to their action for SHE? To answer this question, the study analyzes a subset of data collected from students (including student union leaders, student sustainability leaders, and the general student population) at six Canadian higher education institutions (HEIs). In the following, we provide a brief background on student-led action on campuses, outline the core social movement concepts used in the current study, and describe the methods before presenting and discussing the findings.

Student-led Action on Campuses

Students have been organizing and protesting on campuses since the inception of colonial colleges (Martin, 2014), focusing their efforts on various issues, including civil rights, anti-war, South Africa apartheid, women's rights, and environmental sustainability (Jacoby, 2017; Lange & Chubb, 2009; Soule, 1997; Staggenborg & Ramos, 2016; VanDyke, 1998). Today, students continue to organize amongst themselves across campuses with the goals of influencing individual and institutional change (Jacoby, 2017; Murray, 2018). Within the context of the campus sustainability movement, students form groups with values, goals, and actions that aim to increase the uptake of sustainability across HEIs (Murray, 2018). The current study is particularly interested in these student-led actions and mobilizations that operate within the

²⁹ SEPN is an international network of researchers and organizations working to advance sustainability in education policy and practice. In 2012, SEPN initiated the first cross-Canada comparative research project to examine and compare the situated contexts of sustainability uptake in formal education policy and practice. Learn more at www.sepn.ca.

campus community, as students collectively pressure for the uptake of SHE. Student-led action is defined here as any activity undertaken by a student or group of students working to achieve a particular goal or outcome for the advancement of SHE (Murray, 2018).

Students have employed various approaches and collective action tactics within the campus sustainability movement to advocate for SHE integration (Barlett, 2011; Lange & Chubb, 2009; Murray, 2018). In a literature review of prior studies on student-led action for SHE, Murray (2018) identified that student initiatives for SHE are predominately reported to focus on behavioural, policy change, and educational campaigns. Behavioural change initiatives included targeting campus stakeholder behaviours to decrease individual environmental footprints through various recycling, waste management, and energy use campaigns (Antal, 2013; Hongyan, 2003; Krizek et al., 2012; Lounsbury, 2001; Marturano et al., 2011; Pike et al., 2003; Zimmerman & Halfacre-Hitchcock, 2006). Students and student groups advocated for the integration of sustainability within formal institutional policies through initiatives such as divestment, specific procurement policies, carbon offsets, green funds, and sustainability offices (Bratman et al., 2016; Dautremont-Smith, 2003; Drupp et al., 2012; Grady-Benson & Sarathy, 2015; Healy & Debski, 2016; Krizek et al., 2012; Spira, 2012). Finally, student-led education initiatives, including carbon capture demonstrations, sustainability speaker series, and curriculum reforms, aimed to increase the knowledge of sustainability and climate change across the campus community (Asherman et al., 2016; Bhasin et al., 2003; Block et al., 2016; Pike et al., 2003; Xypaki, 2015).

While the studies above demonstrate how students have taken action for SHE, most³⁰ fail to analyze the barriers students face in this work and their strategies to overcome those barriers. In response, this article uses social movement theory to analyze the drivers and barriers students identify as impeding their ability to take action for SHE. This type of detailed analysis is helpful to advance our understanding of sustainability developments in HEIs (Corcoran et al., 2004) and to produce research that is relevant for those doing the mobilizing (Bevington & Dixon, 2005).

Social Movement Theory Concepts to Analyze Student-led Action

Social Movement Theory (SMT) seeks to explain how and why mass social mobilization occurs around particular issues and the outcomes or consequences of such social movements (Bevington & Dixon, 2005; Davis et al., 2005; McAdam, 2017; Staggenborg & Ramos, 2016; van Stekelenburg & Klandermans, 2008; VanDyke & Taylor, 2019). Although social movement scholars do not agree on one framework for analysis, multiple concepts from across the interdisciplinary field³¹ help explain various aspects of social mobilization relevant to student-led action for SHE. Thus, SMT can be used as a ‘theoretical gymnasium’ (North, 2011, p. 1581), including to examine how actors encounter limits to their potential to act and how these restrict their capacity to mobilize and how they overcome such limitations (Davis et al., 2005; North, 2011). Relevant SMT concepts to advance SHE scholarship include ‘political opportunities’ and ‘capital’ (Diani, 1997, 2003; McAdam, 2017), ‘social movement networks’ (Bosco, 2001), and

³⁰ The exception being SHE studies on the campus fossil fuel divestment movement (Bratman et al., 2016; Grady-Benson & Sarathy, 2015; Healy & Debski, 2016; Lenferna, 2018; Maina et al., 2020). These studies offer deeper analyses of what barriers students face and how they overcome obstacles to their organizing.

³¹ SMT is predominately influenced by the fields of political science and sociology (Bevington & Dixon, 2005; Davis et al., 2005; McAdam, 2017; Staggenborg & Ramos, 2016; van Stekelenburg & Klandermans, 2008; VanDyke & Taylor, 2019)

‘framing processes’ (Davis et al., 2005; Staggenborg & Ramos, 2016). These concepts provide insight into what impedes social mobilization, how organizers overcome such barriers, and what strategies they use to achieve their goals; we outline them further here.

A common constraint to social movement (SM) organizing is a lack of political opportunities and capital. McAdam (2017) argues that movement emergence relies significantly on the political opportunities available to organizers as these dictate whether and how they are received (or ignored) by those in positions of power, and thus indicates whether they will be successful in their organizing. This concept is similar to what Diani (1997) calls capital, which dictates whether activists’ views are considered legitimate by the political and social ‘elites’ in a given context (e.g., government, institutions, policy-makers). Indeed, Bourdieu (1986) described capital as the “potential capacity to produce profits” (p. 241) for an individual agent, dictated through power structures with other social actors. In other words, having capital allows an actor to navigate social structures in a way that increases their ability to advance their interests (Bourdieu, 1986; Siisiäinen, 2003). Considering that some actors within a given social and political context will have access to a greater ‘volume’ of capital than others (Bourdieu, 1986), Diani (2003) contends that movement organizers create relationships with key ‘social brokers’ to leverage themselves into positions to elicit more significant change (see also della Porta & Diani, 2020). Through these relationships, SM organizers create social movement networks that enable the flow of material and non-material resources (Bosco, 2001; Wang & Soule, 2012).

These ‘social movement networks’ have long been recognized as “the quintessential resource of movement organizers” (Putnam, 2000, p. 152) as they enable organizers to share resources, ideas, and tactics among groups. Wang and Soule (2012) and Bosco (2001) argue that the success of SMs often relies on the networks that they create as they depend on these alliances

with other actors to organize and overcome challenges. Bosco (2001) identified three types of networks that commonly facilitate SM organizing: inter-personal networks between activists, networks of allegiance with other individuals and groups, and inter-organizational networks. These networks enable organizers to not only overcome barriers in the form of inadequate political opportunities but also to facilitate the diffusion of ideas and tactics related to communication and recruitment strategies across groups. SMT scholars refer to these communication and recruitment strategies as ‘framing processes.’

Framing processes include the cultural meanings constructed by social movements that “movement leaders and organizations [use to] frame issues in particular ways to identify injustices, attribute blame, propose solutions, and motivate collective action” (Staggenborg & Ramos, 2016, p. 25). Social movement scholars argue that movements’ emergence and efficacy rely heavily on these framing processes, or frames (Davis et al., 2005; McAdam, 2017; Staggenborg & Ramos, 2016). The frames are often developed through strategic processes that occur through social networks, which enable them to communicate their demands and recruit volunteers (Davis et al., 2005; McAdam, 2017; Staggenborg & Ramos, 2016). Understanding these frames is particularly important when examining how groups mobilize despite the barriers they face (Davis et al., 2005).

In relation to SHE, analyzing student-led action through an SMT framework and these kinds of key concepts offers an opportunity to better understand how students mobilize and what strategies they use to overcome constraints. Therefore, this study uses the SMT concepts of political opportunities, social movement networks, and framing processes to analyze and explain the drivers and barriers to student-led action for SHE across six Canadian HEI campuses.

Methods: Data Collection and Analysis

The current study reports on a subset of data collected as part of a larger project conducted by the Sustainability and Education Policy Network (SEPN). SEPN's methodological approach was informed by critical education policy studies (Ball et al., 2012; Ozga, 2000; Rizvi & Lingard, 2010) and comparative case studies (Bartlett & Vavrus, 2017). This approach allowed researchers to trace parallels and differences across site boundaries, particularly useful for investigating socio-cultural and power dynamics (Levinson et al., 2009), including as they may influence student action across sites and the systems of action that students engage (Corcoran et al., 2004). Further, this particular study uses SMT, as described above, to analyze the data collected.

The data were collected at six different Canadian universities: University of British Columbia (UBC), University College of the North (UCN), University of Toronto (U of T), Université Laval (UL), Mount Allison University (MtA), and Nunavut Arctic College (NAC). These six sites were selected according to specific selection criteria to ensure a diverse range of characteristics, including regional and geographic factors, size of the institution, existing sustainability uptake (see sustainability initiative [SI] Score³²), and language of instruction (see Vaughter et al., 2016) (see Table 4.1).

³² As part of the first phase of SEPN's cross-Canada research, Beveridge and colleagues (2015) analyzed the 220 accredited Canadian HEIs to ascertain their level of existing engagement with sustainability. Through this work, they assigned a sustainability initiative (SI) score out of four based on which initiatives each institution had undertaken. The initiatives included having a dedicated sustainability office and/or officer, sustainability assessments, sustainability declarations, and/or sustainability policies or plans. An institution received one point per initiative, with a total possible SI score of four. These scores were used to select HEIs for the second phase of SEPN's Canadian research to ensure diversity in sustainability uptake of the selected sites.

Study participants included members of campus stakeholder groups, including Boards of Governors, administrators, staff (including facilities management staff and sustainability office staff), faculty, students (including campus student leaders, sustainability student leaders, and the general student population), and community members (including municipal councillors, not-for-profit organizers, Indigenous community members, and other representatives from local groups with an environmental, social, and/or justice-oriented focus). After research ethics approval was given at each site, recruitment began through institutional offices of sustainability to establish an initial contact. Three sites did not have an office of sustainability; therefore, SEPN researchers conducted purposive searches of the institutional websites using key search terms to identify individuals knowledgeable about campus sustainability (see SEPN, 2020). Once initial contact was established, snowball sampling procedures followed, with existing participants suggesting others who might be interested in participating in interviews or focus groups (Noy, 2008). In some instances, faculty either donated their class time for a focus group or connected SEPN researchers with students and/or student groups for focus groups. Similarly, other interview participants shared focus group information with their networks (SEPN aimed to conduct two student focus groups and one community focus group per institution). The SEPN research team collaboratively developed the interview and focus group protocols.

Table 4.1

Sites Selected for Analyses and Corresponding Selection Criteria

Institution Name	Region	Geographic location	Institution Size	SI Score	Language
University of British Columbia (UBC)	West	Large urban center	Large	4	English
University College of the North (UCN)	Prairie	Small remote community	Small-Medium	0	English

University of Toronto (U of T)	Central West	Large urban center	Large	3	English
Université Laval (UL)	Central East	Large urban center	Large	2	French
Mount Allison University (MtA)	Atlantic	Small rural community	Small-Medium	2	English
Nunavut Arctic College (NAC)	North	Small remote community	Small-Medium	0	English

While SEPN collected data from 504 participants across all participant types, the current study reports on the subset of data collected only from student participants. In total, this included interviews with 11 campus student leaders (i.e., student union representatives and executives), and 15 sustainability student leaders (i.e., students who organized and/or led sustainability initiatives, groups, or committees on campus), and 107 focus group participants from the general campus student population. Focus group participants represent a broad range of the general student population from each campus— some had intimate knowledge of sustainability through their engagement with SHE, while others were less familiar. Table 4.2 outlines the number of research participants at each site according to the methods used for this study.

Table 4.2*Participants by Method, Site, and Participant Type*

Method	Participant type	Participants per site						Total
		UBC	UCN	UofT	UL	MtA	NAC	
Interviews	Student leader(s)	1	1	1	3	4	1	11
	Sustainability student leader(s)	3	0	6	1	5	0	15
Focus groups ^a	Student focus group 1	12	2	3	8	17	10	107
	Student focus group 2	3	6	4		12	15	
	Student focus group 3	15						
Total		34	9	13	12	39	26	133

^a Two successful student focus groups were held at each site, with the exception of Laval where only one was attended by students and UBC where three were attended.

All interview transcripts were analyzed using NVivo 12 software through three stages. The first stage was conducted by the larger SEPN research team and included auto-coding and matrix-coding queries (Houghton et al., 2013). First, the interview and focus group questions were used to develop auto-codes to organize the data within NVivo. Next, matrix-coding queries were created to group responses from various auto-codes in relationship to one another (i.e., multiple interview questions), across sites, and participant types (Houghton et al., 2013). This process allowed researchers to quickly pull up particular questions grouped by site or participant type.

The second stage involved inductive thematic analysis of the matrix-coding query results (Nowell et al., 2017). During this stage, multiple researchers read and reread participant responses. During this process, we tracked emergent themes and subthemes and kept detailed coding memos. These memos allowed for coding and analysis to be compared between coders and with input from other team members to increase the trustworthiness of the analysis (Houghton et al., 2013; Nowell et al., 2017; Saldaña, 2013). This second stage produced preliminary codes that informed but did not restrict the final stage of analysis.

For this particular paper, the final stage of analysis was conducted by the primary author and included an in-depth reading of each student interview and focus group transcript in full to allow for a more robust understanding of the data. Multiple cycles of reading were necessary to understand the complexity and richness of participant responses, thus contributing to the trustworthiness of the analysis and findings (Houghton et al., 2013; Nowell et al., 2017; Saldaña, 2013). Following Saldaña's (2013) approach to coding, first and second cycles of coding on the subset of student transcripts were conducted to respond to the research question 'What do students identify as the common barriers and drivers to their action for SHE?' The 'drivers' and 'barriers' acted as initial 'a priori' high-level themes, with inductive themes emerging through the cycles of coding.

This final stage of analysis involved a reflexive, inductive, and iterative thematic analysis approach. The primary researcher's "[w]riting became *an assemblage*, a machining or putting together" of the experiences of participants with theoretical concepts (Augustine, 2014, p. 749). Writing this article facilitated the analysis as concepts emerged through the writing process that differed from what was initially planned (Augustine, 2014). Originally, we approached the data with the intention of presenting them as drivers and barriers to student-led action for SHE, yet the themes and subthemes that emerged through the thematic analysis aligned with core SMT concepts that the team only marginally understood at the outset but which connected more truly to the participants' experiences. Thus, while these concepts were not used during the coding of this data (i.e., they were not used as 'a priori' themes), the themes that emerged aligned very clearly with the SMT concepts of political opportunities, social movement networks, and framing processes. Therefore, the decision was made to assemble the findings using these concepts as an

organizing framework. What follows is a presentation of the results using these concepts to discuss and explain the drivers and barriers for students organizing across campuses.

Findings and Discussion

The findings indicate that students face barriers to their action for SHE due to a lack of political opportunities and capital within SHE policy processes. To overcome these barriers, students reported creating social movement networks through their relationships with other campus stakeholders and described using framing processes to advance their mobilizing for SHE. Below we outline the lack of political opportunities that students described as barriers to their organizing before discussing the types of social movement networks that students created to overcome obstacles. Finally, we discuss the framing processes that students used to ensure the emergence and efficacy of their student-led SHE action.

Student-Led Action Lacks Political Opportunities and Capital

Across most sites, participants described limited opportunities to participate in and influence policy change within their HEIs. The primary impediments they identified were resistance to change by upper-level administrators, challenges navigating the bureaucratic systems of HEIs, and underrepresentation on committees. In what follows, each barrier will be presented before discussing how they relate to the concept of political opportunities and capital.

Participants discussed the resistance of upper-level administrators as directly impeding their student-led efforts. One participant described facing a “tremendous amount of resistance” when attempting to make governance or policy changes for SHE (Sustainability student leader, MtA). This student explained that upper-level administration members firmly stood against their initiatives, “The President right now has always been particularly resistant. A lot of our vice presidents don’t like [student sustainability initiatives]... they sort of have their own agenda and

don't really like recommendations or criticisms of it" (Sustainability student leader, MtA). Students described administrators as directly blocking their initiatives and as "the beacon of frustration" (Sustainability student leader, MtA). As a result, participants explained that this resistance impacted the engagement of students:

It makes a difference when the main governance body of the University refuses to acknowledge certain initiatives. It starts from both the top and the bottom. If students are trying so hard and they're putting in as much effort as they are, but they are not seeing that paralleled in the highest decision-making body of the University, then that can be quite disenchanting. (Student Leader, UBC)

Other students highlighted similar feelings of disenchantment and frustration due to these tensions with administrators. They explained that "everyone always meets that roadblock of the same few people at the top" and that "the administration is often reluctant to change [with] people who are top-down saying, nope, that's not going to work" (Sustainability student leader, MtA).

Participant responses also highlighted the challenges of lacking political knowledge to navigate the institution's heavily bureaucratic systems. For example, students described that policy work had "to go through a very bureaucratic, administrative, governance-heavy process" (Student leader, U of T) and that the policy processes were "extremely complicated [and] very inaccessible for students" (Student leader, MtA). Students discussed that as well as leaving them feeling confused about how to achieve change, these processes also directly influenced the time it took for their initiatives to be realized:

There has been a lot of pushback [and] slow down; we'll do this on our own time. The President can't do this right now... Just wait. Let us go through our process. I feel like the

administration isn't really recognizing the urgency of climate change...the University has processed the campaign with its very bureaucratic structures and slowed it down.

(Sustainability student leader, U of T)

These bureaucratic structures were also identified as a significant barrier to keeping students engaged with advancing SHE, as students explained that thanks to the bureaucracy, “nothing ever happens and then people lose their inspiration and give up” (Sustainability student leader, UBC). Some students even described the bureaucratic slow down as a strategy their administrators used to ensure that student initiatives “get lost throughout the year” (Student leader, MtA).

A final impediment to their work on SHE discussed by participants was their limited role on university committees. While students did acknowledge that they were on some of the committees where SHE-related decisions were made, participants indicated they did not have the opportunity to influence those decisions due to a lack of representation and power. As one participant explained, there was not “student parity on any committee, so [students are] always a minority... there's always limited students, always, always” (Student leader, U of T). As this student clarified and was echoed by others across the study, having one or two student voices among the many administrators and faculty who might have varying or even competing priorities for SHE meant they had limited opportunities to effect actual change.

These findings align with Diani's (1997) notion of 'capital,' as students described administrators as holding the majority of the power within institutional change processes. Therefore, administrators would be what Diani (1997) refers to as 'political elites' – individuals who hold structural positions of power and directly “affect movements actors' impact on both political decisions and cultural production” (p. 130). Diani argues that social movement actors

can either benefit from or be constrained by their relations with political elites, which defines their level of capital within a given context. Our findings indicate that most students described feeling constrained by their relationships with HEI political elites (most commonly administrators), suggesting they lacked the necessary capital within the institution's political spheres. Students described instances of administrators not taking them seriously and not listening to their calls for increased sustainability integration. Thus, as McAdam (2017) argues, because students lack "standing in institutional politics, their bargaining positions relative to established polity members is [*sic*] weak" (p. 194). Indeed, most students felt that they had a low standing within institutional politics and felt their power to integrate SHE was relatively low compared to that of their administrators.

That said, there was one site where students indicated having access to political opportunities and the capital necessary to influence change for SHE. Students at Laval University uniquely described an environment where they worked alongside their administrators, had access to political opportunities and capital, and found success catalyzing change through their organizing. Students at this site commonly referenced their strong relationships with administrators as key to their success:

Our University is the first institution where the administration really pushes environmental measures and sustainable development forward. They say, 'It doesn't matter how much it will cost; it's not a problem for us. What we want is to have a positive impact on the environment' (Student leader, Laval)

In this study, student participants explained that they had always worked closely with administrators, co-creating institutional environmental and sustainability-related policies and that they were heard and valued on committees. Indeed, shortly after our visit, Laval became the first

Canadian University to commit to fossil fuel divestment following a short three-month student-led campaign (Maina et al., 2020). This success story significantly differs from the divestment campaigns at three of the other sites, where students described multi-year efforts that were continually shut down by their administrators. The Laval student divestment group's effectiveness suggests that when students have strong relational ties with administrators, they have access to increased political capital and opportunities, which allows them to have greater bargaining power and influence within institutional change processes.

These findings shed interesting light on the emergence of student-led SM mobilizing compared to movements in broader society. McAdam (2017) argues that political opportunities are one of the most critical elements for the emergence and effectiveness of social movements:

As a form of politics, social movements typically derive their effectiveness from their willingness to disrupt established institutional routines... [Yet, they] depend for their legitimacy and financial survival on their embeddedness in the established organizational structure of society. As such, they are typically loath to jeopardize their standing in this structure by engaging in the forms of sustained disruptive action that are the hallmark of successful grassroots struggles. (p. 199)

However, if students relied on political opportunities for their effectiveness, we would expect that sites with limited political opportunities would have minimal student-led action for SHE. Yet, the current study suggests that student action may not be restricted by the lack of political opportunities, as the sites with limited opportunities still had quite active student groups pressuring for SHE. A possible explanation is that students have been shown to operate outside the typical boundaries that constrain other campus stakeholders, like staff and faculty, who might be more concerned to risk their positions within the organization (Helferty & Clarke, 2009). This

suggests that students might not fear jeopardizing their standing in the social structure or financial reliance on it. Therefore, they might operate differently from broader movement organizers; in fact, student-led action might emerge and persist despite lacking political opportunities and capital.

Recently, Garmain and colleagues (2019) found similar evidence to support the idea that SM mobilizing within organizations may be driven by the limitations of their access to resources and opportunities. Considering that collective action occurs when individuals feel aggrieved and frustrated enough to act (McAdam, 2017; Staggenborg & Ramos, 2016), the lack of access to resources and opportunities could be acting as the grievance for movements to emerge. It is possible then that HEI students, similar to the employees in Garmain and colleagues' (2019) study, feel aggrieved at not being taken seriously, not being valued, and not being heard. Maybe, as some students pointed out in the current study, they are tired of being taught about sustainability without any means to practice it on campus. Perhaps it is in part a result of the *lack* of political opportunities and capital that provides the impetus for student SM organizing within the campus sustainability movement.

To conclude, while McAdam (2017) acknowledges that movements can emerge without political opportunities, he explains that their success and long-term sustainability may be compromised: "Movements tend to emerge and have a better chance of sustaining themselves and exerting influence when the configuration of institutional power is broadly receptive to their interests" (p. 195). While upper-level HEI administrators hold most of the decision-making power within HEIs (Scott, 2018), this study suggests that student-led action emerged and was sustained despite resistance from those in power. Apart from the one example above, students in this study predominately explained that their institution was not receptive to their interests, so

they had developed ways to emerge and operate despite this barrier. One approach that students in the current study described was the use of social movement networks.

Student-led Action and Social Movement Networks

Students in this study often referenced the significance of creating social movement networks with other campus stakeholders (most commonly faculty) and other students and their groups to overcome their barriers and facilitate their organizing. The networks students created are categorized here following Bosco's (2001) work on social movement networks: networks of allegiance with other individuals and groups (i.e., networks with faculty) and inter-personal networks between activists (i.e., networks among students). The networks students created with faculty predominately enabled them to address their lack of political opportunities and capital, building networks with campus stakeholders who could act as 'social brokers' and connect students to opportunities and leverage them into positions with increased power. The networks they created with other students and student-led groups enabled the emergence of their SM organizing as it facilitated sharing the framing processes that students relied upon for their work. In what follows, examples of each type of network are provided, including how students described using these to overcome barriers and enable their organizing.

Networks with Faculty. Students across all sites reported creating allegiances with faculty to overcome their lack of political opportunities and capital. Faculty were described as collaborating with students in navigating institutional bureaucracy, pressuring administrators, attending protests, and sharing messages on social media platforms (Sustainability student leader, MtA; Sustainability student leader, UBC). Students explained that faculty "really champion support" (Student leader, MtA) and help students access funding and resources (Student leader, UCN). Students at U of T described the ongoing divestment campaign as a

“coalition of students, staff, faculty” who worked together “writing reports, having demonstrations, occupations; six to ten years’ worth of work” (Student leader, U of T). This student described the faculty as “supportive” and the ones who “push on the administration.” They explained that the faculty taught them how to navigate the institutional processes for change and allowed their student-led groups to continue year after year by maintaining the campaign memory as students graduated and new ones joined.

These relational networks with faculty enabled students to push for change from the “bottom [and] middle up” (Sustainability student leader, U of T) due to the structural positions of power that faculty held within the institutional organizational systems:

The University values its faculty, and so we could be like, ‘Listen to your faculty.’ Like I said before, we have great climate scientists who are being praised and renowned worldwide, and they’re telling you that climate change is a big deal, and you need to do something about it. (Sustainability student leader, U of T)

Students described that the administrators would eventually “bend to pressure” and that “when students and faculty collectively oppose[d] something the university did, they changed” (Sustainability student leader, MtA).

As higher education scholars Kezar and Maxey (2014) outline, faculty have a more intimate knowledge of the institutional political culture, understand how the institutional system works, and know who the key decision-makers are. In these ways, faculty can be considered ‘social brokers’ (Diani, 2003) as they share their social and political power with the students by supporting their efforts and providing guidance to navigate the institutional change processes. These networks with faculty were described as integral to overcoming the primary barriers to their action, playing a significant role in how students were able to influence institutional

policies. That said, students did not describe these networks as the most integral type of network for their organizing.

Networks Among Students. Student participants identified that networks between student activists and student-led groups supported their organizing through communication channels that allowed sharing strategies for effective framing processes. The frames used facilitated recruitment and improved their effectiveness through strategic messaging, emotional triggers, and collective identities, which resulted in student-led organizing impacting the culture of sustainability across campuses. These findings align with the broader SMT scholarship that demonstrates that movements use particular frames to mobilize collective action (Davis et al., 2005; Staggenborg & Ramos, 2016; Kleres & Wettergren, 2017) and significantly impact cultural shifts within societies (Amenta & Polletta, 2019; VanDyke & Taylor, 2019). In what follows, we outline how students used their networks to share these framing processes that guided how they communicated their campaigns' goals, recruited members to their groups, and encouraged the increased engagement of the broader student body.

Participants described that they built networks among dedicated, passionate, and driven students who knew how to organize and pursue their groups' goals (Sustainability student leader, MtA). These networks enabled students to communicate across their groups and share strategies and lessons learned from previous campaigns, which improved recruitment and engagement strategies. This meant that student-led groups had a higher chance of emerging and successfully organizing across campuses. Participants indicated they felt that it was their responsibility to support each other in their advocacy efforts to ensure campus sustainability goals were being met:

[W]e have a really vibrant community of student-led initiatives on campus. I feel like this might be based on the fact that the students of UBC don't feel like the administration is doing enough and that there needs to be kind of like this grassroots support and grassroots advocacy... without those groups I think the ranking of UBC's overall sustainability would be much lower than it currently stands. (Focus group student, UBC)

Participants across most sites described using their networks to access this type of student grassroots support to improve their SM organizing, despite a lack of institutional support.

Further, participants explained that collaborating with other student-led groups for various types of events helped create more effective change and engage students on a deeper level:

[W]e have a number of sustainability-themed student-run volunteer groups on campus, and the students that are involved in those initiatives and those groups are on a whole other scale of passionate and involved. The way that they form partnerships and collaborate with non-sustainability based groups, is very impressive (Student leader, UBC)

This student explained that collaborating with student groups that were not focused on sustainability and encouraging them to integrate sustainability in their policies, practices, and initiatives also allowed sustainability-focused student groups to reach a broader constituency of students.

These findings suggest that students made use of their social networks with other students and groups to improve the effectiveness of their organizing and encourage more students to become engaged. The act of creating networks amongst student groups, developing various group identities for students to be part of, and encouraging others to alter their attitudes and

behaviours for SHE demonstrates how student-led actions contribute to what SMT scholars refer to as ‘cultural impacts’ (Amenta & Polletta, 2019). These impacts include influencing individuals’ beliefs, opinions, practices, and identities, facilitated by establishing new networks, coalitions, organizations, and communities (Amenta & Polletta, 2019; Earl, 2004; VanDyke & Taylor, 2019). Students in the current study described that through their networks, they successfully changed others’ behaviours by creating new networks and coalitions with various student groups and built communities of student activist organizations across campuses.

Despite the significance of these types of cultural changes, they are considered to be intangible and much more challenging to quantify than formal policy developments, thus have received significantly less attention in the SMT literature (Amenta & Polletta, 2019; Earl, 2004; VanDyke & Taylor, 2019). Yet, as VanDyke and Taylor (2018) outline, for many social movements, “cultural changes are often their most significant and lasting effects, especially when we take into account that most movements ultimately fail to achieve their stated policy objectives” (VanDyke & Taylor, 2019, p. 482). Indeed, while students in this study explained that they often struggled to elicit formal policy change, evidence suggests possible cultural impacts of student-led movements. The cultural influences would have been facilitated through the networks and communities students built as activists, whereby they created particular activist identities and worked to disseminate, mobilize, and normalize sustainability discourse. In these ways, student-led action appeared to have contributed to raising “the issue’s profile, importance, or salience” (Amenta & Polletta, 2019, p. 282), a meaningful cultural impact of broader social movements.

Another aspect of framing that emerged within the current study was how participants chose to frame their messaging to trigger emotional responses and inspire collective action.

Participants reported that they collaborated with other student groups across Canadian and international campuses, using social media and other online avenues to connect with and learn about what others had done, a common approach used by SM organizers (Davis et al., 2005; Staggenborg & Ramos, 2016). Students used these networks to share framing and choose appropriate narratives to frame issues, propose solutions, recruit members, and inspire engagement of the broader campus community.

For example, students at one site had learned that petitions were an ineffective strategy used by previous student-led groups on their campus. Since their administrators did not respond to past petitions, participants described that student organizers changed their approaches. In this instance, the change included messaging that specifically articulated their frustration with the university administrators paired with the use of more contentious actions to suit the oppositional relationship between students and administrators (which included sit-ins, marches, and protests) (Sustainability student leader, MtA). Figure 4.1 demonstrates how students at this site were framing their argument around their lack of confidence in their administrators during a protest to trigger emotional responses from the campus community. While this example is of the Women and Gender Studies program and not explicitly related to the environment, students in a focus group discussion highlighted the connection to campus sustainability,

[It] has been announced that [the Women and Gender Studies program is] going to lose all of its funding, which means a lot. One of the voices on campus that would've had a lot to do with environmental sustainability has just been eradicated altogether, so I think it's very difficult for students at Mount Allison to trust their administration right now. (Focus group student, MtA)

Figure 4.1

Students Protesting Cuts to the Women and Gender Studies Programs



This example shows that when student activists and their groups are in conversation through their networked relationships, they learn from others' experiences and choose how to frame their messages accordingly.

Another element of framing that emerged was the identity of student activists. This finding directly relates to framing processes and recruitment for student-led organizing. Researcher observations at some sites noted a large presence of student activism, witnessing extensive evidence of student-led action. This evidence included student protests, recruitment signs for student groups, and student newspapers that highlighted students demanding change (see Figure 4.2). The presence of student-led action was discussed as contributing to the normalization of activism on campus, whereby students described that their colleagues were “not afraid to protest... and have their voices heard” (Sustainability student leader, MtA). Indeed, one

of the sites had a strong institutional sustainability culture that participants described as primarily driven by students' environmental activism³³.

Figure 4.2

Student-Run Newspaper Highlighting the Student-led Divestment Campaign



Similarly, students across sites described that seeing their colleagues organizing and demanding change encouraged them to become engaged with activism. As an example, one participant cited the student-led water bottle free movement as their inspiration to organize a campaign, “if one student could do it, then another student could do it” (Sustainability student leader, U of T).

The data from the current study suggests that the presence of student activism helped other students see the potential impact of their own contributions, making them feel more comfortable with taking a stand and was described by some as contributing to successful recruitment for student-led organizing. The presence of student-led action varied depending on the site. Some sites had student union buildings that showcased multiple sustainability initiatives and offered various programs for SHE (see Figure 4.3), bringing sustainability to the forefront of

³³ While outside the scope of this paper, these comments were reflected in data from other campus stakeholders as well, including faculty, administrators and community members, as captured in other SEPN publications (Murray et al., forthcoming).

students' minds. Other sites had more grassroots forms of organizing evident through protests and public displays of activism that reached the general student population (see Figures 4.1 and 4.2). Regardless of how it was approached, students across sites discussed the importance of seeing successful student-led action for SHE, how that contributed to developing a particular collective identity through student groups and activism work, and how that influenced recruitment.

Figure 4.3

Student Union Building Increasing Visibility of Sustainability Issues with Bicycles to Charge Mobile Devices



These findings align with various concepts within SMT around the framing that movement organizers use for recruitment. Collective identity inspires action as it connects individuals over shared values and “gives participants a sense of ‘collective agency’ or the feeling that they can effect change through collective action” (Staggenborg & Ramos, 2016, p. 28). This serves to inspire hope in existing and/or potential volunteers, whereby they feel their time and efforts will be well spent (Kleres & Wettergren, 2017). As outlined above, students often explained that seeing evidence of the efficacy of student-led action instilled hope and inspired others to become engaged. As Kleres and Wettergren (2017) outline, hope propels

action even if the prospects of success are low. While more research is required to investigate how student organizers make use of different emotions and collective agency to mobilize action, the feelings of urgency and frustration (described in relation to the barriers they faced) and hope (with regard to seeing their efforts catalyze change) suggest that these types of emotions might contribute to the framing processes that students use for SM mobilizing.

This finding also supports existing SHE research that explains that student-led groups act as incubators of change as they evaluate, disseminate, and legitimize sustainability issues on campuses (Barlett, 2011). That said, Diani (1997) has long cautioned against postulating causal paths between social movement actors and their networks (see also della Porta & Diani, 2020). He explains that arguments can be made against causal links between networks and social movement outcomes, questioning whether the movement was the catalyst for the change or whether it was a product of social modernization that would have occurred regardless of the SM networks. In recognition of this, while the current study outlines how participants perceived student-led action to influence cultural changes across campuses, future longitudinal micro-level studies are required to fully understand this phenomenon (Diani, 1997; Staggenborg & Ramos, 2016).

A final frame that emerged within this study was highlighted at the two remote institutions. While there were limited examples of ‘formal’ student-led groups for SHE at these two sites, there was significant evidence of the importance of local culture and how this influenced students’ engagement and approaches to sustainability action. Students described practicing their Indigenous cultures and observing traditional land management and food harvesting practices at these sites. While rarely conceptualized as related to SHE, these practices were discussed by student participants as significant to advancing sustainability within their

contexts. Within Canada's context, these practices can be considered examples of activism and acts of resistance to mainstream unsustainable practices. For example, when asked about sustainability practices at their institution, students in a focus group described the influence of the local Inuit culture and how that guided many of their own actions.

The group discussion highlighted that while there was a greenhouse on campus, only one of them, who identified as a non-Inuit student, was involved with it. In contrast, the other participants explained that their cultural connections to the land and animals were their primary association with sustainability. Indeed, participants explained that “white people here are more focused on that [sustainability] stuff, whereas Inuit, we’re not too educated about it” (Focus group student, NAC). However, researcher observations highlighted that this was not due to being ‘uneducated’ about sustainability; instead, different terms were used to understand the concept. A student in a focus group articulated the connection with the land and how their cultural practices followed sustainability principles despite them not calling it ‘sustainability’:

Yeah. I know we're more in touch with the land. We've grown up on the land. We were born on the land. We do things with the land that nobody does, like sweats. We're being reborn again from the earth. We have the connection to the earth and our environment.
(Focus group student, UCN)

This was evidenced when SEPN researchers adjusted the language they used to include terms that incorporated connections to and care for the land. Participants were then able to provide multiple in-depth examples of sustainability. This suggests that the framework used to articulate ‘sustainability’ was inappropriate for different contexts and worldviews.

These findings demonstrate the explicit importance of Indigenous cultures concerning how students are engaged and how we approach and think about sustainability. In Canada, there

have been many attempts to Indigenize institutions in response to calls for reconciliation and sustainability integration. However, attempts to ‘Indigenize’ institutions have been critiqued due to “how strategies of inclusion and integration of Indigenous knowledge have created a form of inclusion where dominant norms and populations still determine what can be said and how” (Ahenakew, 2016, p. 324). In this sense, Ahenakew (2016) describes that Indigenous peoples’ perspectives are only recognized and included when they fit within the frameworks of modern institutions and do not challenge the status quo. In this vein, the present study proposes that the framework of ‘sustainability’ and what constitutes sustainability practices currently does not include Indigenous worldviews and must therefore be expanded or altogether discarded when examining Indigenous actions. Forcing the actions of Indigenous communities and peoples to fit within the criteria for ‘sustainability’ stands to alienate and further reduce the validity and importance of Indigenous actions for sustainability.

As was evidenced within this study, Indigenous students contribute to altering the campus culture, including incorporating Indigenous worldviews that follow and indeed predate sustainability principles. While the tension between Western and Indigenous understandings of sustainability is not a new finding (Maina-Okori et al., 2018), the current study demonstrates a significant need for research and HEIs to legitimize and investigate Indigenous action and education as sustainability-related practices and policies.

Conclusion

In sum, this article offers a rare comparative analysis of student-led action for SHE from across six Canadian HEIs. This study contributes to the evolving literature on SHE by providing a social movement analysis to explain how students and their organizations contribute to the campus sustainability movement. Specifically, this study applies the concepts of political

opportunities and capital, social movement networks, and framing processes to examine the drivers and barriers that student participants described as impeding or enabling their sustainability-related work across campuses. The application of these theories to SHE studies demonstrates how social movement theories can be useful across various research fields and offers a unique opportunity to understand how students mobilize their networks and organizations within the campus sustainability movement.

The findings suggest that students most commonly face barriers related to a lack of political opportunities and capital due to their positions in HEI organizational hierarchies. To overcome these challenges, students in this study predominately reported building alliances with faculty to help them overcome their lack of political opportunities and capital within HEI policy processes. While students in this study reported their political position (or lack thereof) as a barrier, findings highlight that it did not appear to prevent the emergence of student-led action for SHE. This finding is contrary to broader social movement theories that claim that SM organizers rely heavily on political opportunities to emerge and be successful. While political factors restrict the emergence of broader social movements, the current study found that the lack of opportunities and capital were perhaps a motivator to student-led SM organizing. This adds to our knowledge of campus movement dynamics and emergence and highlights that SM organizing on campuses may be able to capitalize on different political opportunities.

Although students in the current study described challenges with eliciting formal policy changes, the data suggest that they contributed to altering the campus culture of sustainability through the networks they built with other students and student groups. Students used their networks to create sustainability-related groups that disseminated and mobilized sustainability discourse, introduced alternative policy ideas and ways of thinking, and pressured for SHE

integration across the whole institution. Students used their networks to develop and share framing perspectives that facilitated their SM groups' recruitment and engagement with SHE. Effective framing allowed students to develop strategic messaging to elicit emotional triggers specific to their contexts, which resulted in higher recruitment and engagement with the student body. Moreover, the presence and visibility of student-led action across campuses contributed to the creation of collective identities among students, encouraging more students to become involved with SHE. These findings demonstrate that student-led groups use strategies to mobilize collective action across campuses that are similar to broader SM organizations.

Our findings indicate that student-led SM groups have both similarities with and differences from broader SM organizations. Thus, future research could focus on these elements within the SMT and SHE fields of research. For example, we recommend that future studies continue to examine the dynamics and emergence of student-led groups as SM organizations to better understand the conditions under which they emerge and find the greatest success. Similarly, future research could apply SM theories to explore causal links of the cultural impacts of student-led organizing for SHE. Micro-level longitudinal studies examining whether or not student-led initiatives result in long-term behaviour changes could shed light on whether their actions have lasting impacts for SHE and its integration across the whole institution. Finally, this study highlighted that Indigenous students bring a particular focus to sustainability within campus life. Future research is required to understand how Indigenous and marginalized groups are advancing SHE on campuses through their own approaches that are not conceptualized as 'sustainability.'

While questions and areas of future research remain, the current study offers an initial look at student-led SM organizing within SHE. Through their actions, student-led SM organizing

appears to influence institutional approaches to SHE by engaging students and other campus community members with sustainability, which ultimately contributes to cultural changes across campus. Therefore, we recommend that the contributions by students, their organizations, and their networks are significant to the overall campus sustainability movement and should not be overlooked as HEIs seek to integrate sustainability across the whole institution.

CHAPTER 5 - CONCLUSIONS AND CONTRIBUTIONS

This thesis offers a multi-sited comparative analysis of the roles of students as actors in the development of SHE across six HEIs. This work is informed by critical policy studies and social movement theory to examine different angles on why and how students were able to take on varied roles with SHE developments. The research addresses four gaps in the academic literature: the rare use of comparative studies in SHE (Barth & Thomas, 2012; Beveridge et al., 2015; Corcoran et al., 2004; Karatzoglou, 2013); the limited research that specifically examines the leadership roles of students with campus sustainability (Drupp et al., 2012; Murray, 2018); the lack of policy research on SHE developments (Beveridge et al., 2015; Blanco-Portela et al., 2017; Cheeseman et al., 2019; McKenzie et al., 2015); and, the absence of analysis using social movement theory within education contexts (Niesz et al., 2018). In what follows, I summarize the main findings of this thesis, outline the implications for students and other campus stakeholders, highlight the main contributions, and then suggest recommendations for future research.

Summary of Findings

Through the comparative lens, this thesis highlighted the various political, social, and cultural dynamics that influenced the roles that students played as actors for SHE. First, this thesis suggested that students' roles with SHE policy were heavily influenced by the power dynamics that manifested within institutional hierarchies; students were found to have limited access to political capital and therefore described a lack of power to affect policy changes. Second, evidence suggested that students created networks, organizations, and groups to overcome the barriers they faced. Findings seem to indicate that through these networks, students

might also alter the social and cultural landscapes across campuses which ultimately influences the culture of sustainability of an institution, including the informal policy processes that dictate how SHE policy is eventually taken up (or not). The main findings are outlined in greater detail below.

Power and Policy

The findings of this doctoral research indicated that students often struggled with their limited power in relation to policy changes for SHE. Drawing on critical education policy studies (Ball et al., 2012; Lingard & Ozga, 2007; McKenzie et al., 2015), chapter three suggested that students acted as policy enactors, influencers, critics, and initiators. However, findings indicate that students often struggled to elicit formal policy changes at the institutional level due to hierarchies of power that restricted their access to SHE policy processes. Similarly, chapter four findings seemed to indicate that most students were constrained by their lack of power within the institution's political spheres. These findings align with social movement scholars who outline that when actors lack power within political settings, they tend to have limited abilities to effect change (McAdam, 2017). Indeed, findings of both chapters three and four support the idea that most students had a low standing within institutional policy hierarchies.

Importantly, these findings shed light on the structures of power within HEIs, including who sets what policy scholar Gale (2007) refers to as the 'conditions of eligibility.' These conditions affect the access that different stakeholders have to contribute as policy actors (Gale, 2007). Considering participants of all types (including board of governors, administrators, staff, faculty, and students) expressed that students struggled with limited power, the findings seem to support the conclusion that most students did not possess the appropriate capital or ability to influence formal policy changes. This finding calls into question whose voices are considered

legitimate within HEIs, including who creates and sets the conditions of eligibility that ultimately dictate whose values are institutionalized within the higher education policy arena and SHE.

While the majority of students described limitations due to their lack of power within the political arenas, students at one site described a political context where they were able to contribute as policy initiators, successfully influencing formal policy changes. These students achieved this through strong relationships and collaborations with their administrators that were institutionalized within their HEI. The strong relationship with administrators suggests that students access power from these political elites (Diani, 1997), which appears to increase students' standing in the power hierarchy of HEIs. Moreover, the relationship between administrators and students at this site demonstrates the effectiveness of what Broadhurst and Martin (2014) term a 'positive campus climate,' whereby administrators work closely with and value student voice and contributions to campus developments.

Social and Cultural Changes

While students have used various collective action tactics to advance the campus sustainability movement, there remains a limited analysis of how their actions contribute to change (Croog, 2016). In addition, there is a lack of research that uses appropriate theoretical frameworks, such as social movement theory, to analyze such changes in education settings (Niesz et al., 2018). Social movement theory allows the researchers to explain how and why social mobilization occurs and the outcomes of such social movements (Bevington & Dixon, 2005; McAdam, 2017; Staggenborg & Ramos, 2016; van Stekelenburg & Klandermans, 2008; VanDyke & Taylor, 2019). Thus, SMT's use in this doctoral thesis offered a relevant framework to analyze student-led action for SHE. Drawing on SMT, chapter four highlighted that students

formed social movement groups and developed strategic networks with other HEI stakeholders to advance SHE developments across campuses.

This thesis suggested that students successfully alter the attitudes, behaviours, norms, and practices of the campus community through their groups and networks. Chapter four findings indicated that student SHE efforts might result in cultural impacts, including through influencing individuals' beliefs, opinions, practices, and identities (Amenta & Polletta, 2019; VanDyke & Taylor, 2019). Student participants identified that the most significant element supporting their action for SHE was the networks created with other students and student groups. Through these networks, students developed collective identities and agency amongst their peers, facilitating their SM recruitment strategies. These networks also enabled various student organizers to connect and share effective framing perspectives, inspiring anger and hope to spur action across the student body (Kleres & Wettergren, 2017). Relatedly, findings from chapter three suggested that through their roles as various policy actors, students and their groups influenced individuals' opinions, norms, and practices towards SHE, ultimately contributing to altering the institutional culture of sustainability (Adams et al., 2018). Within policy studies, these changes are considered to constitute the informal policy processes that might eventually inform policy decisions (Scott, 2018). Taken together, the findings of this doctoral research seem to indicate that the collective actions of students may be a significant element contributing to institutional change for SHE as they alter the culture of sustainability across campuses by changing the behaviours, attitudes, norms, and practices of campus stakeholders.

Finally, this thesis has highlighted the importance of Indigenous culture in relation to the campus sustainability movement. Participants at two of the sites we visited indicated the importance of students practicing their Indigenous cultures and observing traditional land

management and food harvesting practices. While participants rarely conceptualized these as related to sustainability, these practices were identified by SEPN researchers as significant to advancing SHE at those sites. Findings suggested that Indigenous students contributed to altering the campus culture of sustainability by integrating Indigenous practices that follow and indeed predate sustainability principles.

Moreover, UCN and NAC offered examples of different structural approaches that could potentially be implemented elsewhere to support the engagement of Indigenous students with SHE. University College of the North is unique in that it is founded on and embeds the local Indigenous culture with a tri-council governance structure. Within this structure, the institution is guided by three councils; the governing council, the learning council, and the council of Elders. The council of Elders collaborates with the governing council to direct the institution on how to appropriately integrate the traditional knowledge, wisdom, beliefs, and values of the local culture across institutional policies and procedures (University College of the North, n.d.). Students at this site cited the council of Elders as a component that connected them to their communities, helping them maintain their traditional values and practices as Indigenous worldviews and practices were institutionalized and normalized within this university.

Relatedly, Nunavut Arctic College had integrated the Inuit Qaujimajatuqangit (IQ) guiding principles across their institutional policy documents and procedures. The IQ principles refer to the traditional knowledge systems and epistemologies of the Inuit people. These principles were embedded across the whole institution in ways that embedded traditional Inuit values and practices within the institution, thus integrating various sustainability principles. Again at this site, students discussed the importance of their Indigenous practices and traditions

in how they perceived and engaged with sustainability at their institution³⁴. Thus, Indigenous worldviews, practices, and traditions potentially represent a more viable opportunity than the settler-colonial approaches practiced in other institutions to engage some students with SHE.

Considering that Canadian educational structures largely serve as ongoing sites of colonial regulation of Indigenous epistemologies (Ahenakew, 2016; Wilson & Murray, forthcoming), these approaches provided examples of settings where Indigenous students felt comfortable practicing their cultures, thus upholding and integrating sustainability principles across the institution. Therefore, as HEIs seek to integrate sustainability across their institutions, building relationships with and learning from local Indigenous communities and students might offer a more holistic approach to SHE integration than existing Western and colonial approaches that might serve to alienate Indigenous peoples. Of course, any approach to embedding or “grafting Indigenous ways of knowing onto non-Indigenous ways of being” (Ahenakew, 2016, p. 323) must be made through a reciprocal and respectful relationship with and by Indigenous communities.

Research Implications

Ultimately, this research is intended to be useful for students who are organizing for SHE across higher education campuses and helpful for other campus stakeholders seeking to support and encourage student leadership with SHE. Therefore, the following section first outlines the implications relevant to students, suggesting how these findings might be useful for their

³⁴ This is not to say that the approach of integrating IQ across NAC was universally accepted within Nunavut; indeed SEPN data highlight that some participants did not support it (SEPN, unpublished data). Thus, with any attempt to integrate Indigenous worldviews, the Indigenous community must guide the developments whereby reciprocity and respect form the foundation of this work.

organizing efforts. Following that, the implications for other campus stakeholders are outlined (see Table 5.1 for a summary of the key implications for campus stakeholders). Finally, I present the implications of this study for future research.

Implications for Students: Context is Key

Across all the findings, the key to successful student organizing and their roles as active policy actors appeared to be relationship building. Building relationships with other campus stakeholders as well as other SM organizers off-campus enabled students to build geographically diverse social networks to learn from. While many lessons can be extrapolated from these findings, readers are advised to first consider what context they find themselves in and whether they can capitalize on some of the approaches used by students in this study. For example, if students face challenges with navigating institutional policy processes, they could develop relationships and alliances with other campus stakeholders who have the capital and power to navigate these systems. Such associations could be with faculty or administrators, as outlined in this study, but can also include staff and other campus stakeholders who might be knowledgeable about the different areas of campus life and politics. Students described benefiting from strong relationships with administrators at some sites, which enabled them to play more active roles with SHE policy developments. These relationships, however, were described as being longstanding, therefore, if students are currently working within a campus climate that has not institutionalized these relationships, then they can also turn to faculty. Across all sites, faculty were described as most often working closely with students for various initiatives. Therefore, building alliances with this stakeholder group might be an effective option depending on the institutional context.

Additionally, this research highlighted the importance of framing perspectives for student-led organizing for SHE. As was evidenced in this study, the framing used varied depending on the context within which students were working, with different approaches used by different organizers. For example, some students in this study described using hope and collective agency to inspire other students to participate and volunteer for SHE. In contrast, other student organizers used stronger emotions of anger towards their administrators to spur action. In this study, students relied on their relationships with other student organizers to learn what had worked or not worked in their specific context. Therefore, student organizers could learn from this and develop relationships with other student activists on their campus to learn appropriate tactics for their setting. For students organizing on campuses without a strong history of student activism, they could reach out to student groups at other campuses or even other SM organizations in their communities to learn how they framed their issues and inspired students to take action for similar campaigns. In today's connected world, students have the privilege and ability to build geographically extensive networks through social media and other online tools to build connections and learn how to mobilize change on campuses most effectively.

Ultimately, students in the current study described that their efforts were most effective when they had a strong understanding of the context within which they worked (i.e., the history of the institutions' receptibility to student activism). Through this understanding, the students knew which stakeholder relationships they could leverage to advance their SHE goals. While not discussed in this thesis, SEPN findings also indicate that students could also examine their local communities/municipalities for SM organizations that operate locally. These organizations can also share their framing perspectives, resources, and tactics to lend some insight into the local context and suggest what might inspire people to take action. Additionally, local organizations

might be able to apply pressure to the institution in unique ways that internal stakeholders might not be able to. Students would be wise to explore connections on and off campus to build strategic networks of action for their SHE work.

Finally, one of the most significant implications of this doctoral research is that student-led groups and their actions for SHE might contribute to changing the culture of sustainability across institutions. This knowledge might provide hope for student organizers who find themselves struggling to elicit formal policy changes; it is important to note that while formal policy change might not occur during the residency of one student organizer, the impacts of their actions might contribute to changing the attitudes, behaviours, and norms at an institution over generations of students. The findings of this thesis highlight that these can be significant contributions to policy change processes as they may alter the ways that policies are taken up (or not) at institutions.

Implications for Other Campus Stakeholders

Other campus stakeholders, most notably administrators who hold the majority of the political power on campuses, can learn from these findings to share their power with students seeking to catalyze change for SHE. While it is recognized in the SHE literature that students are important contributors to the full integration of SHE, this study demonstrates that students still lack the necessary eligibility and power to contribute meaningfully to formal policy developments. As such, administrators could support students by institutionalizing roles that engage them meaningfully with SHE policy developments. This type of support was described at one site in this study where students co-created policies and were valued on the necessary committees, suggesting that this could be an effective strategy for other institutions. This also highlights the need for some institutions to re-evaluate the values and norms that guide how

decisions are made at their institution. As such, administrators and other campus stakeholders could take the opportunity to learn what values students are hoping to see integrated across their institution and then evaluate whether or not these align with the current values and norms that are taken up. If not, perhaps changes can be made to assess existing practices that dictate how SHE policies are taken up, or not, within the institution.

Another example was a committee where students had a higher rate of representation than on most university committees (5 students on the committee rather than the usual 1 or 2 students to represent the whole student body). While it was outside the scope of this research to determine whether or not the inclusion of more students on committees has an actual impact on their ability to influence policy change, it was a common barrier students described. By having limited representation on committees, students felt their chances of influencing any policy decisions were rare, with some students describing their inclusion on some committees as tokenistic rather than meaningful. Thus, if administrators are serious about engaging students within policy decision-making processes, increasing student representation on committees could prove a useful approach.

Additionally, embedding local Indigenous traditions and expanding beyond Western notions of sustainability could also prove to be an effective approach to engaging historically marginalized groups in SHE, including students. As was highlighted within this research, Indigenous students described feeling comfortable practicing their traditional cultures at sites where the institution had embedded Indigenous worldviews. As Canadian HEIs seek ways to engage with the Truth and Reconciliation Commission and directives to Indigenize their institutions (Gaudry & Lorenz, 2018), collaborating with local Indigenous communities and

students to develop culturally appropriate, respectful, and reciprocal relationships could be a useful approach to a more holistic integration of SHE.

Finally, faculty members were described as playing a significant role in supporting student action on SHE through collaborative relationships. Faculty support was described as integral to student organizing in this study as students required allies to help them navigate institutional change processes and access resources. Faculty are therefore encouraged to continue to support students in the ways they currently do, including helping students navigate institutional bureaucracy, using faculty networks to share student messages to increase awareness of and normalize student activism, and supporting students to access social, political, and financial resources that are typically not easily accessible. Faculty could learn from these findings and incorporate studies of activism and collective action tactics in their courses and the coursework that they design for students. They could include examinations of institutional hierarchies of power, which explore and evaluate ways to effect change within such structures. They could evaluate the values, norms, and existing practices within their institutions and students could offer suggestions for how to integrate updated values that might better support SHE. Considering that students will become our next social leaders, giving them the opportunities to learn and practice these skills on campus will prove advantageous not only for advancing the integration of sustainability across HEIs but for building sustainable communities in the future.

Table 5.1*Research Implications for Students and Other Campus Stakeholders*

Students	Other stakeholders
Know your institution: <ul style="list-style-type: none"> - Know the history of student activism and sustainability action on your campus - Evaluate the type of campus climate and receptivity towards student activism (positive or negative?) and develop strategies accordingly 	Institutionalize Meaningful Student Roles with SHE: <ul style="list-style-type: none"> - Ensure adequate voice on committees and in decision-making processes - Develop curriculum and programming that supports student activism and innovation - Provide students with funding to pursue SHE goals
Know the other stakeholders: <ul style="list-style-type: none"> - Identify the stakeholders that are most willing and interested to work with students - Develop coalitions and partnerships with these stakeholders 	Share your Political Power and Knowledge: <ul style="list-style-type: none"> - Lend your voice and power to students - Help students navigate the bureaucracy and power relationships within the governance structure
Know your student body: <ul style="list-style-type: none"> - Establish connections with other students and student groups across campus - Bring like-minded students and groups together to create networks of student activists to increase the visibility and acceptance of student activism 	Evaluate Institutionalized Values and Norms: <ul style="list-style-type: none"> - Listen to what students are asking for, including what values they expect to be integrated within the institution and evaluate whose values are currently being upheld - Allow students to practice on campus to normalize SHE – this will also allow the institution to reap the benefits of the transformative change - Re-evaluate student efforts as leadership rather than dissent
Know your community: <ul style="list-style-type: none"> - What kinds of organizations exist in the broader community and at other campuses that align with your goals? - Contact them, ask for advice, and invite them to attend your events. - Build geographically diverse networks to support your work 	Collaborate with Indigenous Students and Communities: <ul style="list-style-type: none"> - Build respectful and reciprocal relationships with Indigenous communities and students - Through Indigenous community-driven approaches, create safe decolonized spaces

Implications for Future Research

Overall, this thesis improves our understanding of the roles of students in advancing SHE, including what they identify as constraining and enabling their efforts to influence policy

change at HEIs. This thesis offers important contributions to the SHE field, as well as to critical policy and social movement literatures, as outlined below.

First, this research addresses the lack of comparative studies within the SHE literature (Barth & Thomas, 2012; Beveridge et al., 2015; Corcoran et al., 2004; Karatzoglou, 2013) as well as specifically addressing the gap of research on student action for SHE (Drupp et al., 2012; Nejati & Nejati, 2013). These are important contributions as the comparative lens provides a critical analysis of the various dynamics that influence the role of students with SHE across six sites, with lessons that might be more applicable to different settings than findings from single site studies. Second, this doctoral research provides, to my knowledge, one of few engagements with critical policy studies within the SHE literature base, which addresses calls for increased policy research in SHE (Beveridge et al., 2015; Blanco-Portela et al., 2017; Cheeseman et al., 2019; McKenzie et al., 2015). This research offers a typology of students as policy actors for SHE, addressing gaps in our knowledge of how students contribute to policy change and contributing to advancing policy actor typologies. Third, this research addresses the limited use of SMT within educational contexts (Niesz et al., 2018) and offers a unique analysis of student-led action to improve our understanding of their roles within the SHE literature base. This is a significant contribution as it provides student organizers with an understanding of the most common barriers that they are likely to encounter when organizing for SHE. Moreover, it offers suggestions of the types of supports that student organizers could leverage or create to advocate for sustainability uptake more efficiently. While these contributions are all meaningful, they have also served to justify future directions of research. In what follows, I highlight the recommendations for future studies put forth by this thesis.

This thesis revealed that students alter campus cultures to influence institutional

sustainability through their collective actions, social movement organizations, and social networks. Future research could continue to explore students' roles with SHE by using both critical policy studies and SMT to advance our understanding of student influences on institutional change processes. Therefore, this research recommended that future studies investigating students' roles with SHE include social movement analyses to explore how their collective actions influence institutional policy and socio-cultural changes across HEIs. Further, opportunities exist for future critical policy research to examine the power dynamics that exist within HEIs, including how these dynamics influence the ability of different stakeholders to be engaged as policy actors. Such an exploration could include analyses that expand our understanding of student resistance and absence within SHE policy processes and their impacts on policy directions.

Chapters three and four both revealed the importance of student-led actions normalizing sustainability, influencing campus community members' behaviours, and altering the culture of sustainability. Policy research could continue to expand our understanding of how the culture of sustainability (including campus community members' behaviours, opinions, and discourse towards sustainability) influences informal policy processes and whether and how these processes eventually influence formal policy changes (Scott, 2018). This approach would also serve to extend concepts of discourse as policy (Bacchi, 2000; Ball, 2015a) as well as university culture and its influence on SHE uptake (Adams et al., 2018). Similarly, in relation to the findings of how student-led action influenced the behaviours and opinions of campus members towards SHE, future research could explore the cultural impacts of student action in greater detail. While social movements' cultural impacts are an often overlooked research focus within the SMT literature (Amenta & Polletta, 2019; VanDyke & Taylor, 2019), future studies could

seek to extend this body of literature as well as that of SHE. In line with social movement scholars (della Porta & Diani, 2020; Diani, 1997), this work recommends that future research offer longitudinal micro-level analyses exploring specific causal links between student-led social movements and changes to campus sustainability cultures and institutional policies.

Chapter three recommended that future research examine higher education policy processes, particularly concerning SHE, including a closer examination of the various policy actors and their roles with policy developments. While chapter three offers an initial typology of students as policy actors with SHE, more research is needed to complete our understanding of the various roles of all stakeholders as policy actors. It is recommended that future studies pay special attention to the resistances, silences, and absences within HEI policy processes. This thesis offers an initial examination of students' struggles at the policy decision-making tables, yet further work is needed to investigate these issues and their implications for the advancement and integration of SHE across the whole institution. Moreover, chapter four suggested that student-led SM groups were created despite frequently lacking the political capital and opportunities that broader SM organizations often required to emerge (McAdam, 2017). Thus future research could use SMT and critical policy studies to examine the political structures that exist for students and determine whether or not student-led SM groups operate differently than broader SM organizations.

Finally, this doctoral research suggested that future studies examine how Indigenous and other marginalized populations advance sustainability uptake through cultural practices. Recommendations included re-evaluating the framework of 'sustainability' when assessing SHE in various contexts. The current model of SHE and what constitutes 'sustainability' uses predominately Western conceptualizations that force the actions of Indigenous communities and

peoples to fit within the criteria for ‘sustainability’ (Ahenakew, 2016; Maina-Okori et al., 2018). Considering that within the Canadian context of colonial education, practicing one’s own Indigenous culture can be regarded as an act of resistance and activism (Wilson & Murray, forthcoming), future studies should offer culturally relevant research examining different approaches to ‘sustainability.’ In so doing, studies of this nature would serve to extend SHE literature to include non-Western approaches to sustainability which could legitimize Indigenous action and education as sustainability-related practices and policies.

Concluding Remarks

Theoretically, this thesis contributes to the field by unpacking the political, social, cultural, and power dynamics that influence students’ roles with SHE policy developments. It is informed by literatures on critical education policy (Ball, 2005, 2015a; Ball et al., 2012; Bowe et al., 1992; Gale, 2007; Lingard & Ozga, 2007), as well as social movement theory (Amenta & Polletta, 2019; Diani, 1997; McAdam, 2017; Staggenborg & Ramos, 2016). These literatures guided the analysis of the contexts that dictated whose voices were silenced or absent and, ultimately, whose values were upheld within HEI policy spheres. I combined the social movement lens with critical policy work to explore those structures of power to better understand how they impact student-led action for SHE and how they can be addressed.

This study’s findings reveal that students contribute to various SHE developments, though they face significant structural challenges to catalyze change at the institutional level. As such, they create networks of mobilization and action with other students and campus stakeholders to build their social and political capital. Perhaps most importantly, for students organizing for SHE, this thesis demonstrates the importance of their work in catalyzing informal policy changes across their campuses. While many student participants described frustrations

with their inability to effect formal policy change within the timelines they needed, these findings highlight that perhaps their actions will elicit those policy changes in a few student generations. During this research, I heard stories of students in the 90's who contributed to the strong presence and culture of environmentally-minded students on campus when data was collected nearly 30 years later, demonstrating that students' actions today set the foundation for tomorrow.

As recommended above, this work calls for longitudinal micro-level studies to explore in greater detail how these cultural impacts might influence changes in attitudes and opinions towards sustainability and ultimately adjust the values and norms that are currently upheld in HEIs. While there is much work to be done to fully integrate SHE, exploring students' contributions, their networks, and their organizations provides insight into how HEIs could achieve a more complete integration of sustainability across the whole institution.

Personal Reflection

It is at this point that I return to my positionality as a researcher and reflect on my work with questions of 'so what' and 'what now.' Particularly in today's context, when we are witness to growing cases of violence and racism that form the very foundation of our society and uphold these power imbalances. I am searching for ways that my work and contributions can be more, can be useful, can be helpful. During my studies, I saw my role as an environmental student leader and movement organizer as a contribution, but as I look to transition into the role of academic, researcher, and instructor, I am reminded that this work must continue. While my doctoral work called into question the power imbalances that students face with SHE and highlighted absences from the literature concerning Indigenous perspectives and worldviews to advance sustainability, I am left feeling a sense of ... what else? And what now?

While I am far from having answers to these questions, I am reminded of a discussion I had with student activists at one site. They were telling me about the seemingly insurmountable task of convincing their administrators to embed sustainability in meaningful ways across their University. When I asked if they thought their campaign would be successful, they replied, “Yeah, I’m sure it will. We’ll make sure it does. We’ll keep fighting.” These words are emblematic of the fight that most students face to embed sustainability in higher education and also reflects the reality that many individuals face daily in broader society. We are witness to growing activism efforts by youth like Autumn Peltier, Anishinaabe-kwe water warrior, and Greta Thunberg, Swedish climate activist, and those of us who work within the very systems that need to change are being called upon to contribute. We are challenged to take responsibility and, as Greta reminds us, feel fear for the future we face (Thunberg, 2018). Feel fear for the future that we have created and the systems that we currently uphold. There is a groundswell building, and I feel fortunate to be witness to it and perhaps play some humble part.

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Appendix A: Participant Recruitment Template

Email Template – Invitation to Participate in SEPN research

Dear _____,

My name is _____ and I am writing on behalf of the Sustainability and Education Policy Network (SEPN) to invite you to participate in a national research study examining the uptake of sustainability in post-secondary education (PSE) across Canada.

We are currently conducting site analyses of 6 PSE institutions examining the range of sustainability policies and practices taking place in Canadian PSE institutions and your institution is participating as one of the six sites.

You have been identified as someone who is knowledgeable of the types of sustainability initiatives that are happening at _____. Your perspectives are critical to our research and we would greatly appreciate the opportunity to discuss our research with you.

There are many potential benefits to your university, including allowing your Office of Sustainability and others to learn from experiences with sustainability at _____ and other institutions. The site analyses will provide valuable information about how to roll out educational policy to reduce the policy-practice gap in higher education.

We will be collecting data at _____ between _____.

We are wondering if you would be available to participate in a 1-hour interview during this time? If you're not available to meet in person for an interview, we can also meet over the phone for a telephone interview.

If you know of anyone else that would be a good candidate for participation in this study, we welcome you to share our information with him or her. I have attached a background document* that provides more information about the work we are doing for yourself and any others whom you think may be interested in participating. I am happy to answer any questions you or others might have about our project, the anticipated commitment for participation and any other questions or concerns. Please feel free to email me at _____.

Many thanks for your consideration. We look forward to hearing from you!

Best wishes,

About SEPN

Based at the University of Saskatchewan, SEPN is a research-based partnership between Canadian and International researchers and leading Canadian and North American policy and educational organizations that began in 2012. SEPN is examining the relationship between sustainability education policies and practices in K-12 and PSE across Canada. SEPN is the first large-scale, national-level research collaboration to collect comparable data at all levels of education in Canada and we are internationally recognized as being on the cutting edge of educational policy research. Our partners include the Association for the Advancement of Sustainability in Higher Education, Canadian Centre for Policy Alternatives, David Suzuki Foundation, Learning for a Sustainable Future, and Sierra Youth Coalition.

***Document to be attached to email embedded below.**



RESEARCH. CONNECT. MOBILIZE.

What is SEPN?

The Sustainability and Education Policy Network (SEPN) is advancing sustainability in educational policy and practice to support the transition to more environmentally sustainable societies.

SEPN is a research-based partnership between Canadian and international researchers and leading Canadian and North American policy and educational organizations that began in 2012. Our partners are the Association for the Advancement of Sustainability in Higher Education, David Suzuki Foundation, Canadian Centre for Policy Alternatives, Learning for a Sustainable Future, and Sierra Youth Coalition.

SEPN's research examines sustainability in education policies and practices in early childhood to grade 12 (EC-12) and post-secondary education (PSE) in Canada with the goal of enabling educational change for a more sustainable future.

To date, we have used our innovative research and partnership approach to comprehensively analyze sustainability initiatives in all 13 provincial and territorial ministries of education, 389 school divisions, and 220 accredited post-secondary institutions across Canada. Our analysis of policy across ministries of education and PSE institutions has made us an internationally recognized leader in sustainability education policy research.

SEPN is hosted at the University of Saskatchewan and is funded by \$2 million in Social Sciences and Humanities Research Council funding and \$1 million in matching funds from SEPN's partners and contributors.



Why is SEPN Important?

Education must play a role in creating a sustainable future. Climate change, new environmental technologies, and energy and water sustainability are not just technical issues—they are cultural and political challenges. Developing expertise in sustainability to respond to our environmental challenges requires policy development that is grounded in active dialogue with communities, across regions, and linked to multiple sectors.

Canada's decentralized system of education discourages comparative research across provincial and community contexts in relation to both EC-12 and PSE. SEPN is the first research project to examine the range of sustainability policies and practices being developed, implemented, and experienced in EC-12 and PSE contexts across Canada's entire formal education system. Visit www.sepn.ca for more information on our work.

In 2016, SEPN is conducting site analyses of 6 post-secondary institutions to explore the relationships between sustainability policies and practices in different settings across the Canadian education system. A comparable project is also being undertaken at 6 ministries of education.



Social Sciences and Humanities
Research Council of Canada

Conseil de recherches en
sciences humaines du Canada

Canada

PARTNER ORGANIZATIONS

Association for the Advancement of
Sustainability in Higher Education
Canadian Centre for Policy Alternatives
David Suzuki Foundation
Learning for a Sustainable Future
Sierra Youth Coalition

CONTRIBUTING ORGANIZATIONS

Assembly of First Nations
Canadian Federation of Students
Global Youth Education Network
Métis National Council
Sustainability Solutions Group



Frequently Asked Questions for PSE Site Analyses

Where will SEPN collect data?

The site analyses will be a comprehensive exploration of sustainability policy and practice in each post-secondary institution. Data will be collected from board of governors members, administrators, sustainability offices, faculty members, and students. Participants will be identified via snowball sampling.

Would staff and/or students be involved? How?

Interviews

We anticipate conducting interviews with:

- 1-2 board of governors members
- 1-2 administrators
- 3-5 faculty members
- 1 sustainability coordinator, 1-3 sustainability office staff, and/or 1-2 sustainability committee members (as applicable)
- 1-3 other key informants (as identified during data collection)

Focus Groups

We also plan to hold 1-2 focus groups with student leaders (e.g., student's union, student sustainability leaders)

Talking Walls

- Students, faculty, staff, administrators, visitors, and others can write their experiences with sustainability at the university on a large sheet of paper posted in a public location on campus

Sidewalk Interviews

- 5-10 minute interviews asking students, faculty, staff, administrators, visitors, and others about their experiences with sustainability at the university

What would we need to do?

- Participate in an interview (1 hour) or focus group (1.5 hours) (if applicable)
- Recommend a colleague for participation (if applicable)
- Provide recommendations and contact information for administrators, faculty, and/or student leaders who may be interested in taking part in the research

Why should we be involved?

- Celebrate and share sustainability successes in your post-secondary institution
- Learn about whether there are gaps between policy and sustainability practice affecting implementation of initiatives in your institution
- Join a national network of researchers, practitioners, and organizations to learn from others' experiences and access innovative models of sustainability policy and practice

Questions? Contact us at sepn.info@usask.ca or 1 (306) 966-2319  

Appendix B: Interview Protocol



Researcher Note:

- *Maintain focus throughout interview on institution for PSE (e.g., sustainability research at institution more broadly vs that of faculty being interviewed, broader than curriculum in one program, etc.). Ministry, SD, and School participants at K-12 may focus on policies and practices across those levels from their position within any one of the three.*

Researcher Note:

- *Interview begins with introductions. Then move to consent form - give them a minute to review and then ask if they have any questions. After participant and researcher sign both copies (interviewee keeps one), let participants know you are turning on recorders.*
- *Note that most provinces should include a recognition of only First Nations and Métis, and territories should include Inuit and First Nations in some cases. In phone interviews, modify first sentence of interview to say 'on which we are both located' vs. 'on which we are meeting.'*

Introduction

To open our discussion, we would like to acknowledge the traditional First Nations, Métis, and/or Inuit territories on which we are meeting.

We will start this interview with a survey that will ask you to evaluate your [setting's] work regarding sustainability policy and practice. We will then ask you some follow up questions. Please note that we will be following a formal structure of questions, as this format needs to be consistent across our nation-wide study. Please answer to the best of your knowledge, there are no right or wrong answers.

Here is an iPad [document if app not available] on which we'd like you to answer some questions to start. At the beginning you will see some basic information about sustainability, as well as demographic information - if you're able to take a few minutes now and complete this, that would be great.

In the next part, we're going to use a heat diagram to ask you about your experiences of how policies and practices developed in your setting. Would you describe yourself as more familiar with policy or with practice in this setting?

Researcher Note: If participant describes themselves as more familiar with practice, go to section 1; if policy, go to section 2. For participants that are less familiar with practice, use only the questions (and prompts, as needed) within Box 1. For participants that are less familiar with policy, use only the questions (and prompts, as needed) within Box 2. If a participant is familiar with both practice AND policy within a setting (e.g. Sustainability Officer, others) and time allows, can use full protocol for each of practice and policy.

Section 1: Sustainability Practices

Introduction to Heat Diagram

Researcher Note: For phone interviews, please go through each domain at a time, beginning with governance, curriculum, research, community outreach, operations, and other to enter their ratings and get any short examples.

To start, please rate your setting's activity in relation to sustainability practice across several domains using this diagram.

To explain the task a bit, we are defining "sustainability" as including, at minimum, consideration of the natural environment. When we use the word "practice," we mean any practices or activities in your setting that engage with sustainability (be they led by administration, faculty/teachers, students, community, etc.).

We'd like you to please rate your setting's activity in relation to existing practices that address sustainability across the domains of: overall governance, curriculum and teaching, research, community outreach, facilities operations, and 'other' - explanations of these domains are included on the diagram.

Please assign a number from 1-10 for sustainability practices in each of these areas, with '0' indicating little to no sustainability practice in that domain, what we are referring to as 'cool,' and '10' indicating a 'hot' domain of sustainability practice for your setting. Please also add any details of what you have in mind in giving that rating. In other words, types of practice initiatives you may be thinking of in that area.

These are your own ratings based on your experiences and impressions. If you're really not sure, you can simply indicate 'don't know.' Do you have any questions? Would you like clarification on any of the categories?

Questions for those 'Less Familiar' with Practice [replaces questions 1-3]

Box 1. Researcher Note: *If the participant has selected practice as the context with which they are LESS familiar, ask them the following questions. If the participant appears familiar with the practices described and time allows, include regular follow-up probes in relation to the questions below (from 'more familiar' section). If time allows, also include questions on 'cool' domain below; if time does not permit, move on directly to Section 3: General.*

In your ratings diagram, can you please choose one of the 'hottest' rated domains to discuss in relation to practice? *[Ensure participant or researcher says out loud which domain they choose]*

- Can you tell us about your general impressions of practice in this domain?
- Is there a particular practice or practices that you were thinking of when you decided to give this rating?
- **Origins:** Do you know why your setting decided to begin this sustainability practice?
- **Mobility:** Are you aware of any practices or policies elsewhere that influenced its adoption (regionally, nationally, or internationally)?
- **Actors:** Can you tell us about any of the actors involved in this practice, champions or others?
- How successful has this practice been, in your estimation?

Can you now please choose one of the more 'cool' rated domains to discuss as an area with relatively low levels of practice?

- Can you tell us about your impressions of sustainability practice or lack thereof in this domain?

- What kinds of factors do you think have made the development of sustainability practice challenging in this domain?
- Do you have anything else to add on this topic, or otherwise in relation to practice, before we move on?

Questions for Domains with ‘Hot’ Ratings for those ‘More Familiar’ with Practice

Researcher Note: If the participant has selected practice as the context with which they are MORE familiar, please ask all of the following before moving on to Box 2 for policy.

1. In your ratings diagram, can you please choose one of the ‘hottest’ rated domains to discuss in relation to good practice? [Ensure participant or researcher says out loud which domain they choose]
 - (a) Can you tell us about your general impressions of practice in this domain?
 - (b) Is there a particular practice or practices that you were thinking of when you decided to give this rating?
2. **Practice Origins:** Can you please pick one of these practices to tell us about in some depth and I’ll ask you some further questions on it.
 - (a) **Drivers:**
 - a. To your knowledge why did your setting decide to begin this sustainability practice?
 - b. What influenced its development?
 - (b) **Mobility:**
 - a. Are you aware of any practices or policies elsewhere that influenced its adoption? For example, at another location or in another province or territory?
 - b. What about national or international influences, for example through various networks, associations, or policy bodies?
 - (c) **Actors:** Now I have some questions about any key people involved in developing this sustainability practice in your setting; people either based here or elsewhere:
 - Were there any champions or leaders in moving it forward?
 - Did anyone from outside your setting influence the development of the practice?
 - Were there any resistors to this practice? Or perhaps some that had hesitations? How so?
 - Do you know if students played a role in developing this practice? How so?
 - What about faculty and staff?
 - How would you describe the diversity of those involved, in terms of gender, race, or other forms of diversity?
 - (d) **Emotions:** What emotions, if any, would you say accompanied the uptake of this practice - for example, excitement, trepidation, feelings of competition, stress, or other emotions, if any?
 - (e) **Barriers:**
 - a. Are you aware of any tensions or challenges in initiating or maintaining this practice?
 - b. How about tensions or challenges in relation to any other, possibly competing, practices or policies?
 - (f) **Supports:** Aside from those you’ve already mentioned, were there any other supports or factors involved in the initiation of this practice?
 - (g) **Funding:**
 - a. Do you know how this sustainability practice is funded, if applicable?
 - b. Have there been any resource limitations in carrying it out?
 - c. What would be needed to overcome these limitations?
 - (h) **Temporal:** How long did it take to develop this practice?
 - (i) **Outcomes:**
 - a. How would you describe the influence of this practice overall in your setting?
 - b. Who has been most and least affected or engaged by this practice?
 - c. Have you noticed any unintended consequences or outcomes?

Questions for Domains with ‘Cool’ Ratings for those ‘More Familiar’ with Practice

3. Can you now please choose one of the more ‘cool’ rated domains to discuss as an area with relatively low levels of practice?
 - (a) Can you tell us about your impressions of sustainability practice or lack thereof in this domain?
 - (b) What kinds of factors do you think have made the development of sustainability practice challenging in this domain?
 - (c) Do you have anything else to add on this topic, or otherwise in relation to practice, before we move on?

Section 2: Sustainability Policies

Introduction to Diagram

In this part of the interview, we’re going to use the heat diagram to discuss how policy developed in your setting. To start, please rate your setting’s activity in relation to sustainability policy across several domains using this diagram.

As a reminder, we are defining “sustainability” as including, at minimum, consideration of the natural environment. When we use the word “policy,” we mean official texts produced or used by your [setting] that address sustainability (be it a policy, plan, strategy, or mandate). This may also include documents that guide teaching practice, such as required curriculum.

These are your own ratings based on your experiences and impressions. If you’re really not sure, you can simply indicate ‘don’t know.’ Do you have any questions? Would you like clarification on any of the categories?

Researcher Note: For phone interviews, please go through each domain at a time, beginning with governance, curriculum, research, community outreach, operations, and other to enter their ratings and get any examples.

Questions for those ‘Less Familiar’ with Policy [replaces questions 4-6]

Box 2. Researcher Note: If the participant has selected policy as the context with which they are LESS familiar, ask them the following questions. If the participant appears familiar with the policies described and time allows, include regular follow-up probes in relation to the questions below (from ‘more familiar’ section). If time allows, also include questions on ‘cool’ domain below; if time does not permit, move on directly to Section 3: General.

In your ratings diagram, can you please choose one of the ‘hottest’ rated domains to discuss in relation to policy? [Ensure participant or researcher says out loud which domain they choose]

- Can you tell us about your general impressions of policy work in this domain?
- Is there a particular policy or policies that you were thinking of when you decided to give this rating?
- **Origins:** Do you know why your setting decided to create this sustainability policy?
- **Mobility:** Are you aware of any practices or policies elsewhere that influenced its adoption (regionally, nationally, or internationally)?
- **Actors:** Can you tell us about any of the actors involved, champions or others?
- How successful has this policy been, in your estimation?

In your ratings diagram, can you please choose one of the ‘cool’ rated domains to discuss as an area with relatively low levels of policy?

- Can you tell us about your impressions of policy work or lack thereof in this domain?
- What kinds of factors do you think have made the development of sustainability policy challenging in this domain?
- Anything else to add on this topic, or otherwise in relation to policy, before we move on?

Questions for Domains with ‘Hot’ Ratings for those ‘More Familiar’ with Policy

Researcher Note: If the participant has selected policy as the context with which they are MORE familiar, please ask all of the following before moving on to Box 1 for practice.

4. In your ratings diagram, can you please choose one of the hottest rated domains to discuss in relation to good policy?
 - (a) Can you tell us about your general impressions of policy work in this domain?
 - (b) Is there a particular policy or policies you were thinking of when you gave this rating?
5. **Policy Origins:** Can you pick one of these policies to tell us about in some depth and I’ll ask you some further questions on it.
 - (a) **Drivers:**
 - a. To your knowledge why did your setting decide to create this policy?
 - b. What influenced its development?
 - (b) **Mobility:**
 - a. Are you aware of any policies or practices elsewhere that influenced its adoption? For example, at another location or in another province or territory?
 - b. What about national or international influences, for example through various networks, associations, or policy bodies?
 - (c) **Actors:** Now I have some questions about any key people involved in developing this sustainability policy in your setting; people either based here or elsewhere:
 - a. Were there any champions or leaders in moving it forward?
 - b. Did anyone from outside your setting influence the development of the policy?
 - c. Were there any resisters to this policy? Or perhaps some that had hesitations? How so?
 - d. Do you know if students played a role in developing the policy? How so?
 - e. What about faculty and staff?
 - f. How would you describe the diversity of those involved, in terms of gender, race, or other forms of diversity?
 - (d) **Emotions:** What emotions, if any, would you say accompanied the uptake of this policy - for example, excitement, trepidation, feelings of competition, stress, or other emotions, if any?
 - (e) **Barriers:**
 - a. Are you aware of any tensions or challenges in initiating or maintaining this practice?
 - b. How about tensions or challenges in relation to any other, possibly competing, practices or policies?
 - (f) **Supports:** Aside from those you’ve already mentioned, were there any other supports or factors involved in the initiation of this policy?
 - (g) **Funding:**
 - a. Do you know how this sustainability policy is funded, if applicable?
 - b. Have there been any resource limitations in carrying it out?
 - c. What would be needed to overcome these limitations?
 - (h) **Temporal:** How long did it take to develop this policy?
 - (i) **Outcomes:**
 - a. How would you describe the influence of this policy overall in your setting?
 - b. Who has been most and least affected or engaged by this policy?

Questions for Domains with ‘Hot’ Ratings for those ‘More Familiar’ with Policy

6. In your ratings diagram, can you please choose one of the ‘cool’ rated domains to discuss as an area with relatively low levels of policy?
 - (a) Can you tell us about your impressions of policy work or lack thereof in this domain?
 - (b) What kinds of factors do you think have made the development of sustainability policy challenging in this domain?
 - (c) Anything else to add on this topic, or otherwise in relation to policy, before we move on?

Researcher Note: Return to section 1 (Practice), if participant started with section 2 (Policy)

Section 3: General

Researcher Note: Work to have at least 10 minutes remaining in interview at this point, can skip over cool and/or hot in second policy/practice area if needed to discuss below

Relationship of Policy and Practice

7. To your knowledge, are there relationships between the sustainability policies and sustainability practices we have talked about? For example, have the policies been drivers or barriers to practice or vice versa?

Reporting: Sustainability Assessment and Certifications

8. Are you aware of any kind of sustainability assessment, evaluation, or certification that takes place in your [setting]?
9. Are these assessment or certification details currently communicated? If so, how and to whom?

Section 4: Relations of Local Place to Policy and Practice

10. Moving on to some questions about place, do you think physical aspects of place (within this city, province, or another relevant scale) have influenced the approach to sustainability policy or practice in your setting - for example, the land of the setting, the surrounding geography, or buildings or other objects?
11. Do you think local culture has influenced the approach to sustainability policy or practice in your setting? How so?
12. (a) How would you describe the relationship between sustainability and Indigenous perspectives and priorities in your setting?
(b) Can you provide examples of this relationship?
13. (a) What term do you think is most commonly used to refer to sustainability in your setting? *[Researcher note: If examples are needed for clarification, can provide examples of: environment, sustainability, sustainable development, land]*
(b) Do you think the term commonly used is influenced by local context and/or more global influences?

Section 5: Moving Forward - Gaps and New Directions

14. And finally, some questions about new directions: what more do you think your [setting] should or could be doing to address sustainability practice or policy?
15. What resources and support do you think would be needed to address these gaps?
16. Is there anything else you would like to add in relation to sustainability policy or practice in your setting?
17. Are there any other key sustainability champions and/or critics of sustainability that we should be talking to as part of our study if possible?
- (a) Do you feel comfortable sharing their names with us?
 - (b) If not, do you feel comfortable sharing our information with them?
18. Are there any documents or policies in particular that you think we should review as part of the study?
- (a) If so, why?
 - (b) Can you provide them or direct us to where they can be found? *[Researcher note: Collect on memory stick at the time if possible]*

19. **ONLY** for student sustainability leader interviews:
To close the interview, can you please tell me why and how you became involved in sustainability efforts in your setting?

Thank you for your time and for participating in this research project!

Appendix C: Focus Group Protocol



Researcher note:

- Give participants a business card and a candy after they've completed the interview
- If a participant is particularly friendly, ask them if you can take a photo of them after interview for social media - get them to sign a photo consent form (adults only, only need maximum a few per site)

Researcher Note:

- Maintain focus throughout interview on institution for PSE (e.g., sustainability research at institution more broadly vs that of faculty being interviewed, broader than curriculum in one program, etc.). Ministry, SD, and School participants at K-12 more flexible may focus on policies and practices across those levels from their position within any one of the three.
- Anytime the term 'setting' is used in the protocol, replace with either 'school' for K-12 student focus groups, 'school, school division/board/district [use appropriate term for that area], and Ministry' for K-12 community focus groups, and 'university' or 'college' as appropriate for PSE focus groups.

Researcher Instructions for Student Focus Groups:

- If room and instructor are amenable to changing chair orientation into a circle, set this up before participants arrive
- Ask instructor not to participate in discussion if okay with them. If they prefer to, ask them to identify themselves as the instructor each time they speak.
- Affix printed heat diagram domains on the walls in various parts of the room
- Place one of audio recorders in centre of circle/group and have one researcher hold recorder and be responsible for moving it as a 'mic' to whoever is speaking to avoid inaudible portions for transcription. If only one researcher, ask for a volunteer at start to be the 'mic' person.
- Sign researcher signature in consent forms. Labels go on one of the consent forms, and each page of the heat diagram survey - do this in advance of participants' arrival.
- Upon arrival greet each participant and hand them **two** consent forms to complete, as well as **one** heat diagram survey, and one heat diagram survey example sheet. Ask them to review consent form, and that we will go over the other forms together. Ask them to take a seat.

Researcher Instructions for Community Focus Groups (Conversation Cafes) :

- Set up chair orientation into a circle before participants arrive
- Affix printed heat diagram domains on the walls in various parts of the room
- Place one of audio recorders in centre of circle/group and have one researcher hold recorder and be responsible for moving it as a 'mic' to whoever is speaking to avoid inaudible portions for transcription. If only one researcher, ask for a volunteer at start to be the 'mic' person.
- Upon arrival greet each participant and ask them their role (Eg. City Councillor) and add to labels. Person who does this should be the note-taker for the session, so they can note down roles for their later note taking.
- Sign researcher signature in consent forms. Labels go on one of the consent forms, and each page of the heat diagram survey - do this in advance of participants' arrival.
- Hand participants **two** consent forms, **one** heat diagram survey, and one heat diagram survey example sheet. Ask them to review consent form, and that we will go over the other forms together. Ask them to take a seat.

Introductions

Ask if there are any questions about the consent form. Have participants sign both copies of consent form. Participants retain the non-labelled copy. **COLLECT CONSENT FORMS.**

If you **did not** submit a consent form, please just listen rather than contributing comments.

Turn on both recorders.

For Community FG: ask each participant to briefly introduce themselves (name and role)

Introduction

To open, we would like to acknowledge the traditional First Nations, Métis, and/or Inuit [as appropriate] territories on which we are meeting. *[Researcher note: Most provinces should include a recognition of only First Nations and Métis, and territories should include Inuit and First Nations in some cases]*

We will start this focus group with a survey that will ask you to evaluate your [setting]'s work on environment and sustainability. Please answer to the best of your knowledge, there are no right or wrong answers

Section 1: Sustainability Practices

When you came in you received a form on which we'd like you to fill out some questions to start. On the first page you will see some basic information about sustainability, as well as demographic information, please complete this page first. When everyone has finished, we will explain the next page. If you have any questions, please don't hesitate to ask us. In some questions, we use the word 'Indigenous' - some people may be more familiar with the words "First Nations," "Métis," and Inuit.

Introduction to Heat Diagram

On the next page, please rate your [setting]'s work in environmental and sustainability practice across several domains using this "heat diagram."

To explain the task a bit, we are defining "sustainability" as including, at minimum, consideration of the natural environment. When we use the word "practice," we mean any practices or activities at your setting that engage with sustainability. They can be led by students, teachers, principals, staff, community members, etc.

We'd like you to please rate your [setting's] activity in relation to sustainability practice across the domains of: overall leadership, teaching and curriculum, research, community outreach, facilities operations, and 'other' - explanations of these domains are included on the diagram, but we are going to walk through each of the domains with you now:

- Overall leadership refers to sustainability activities or directives created by your [setting's] leadership, for example your school principal.
- Research refers to information collection and evaluation around environment & sustainability, for example, a school audit or research on your use of energy at the school.
- Community refers to engagement with the broader community, such as working on projects with community members, or having environmental organizations work with the school on environmental projects
- Teaching and curriculum refers to teaching and course content related to environment and sustainability;
- Operations refers to the physical buildings of your [setting], and the operations of the [setting], such as waste diversion (recycling, composting), energy conservation, water conservation, etc.
- Other refers to any other type of sustainability activity that you can think of, which does not fit into the previous domains.

If you get confused on any of the categories during this activity, you can refer to the example sheet, which explains and gives examples for each domain.

We would like you to assign a number from 1-10 for sustainability practices in each of these areas, with '0' indicating little to no sustainability practice in that domain, what we are referring to as 'cool,' and '10' indicating a 'hot' domain of sustainability practice for your [setting]. In the boxes outside of each domain, please also list any details of what you have in mind in giving that rating. In other words, the kinds of environmental and sustainability practices you may be thinking of in that area. These are your own ratings based on your experiences and impressions. If you're not sure, you can simply write 'don't know' across the triangle for that category.

Before beginning, do you have any questions? Would you like clarification on any of the categories?

Researcher Note: Pause for questions and follow-up explanations of the domains as needed. If students do not understand the categories, they will not listen to the follow-up directions on rating, so assessment of their understanding before proceeding is key. Upper-level (Grades 11/12), sustainability-aware classrooms may not need this level of support to proceed; younger students (Grades 9/10) may need additional clarification. Be sure to circulate amongst students while they are completing their diagrams, so that you can follow-up one-on-one with student questions or confusions.

Around the room you'll see that we have put up pieces of paper with each of the domains listed. When you are done, please go to the sign that matches up with your hottest rated domain. For example, if you gave teaching a 10, you would go to that sign. If you have two domains with the same rating, choose one to go to. Please take your heat diagram with you.

Researcher Note: Researchers briefly describe the patterns suggested in the room (e.g., "It seems that X and Y domain tended to have the hottest ratings overall, whereas Z tended to be rated as 'cool.'" Or, "There was a real mix of responses, with no domain clearing coming out more strongly than others)."

1. Why do you think that [name to hottest rated domain(s)] was rated the hottest overall?
2. Does anyone from other groups want to comment on why these didn't choose this domain, which has been rated as the hottest overall?
3. You were also asked to list some practices in each domain on your heat diagram.
 - (a) Can folks call out some of the practices they have written down in the domain where they're standing?
[get a few responses from each group]
 - (b) Considering your responses and where people are grouped up in the room, what practices did you think were most associated with sustainability at your [setting]? In other words, what kinds of environmental and sustainability practices happen most often at your [setting]?
 - (c) Why do you think these particular practices are the most common?
4. We've talked about which practices you think are most common in your [setting]. Now can anyone share with us their impressions of who has been involved with these practices:
 - (a) How are students engaged in sustainability at your [setting]?
 - (b) What about teachers and staff?
 - (c) How would you describe the diversity of those involved, in terms of gender, race, nationality, etc.?
 - (d) Is there any group in this setting that you would describe as excluded from participation or unable to participate for any reason?

Now please go to the sign that matches up with your 'coolest' rated domain. For example, if you gave teaching a 1 or 0, you would go to that sign. If you have two domains with the same rating, choose one to go to. Please take your heat diagram with you.

5. Why do you think that [name coolest domain of practice] was rated the coolest overall?
6. Does anyone from other groups want to comment on why these didn't choose this domain as 'cool'?

Assess energy in the room; decide whether to ask participants to take their seats or to remain standing. COLLECT HEAT DIAGRAM FORMS AND EXAMPLE SHEETS.

Section 2: Sustainability Policy [15-20 minutes remaining]

We're now going to move on to talk specifically about policy. As a reminder, we are defining "sustainability" as including, at minimum, consideration of the natural environment. When we use the word "policy," we mean official texts produced or used in your [setting]. This may also include documents that guide teaching practice, such as required curriculum.

7. Are you aware of any sustainability policies at your [setting]? *[Researcher note: At the K-12 level, also ask about school division policy, and Ministry policy or curriculum, focused on sustainability? Do each of the three levels in turn – school, SD, Ministry.]*

Ask participants to name policies, compile a list of these on the whiteboard or paper roll.

Note: If participants are unaware of policies existing, and/or not familiar with the concept of 'policy', skip questions 8-10.

8. Do you think policies such as these help support practice around sustainability?
9. To your knowledge, are there relationships between the sustainability practices, as indicated in your heat diagrams, and sustainability policies you've listed in your [setting]? For example, have the policies driven or been barriers to practice or vice versa?
10. Can you think of other policies that are not focused on sustainability that have either helped support, or been barriers to the uptake of sustainability policy and practice in your [setting]? These could be other policies in your setting, or more broadly provincially, nationally, or internationally.

Section 3: Relations of Local Place to Policy and Practice

11. Do you think the local place - within this city, province, or other relevant scale, or local culture has influenced the approach to sustainability in your [setting]? If so, how? (*examples: local geography, FN and Métis cultures, newcomer perspectives, municipal policies...*)
12. (a) How would you describe the relationship between sustainability and Indigenous perspectives and priorities in your [setting]? When we use the word 'Indigenous' here, we are talking about "First Nations," "Métis," and "Inuit."
(b) Can you provide examples of this relationship?

Section 4: Moving Forward - Gaps & New Directions

13. To close our discussion, some questions about new directions: what more do you think your [setting] should or could be doing to address sustainability?
14. What resources and support do you think would be needed to address these gaps?
15. Is there anything else you would like to add in relation to sustainability at your [setting]?

Thank you for your participation in this study!

Appendix D: Heat Diagram Survey Paper Copy and Web Application

Identifier: _____



HEAT DIAGRAM SURVEY

1. Which of the definitions below best matches your concept of sustainability?

(Check all that apply)

- ☐ Protecting or concerned with the natural environment
- ☐ Interconnection between social, environmental, and economic concerns
- ☐ Meeting the needs of the present as well as future generations
- ☐ Based in Indigenous knowledge and worldviews
- ☐ A focus on a sustainable economy
- ☐ Other (Please specify): _____

2. Using the above definition that you have selected, in your view, how important is sustainability to your institution?

- ☐ Not at all ☐ To some extent ☐ To a moderate extent ☐ To a large extent ☐ I don't know

3. Using the above definition that you have selected, how committed are you to furthering sustainability?

- ☐ Not at all ☐ To some extent ☐ To a moderate extent ☐ To a large extent ☐ I don't know

4. What is your age?

- ☐ <15 ☐ 15-19 ☐ 20-24 ☐ 25-29 ☐ 30-34 ☐ 35-39 ☐ 40-44 ☐ 45-49
☐ 50-54 ☐ 55-59 ☐ 60-64 ☐ 65-69 ☐ 70-74 ☐ 75-79 ☐ 80-84 ☐ 85+

5. What is your gender identity?

- ☐ Female ☐ Male ☐ Another gender identity

6. Do you identify as *(Check all that apply)*:

- ☐ Indigenous ☐ Newcomer to Canada (in the last 10 years)
☐ Canadian ☐ Other (Please specify): _____
☐ Decline to answer

7. Do you work or study here?

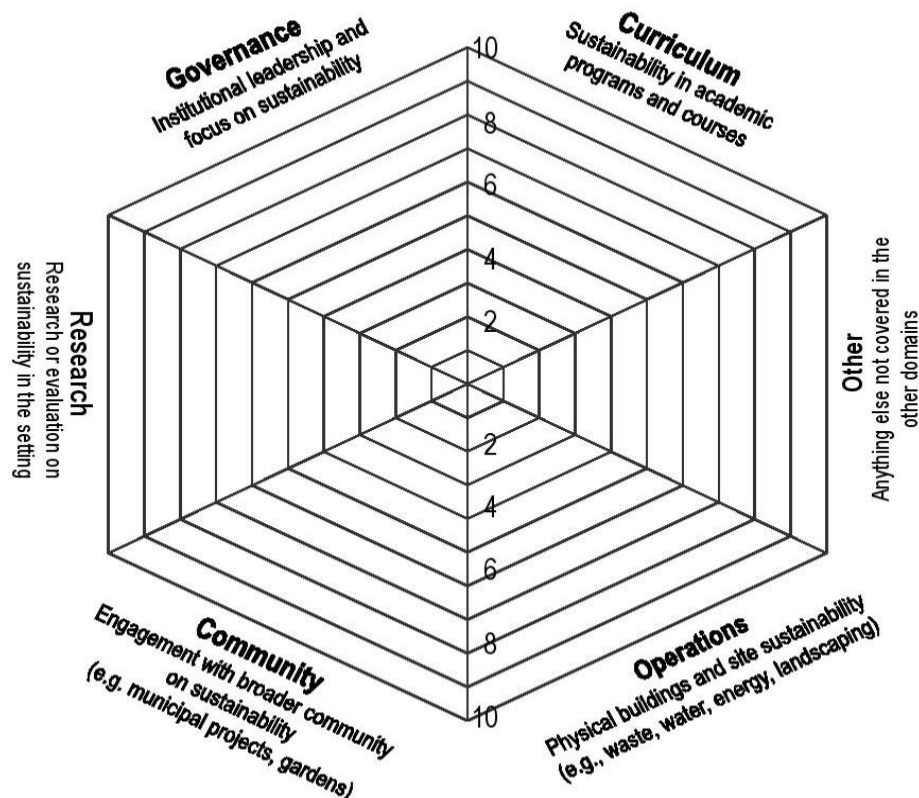
- ☐ Work ☐ Study
Job Title: _____ Program: _____
☐ Other (Please specify) _____

Heat Diagram: Sustainability Practice

Governance Rating:
Practice Example:

Research Rating:
Practice Example:

Community Rating:
Practice Example:



Curriculum Rating:
Practice Example:

Other Rating:
Practice Example:

Operations Rating:
Practice Example:

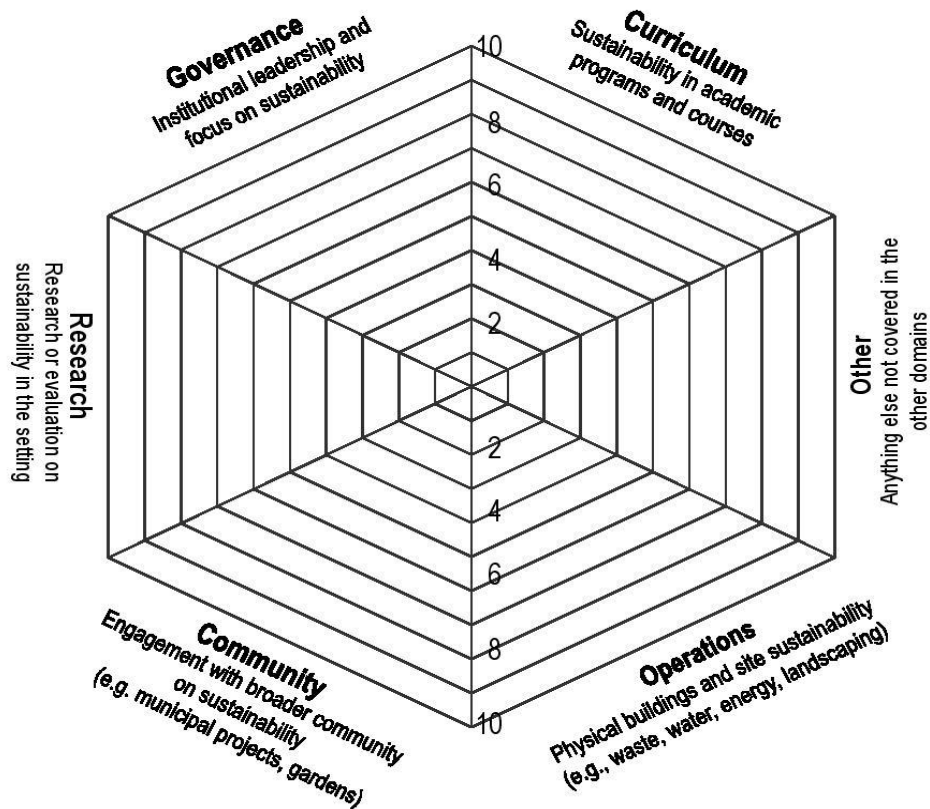
Sustainability Uptake Ratings Key:
 0-2 Little to no uptake
 3-5 Medium levels of uptake
 6-8 High levels of uptake
 9-10 Very high levels of uptake

Heat Diagram: Sustainability Policy

Governance Rating:
Policy Example:

Research Rating:
Policy Example:

Community Rating:
Policy Example:



Sustainability Uptake Ratings Key:
 0-2 Little to no uptake
 3-5 Medium levels of uptake
 6-8 High levels of uptake
 9-10 Very high levels of uptake

Curriculum Rating:
Policy Example:

Other Rating:
Policy Example:

Operations Rating:
Policy Example:



Heat Diagram Survey

SUSTAINABILITY POLICY

You are 50% done



6

Curriculum

4

Governance

6

Research

5

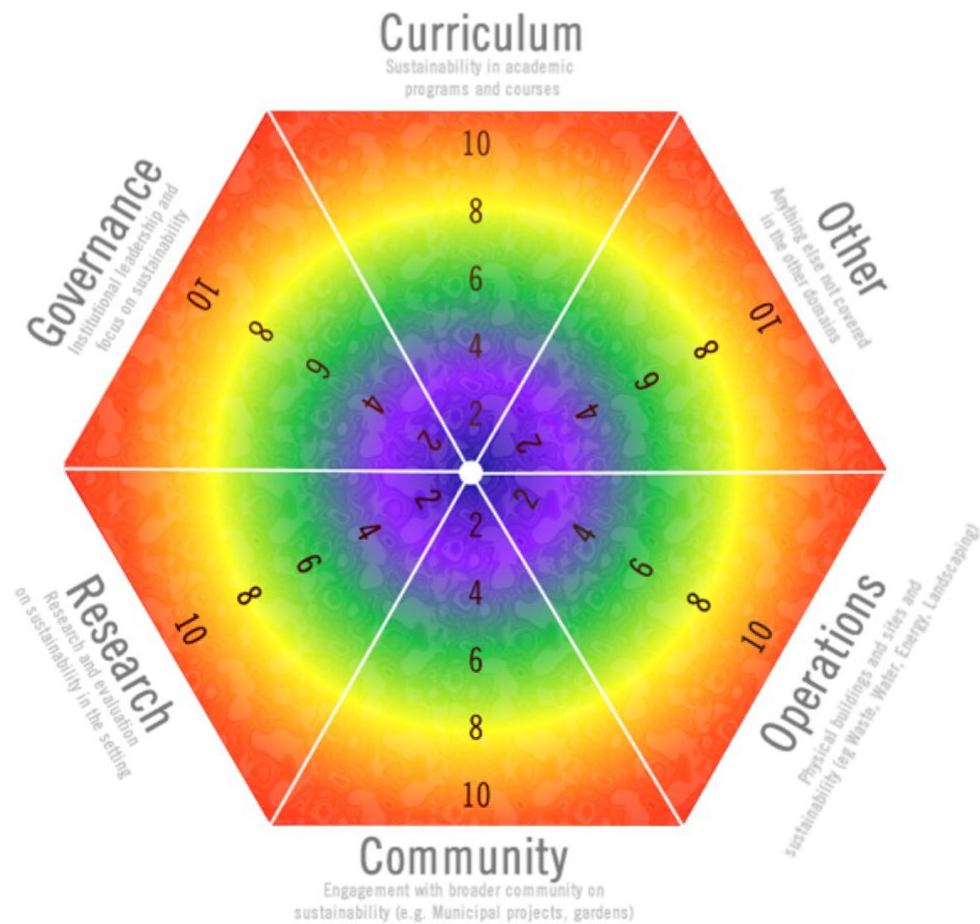
Community

4

Operations

3

Other



Previous



Next



Heat Diagram Survey

SUSTAINABILITY PRACTICE

You are 80% done



7

Curriculum

5

Governance

4

Research

2

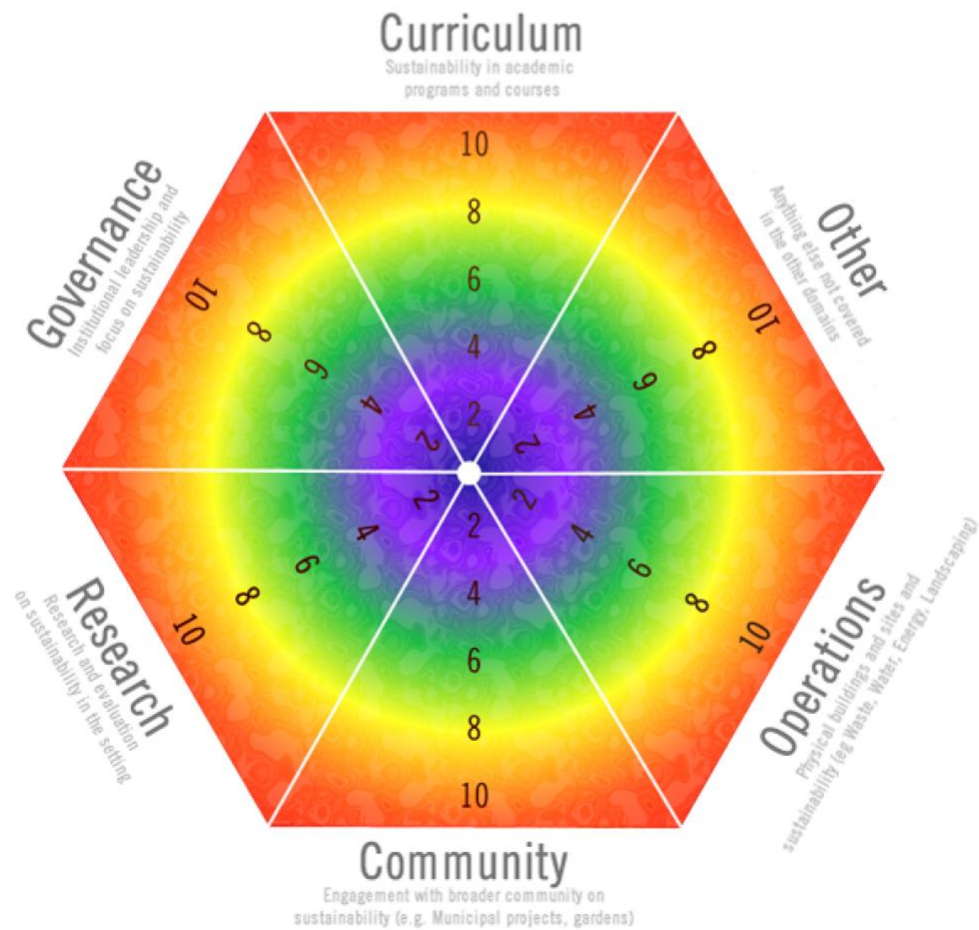
Community

8

Operations

5

Other



Previous



Next

Appendix E: Field Notes Protocol



SITE ANALYSIS FIELD NOTES PROTOCOL (K-12)

Researcher Name: _____

Date: _____

Location: _____

Key contacts identified during field research: _____

FILE NAMING CODE OR DATA TYPE	FIELD NOTES
E.g., PSE(MB)_I_UAd_01_[J M] Admin office at university 01/22/16, 2-3pm	<i>E.g., Interviewee seemed anxious about the interview, having arrived a few minutes late. They relaxed as we got going. Noticed ...[reflecting a bit on process and impressions during data collection]. Documents mentioned included... Other key contacts raised included...</i>

--	--

Appendix F: Photo Documentation Protocol



SITE ANALYSIS PHOTO DOCUMENTATION PROTOCOL

Please upload to data storage 2-5 photos in each category (may take more photos and then edit down for final upload, avoid two researchers taking photos in same category to minimize redundancy in photo's foci)

****Take photos of evidence of 'sustainability,' but also of 'unsustainability' in each category.**

Observation Notes: *Remember to make observations about location of photos in your field notes

Ethics: Avoid photos with identifiable faces as we don't have consent for photos

Photo Quality: Please pay attention to photo lighting, creativity, composition ('rule of thirds' - https://en.wikipedia.org/wiki/Rule_of_thirds). Take a variety of larger scale background shots, as well as detailed shots.

Photo Categories: (2-5 photos per category uploaded to data storage)

1-2 top indoor common spaces - school lobby at K-12, student union building at PSE
1-2 top outdoor common spaces - school grounds at K-12, atrium or bowl at PSE (inquire if not sure what a main outdoor common space is)
1-2 major natural spaces (if not already covered, on site or within view; trees on site, etc.)
Transportation (e.g., parking lots, bus loops, bikes, walkways)
Housing (e.g., student residences, neighbouring houses within view)
Food - pictures of main cafeteria, including types of food available, examples of other available food vendors on site or nearby)
Waste (e.g., recycling, compost, examples of lack thereof, facilities re energy, waster, etc.)
Affect/emotion associated with sustainability issues or uptake (e.g., posters with

doomsday messaging, motivating messages regarding particular practices, etc.)
Data (e.g., evidence posted in halls or elsewhere of ratings on sustainability assessments or certifications, metrics re energy use or water consumption in buildings, etc. if any)
Other (e.g., environment-related signage for clubs, activities, orientations to environment; what else?..)

Appendix G: Interview Consent Form



PARTNER ORGANIZATIONS

Association for the Advancement of
Sustainability in Higher Education
Canadian Centre for Policy
Alternatives
David Suzuki Foundation
Learning for a Sustainable Future
Sierra Youth Coalition

CONTRIBUTING ORGANIZATIONS

Assembly of First Nations
Canadian Federation of Students
Global Youth Education Network
Métis National Council
Sustainability Solutions Group

The Sustainability and Education Policy Network (SEPN) is a network of researchers and organizations advancing sustainability in education policy and practice across Canada. Based at the University of Saskatchewan, SEPN is the first large-scale, national-level research collaboration to collect and analyze comparable data at all levels of education.

This study asks about the degree to which a sustainability focus is included in practices and policies in your work or study setting and about the drivers and barriers to sustainability uptake.

By participating in this study, you will help us identify how education policy and practice can better support the transition to more environmentally sustainable societies.

Project Title: Sustainability and Education Policy Network: Leading Through Multi-Sector Learning, funded by Social Sciences and Humanities Research Council

Researcher: Dr. Marcia McKenzie, Principal Investigator, Department of Educational Foundations; Director, Sustainability Education Research Institute, University of Saskatchewan, 306-966-2319, marcia.mckenzie@usask.ca

Procedure:

- This study will explore your experiences of sustainability in your setting
- We will start by asking you some general questions about sustainability and then we will ask you about sustainability

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College of Education
University of Saskatchewan
Saskatoon, SK, Canada
S7N 0X1
(306)966.2319

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policies and initiatives happening in your setting. You will be asked to rate your institution's sustainability initiatives

- This interview should take approximately 1 hour
- We will be audio-recording and creating transcripts from the recordings

Potential Risks:

- There are no anticipated risks to you by participating in this research

Benefits:

- Interested participants will be provided with a summary of the research results
- There are several possible benefits to participating in this study including contributing to the research on sustainability policy and practice in Canadian schools; connecting your school, school division, ministry, or institution with a national network that is on the cutting edge of school sustainability; and showcasing and celebrating your school's sustainability successes while highlighting areas for improvement

Confidentiality:

- Your identity and responses will be kept confidential
- You will be assigned a pseudonym by the researchers, which will be used for any quotations we use from you when reporting results. We will keep a list of participants and their pseudonyms that will only be accessible to the researchers
- Consent forms will be stored separately from data collected to ensure there will be no way to identify individual participants. Any identifying information you put on paper today will be removed when we enter it into our database
- Whether you choose to participate or not will have no effect on your position (e.g., employment, class standing, access to services) or how you will be treated

Right to Withdraw:

- Your participation is voluntary. You can choose to answer only those questions that you are comfortable with or knowledgeable about
- You may withdraw from the research project for any reason without explanation or penalty of any sort. Your right to withdraw will apply until we have disseminated the research results. If you wish to withdraw from the study, you may contact Nicola Chopin, Project Manager, at (306) 966-2319 or nicola.chopin@usask.ca

Storage of Data:

- The results of this study will remain confidential. The data will be entered into a database and stored until 2028 at which point it will be destroyed

Questions or Concerns:

- If you have questions during this process, please ask the researchers
- If you have questions afterwards, please contact Nicola Chopin, Project Manager, at (306) 966-2319 or nicola.chopin@usask.ca
- This research project has been approved on ethical grounds by the University of Saskatchewan Research

Ethics Board. Any questions regarding your rights as a participant may be addressed to that committee through the Research Ethics Office ethics.office@usask.ca, (306) 966-2975, or toll free (888) 966-2975

Signed Consent

My signature below indicates that I have read and understand the description provided; I have had an opportunity to ask questions and my questions have been answered. I consent to participate in the research project. A copy of this Consent Form has been given to me for my records

_____ Name of Participant	_____ Signature	_____ Date
------------------------------	--------------------	---------------

- ☐ Yes, I would like to receive the results of this study
- ☐ Yes, I would like to receive updates on other SEPN research

If yes to either, please provide your email address: _____

_____ Researcher's Signature	_____ Date
---------------------------------	---------------



FEUILLE DE CONSENTEMENT À

LES ORGANISATIONS PARTENAIRES

Association for the
Advancement of Sustainability in Higher
Education
Le Centre canadien de
politiques alternatives
La Fondation David Suzuki
L'éducation au service de la
Terre
La Coalition jeunesse Sierra

LES ORGANISATIONS CONTRIBUTRICES

L'Assemblée des Premières
Nations
La Fédération canadienne
des étudiantes et étudiants
Global Youth Education
Network
Le Conseil national des Métis
Le Groupe Solutions
durables

Le SEP (Sustainability and Education Policy Network) est un réseau de chercheurs et d'organisations qui font avancer la durabilité dans la politique et la pratique en éducation dans l'ensemble du Canada. Basé à l'Université de la Saskatchewan, le SEP est la première collaboration de recherche nationale à grande échelle qui recueille et analyse des données comparables à tous les niveaux de l'éducation.

Cette étude examine le montant d'intérêt porté à la durabilité dans les pratiques et les politiques dans votre milieu de travail ou d'étude ainsi que les facteurs déterminants et les obstacles à l'adoption de la durabilité.

En participant à cette étude, vous nous aiderez à identifier comment la politique et la pratique en éducation peuvent mieux appuyer la transition vers des sociétés plus durables au niveau environnemental.

Titre du projet : Le Réseau de politiques en matière de durabilité et d'éducation ; chef de file par l'apprentissage multisectoriel, financé par le Conseil de recherches en sciences humaines du Canada

Chercheuse : Marcia McKenzie, PhD, chercheuse principale au département des fondations en éducation ; directrice de l'Institut de recherche en éducation sur la durabilité à l'Université de la Saskatchewan, 306-966-2319, marcia.mckenzie@usask.ca

Procédure :

- Cette étude examinera vos expériences en matière de durabilité dans votre milieu.
- Nous commencerons par vous poser des questions d'ordre général sur la durabilité et puis nous vous poserons des questions sur les politiques et les pratiques de durabilité qui sont utilisées dans votre milieu. Nous vous demanderons d'évaluer les initiatives en matière de durabilité de votre établissement.
- Cette entrevue devrait prendre environ une heure.
- Nous ferons des enregistrements audio et des transcriptions de ces enregistrements.

Risques potentiels :

- Vous ne courez pas de risques en participant à cette étude.

Avantages :

- Les participants intéressés recevront un résumé des résultats de cette étude.
- Il existe plusieurs avantages possibles en participant à cette étude y compris contribuer à la recherche sur la politique et la pratique en matière de durabilité dans les écoles canadiennes ; établir un lien entre votre école, votre commission scolaire, votre ministère ou votre établissement et un réseau national qui est à la fine pointe de la durabilité dans les écoles, présenter et célébrer les succès de votre école en matière de durabilité tout en soulignant les domaines qui ont besoin d'améliorations.

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Université de la
Saskatchewan
Saskatoon, SK, Canada
S7N 0X1
(306) 966.2319

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Council of Canada

Conseil de recherches
en sciences humaines
du Canada

Canada

Confidentialité :

- Votre identité et vos réponses resteront confidentielles.
- Les chercheurs vous attribueront un pseudonyme, qui sera utilisé pour toutes les citations que nous utiliserons dans le compte-rendu des résultats. Nous garderons une liste des participants et de leurs pseudonymes et seuls les chercheurs y auront accès.
- Les formulaires de consentement seront entreposés séparément des données recueillies pour assurer de ne pas pouvoir identifier les participants individuels. Tous les renseignements d'identification que vous noterez aujourd'hui seront retirés une fois entrés dans notre base de données.
- Que vous choisissiez ou non de participer n'aura aucun effet sur votre poste (ex : emploi, réputation, accès aux services) ni sur la manière dont vous serez traité.

Droit de vous retirer :

- Votre participation est volontaire. Vous pouvez choisir de répondre seulement aux questions qui vous mettent à l'aise ou sur lesquelles vous avez des connaissances.
- Vous pouvez vous retirer de ce projet de recherche pour n'importe quelle raison sans aucune explication et sans aucune pénalité. Le droit de vous retirer s'appliquera jusqu'à ce que nous ayons diffusé les résultats. Si vous désirez vous retirer de cette étude, veuillez contacter Nicola Chopin, la gestionnaire du projet, au (306) 966-2319 ou à nicola.chopin@usask.ca.

Entreposage des données :

- Les résultats de cette étude resteront confidentiels. Les données seront entrées dans une base de données et entreposées jusqu'en 2028 et ensuite elles seront détruites.

Questions ou préoccupations :

- Si vous avez des questions durant le processus, veuillez les poser à la chercheuse.
- Si vous avez des questions par la suite, veuillez contacter Nicola Chopin, la gestionnaire du projet au (306) 966-2319 ou à nicola.chopin@usask.ca.
- Ce projet de recherche a été approuvé pour des raisons éthiques par le Conseil d'éthique en recherche de l'Université de la Saskatchewan. Adressez toutes vos questions concernant vos droits en tant que participant(e) à ce comité par l'entremise du Research Ethics Office : ethics.office@usask.ca, au (306) 966-2975 ou appelez sans frais le 1 (888) 966-2975.
- Ce projet a été approuvé par le Comité d'éthique de la recherche de l'Université Laval : No d'approbation 2016-080 / 17-03-2016. Toute plainte ou critique sur ce projet de recherche pourra être adressée au Bureau de l'Ombudsman de l'Université Laval :
Pavillon Alphonse-Desjardins, bureau 3320
2325, rue de l'Université
Université Laval
Québec (Québec) G1V 0A6
Renseignements - Secrétariat : (418) 656-3081
Ligne sans frais : 1-866-323-2271
Courriel : info@ombudsman.ulaval.ca

Consentement signé

Ma signature ci-dessous indique que j'ai lu et que je comprends la description fournie ; j'ai eu l'occasion de poser des questions et j'ai obtenu des réponses à mes questions. Je consens à participer à ce projet de recherche. Une copie de ce formulaire de consentement m'a été remise pour mes dossiers.

_____	_____	_____
Nom du participant ou de la	Signature	Date
participante		

- ☐ Oui, j'aimerais recevoir les résultats de cette étude.
- ☐ Oui, j'aimerais recevoir des mises à jour sur d'autres recherches du SEPN.

Si c'est oui, veuillez fournir votre adresse électronique :

_____	_____
Signature de la chercheuse	Date



The Sustainability and Education Policy Network

Δ ϵ^a σ^b δ^c b ⌋ γ^δ η^ε

[illegible]

Δ b ṽ^{ᶜᵇ} ṅ^c b ḁ^ᶜ ḡ^ᶜ ḥ^c

ወደ ሌሎች ሀገራት
 በገባቸው
 በሀገር ውስጥ ለሰላም
 ለማስፈን ሲረዳቸው
 ለሀገር ውስጥ ለሰላም
 ለማስፈን ሲረዳቸው
 ለሀገር ውስጥ ለሰላም
 ለማስፈን ሲረዳቸው

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University of Saskatchewan
Saskatoon, SK, Canada
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◀^{9b} ⚡^{9c} ⚡^{9c} ⚡^{9c} ⚡^{9c} ⚡^{9c} ⚡^{9c} ▶

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Δ b i n Δ t^a Δ t^b Δ t^c:

- [illegible]



- [illegible]

- [illegible]

[illegible]

- [illegible]

[illegible][illegible]

Appendix H: Focus Group Consent Form



PARTNER ORGANIZATIONS

Association for the Advancement of
Sustainability in Higher Education
Canadian Centre for Policy
Alternatives
David Suzuki Foundation
Learning for a Sustainable Future
Sierra Youth Coalition

CONTRIBUTING ORGANIZATIONS

Assembly of First Nations
Canadian Federation of Students
Global Youth Education Network
Métis National Council
Sustainability Solutions Group

28 Campus Drive
College of Education
University of Saskatchewan
Saskatoon, SK, Canada
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(306)966.2319

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The Sustainability and Education Policy Network (SEPN) is a network of researchers and organizations advancing sustainability in education policy and practice across Canada. Based at the University of Saskatchewan, SEPN is the first large-scale, national-level research collaboration to collect and analyze comparable data at all levels of education.

This study asks about the degree to which a sustainability focus is included in practices and policies in your work or study setting and about the drivers and barriers to sustainability uptake.

By participating in this study, you will help us identify how education policy and practice can better support the transition to more environmentally sustainable societies.

Project Title: Sustainability and Education Policy Network:
Leading Through Multi-Sector Learning, funded by Social Sciences and Humanities Research Council

Researcher: Dr. Marcia McKenzie, Principal Investigator, Department of Educational Foundations; Director, Sustainability Education Research Institute, University of Saskatchewan, 306-966-2319, marcia.mckenzie@usask.ca

Procedure:

- Today, you will be participating in a focus group designed to explore *your* experience of sustainability in your setting
- We will start by asking you some general questions about sustainability and then we will ask you about sustainability policies and initiatives happening in your setting. You will be asked to rate your institution's sustainability initiatives
- The focus group should take approximately 1-1.5 hours
- We will be audio-recording and creating transcripts from the recordings
- We may also take photos of you during the focus group but you can decide if you want them included in our project. The photos will be used in our publications and presentations. Please indicate at the bottom of this form if you give SEPN permission to use photographs of you.
- There are no right or wrong answers so don't be afraid to speak up. You also do not have to answer all of the questions we ask

Potential Risks:

- There are no known or anticipated risks to you by participating in this research

Potential Benefits:

- Interested participants will be provided with a summary of the research results
- There are several possible benefits to participating in this study, including contributing to the research on sustainability policy and practice in Canadian schools; connecting your school, school division, ministry, or institution with a national network that is on the cutting edge of school sustainability; and showcasing and celebrating your school's sustainability successes while highlighting areas for improvement

Confidentiality:

- Your identity and responses will be kept confidential
- Consent forms will be stored separately from data collected to ensure there will be no way to identify individual participants. Any identifying information you put on paper today will be removed when we enter it into our database
- The researchers will undertake to safeguard the confidentiality of the discussion, but cannot guarantee that other members of the group will do so. Please respect the confidentiality of the other members of the group by not disclosing the opinions of others outside of this group, and be aware that others may not respect your confidentiality
- Whether you choose to participate or not will have no effect on your position (e.g., employment, class standing, access to services) or how you will be treated

Right to Withdraw:

- Your participation is voluntary. You can choose to answer only those questions that you are comfortable with or knowledgeable about
- You may withdraw from the focus group for any reason without explanation or penalty of any sort. If you wish to withdraw from the study once the focus group is complete, it may not be possible to identify which data are yours to withdraw your responses

Storage of Data:

- The results of this study will remain confidential. The data will be entered into a database and stored until 2028 at which point it will be destroyed

Questions or Concerns:

- If you have questions during the interview process, please ask the researchers
- If you have questions after the focus group has ended, please contact Nicola Chopin, Project Manager, at (306) 966-2319 or nicola.chopin@usask.ca
- This research project has been approved on ethical grounds by the University of Saskatchewan Research Ethics Board. Any questions regarding your rights as a participant may be addressed to that committee through the Research Ethics Office ethics.office@usask.ca, (306) 966-2975, or toll free (888) 966-2975

Signed Consent

My signature below indicates that I have read and understand the description provided; I have had an opportunity to ask questions and my questions have been answered. I consent to participate in the research project. A copy of this Consent Form has been given to me for my records.

Name of Participant

Signature

Date



LES ORGANISATIONS PARTENAIRES

Association for the
Advancement of Sustainability in
Higher Education
Le Centre canadien de
politiques alternatives
La Fondation David
Suzuki
L'éducation au service
de la Terre
La Coalition jeunesse
Sierra

LES ORGANISATIONS CONTRIBUTRICES

L'Assemblée des
Premières Nations
La Fédération
canadienne des étudiantes et
étudiants
Global Youth
Education Network
Le Conseil national des
Métis
Le Groupe Solutions
durables

28, promenade Campus
Collège d'éducation
Université de la
Saskatchewan
Saskatoon, SK, Canada
S7N 0X1
(306) 966.2319

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en sciences humaines
du Canada

Canada

FEUILLE DE CONSENTEMENT POUR LES GROUPES DE DISCUSSION

Le SEPN (Sustainability and Education Policy Network) est un réseau de chercheurs et d'organisations qui font avancer la durabilité dans la politique et la pratique en éducation dans l'ensemble du Canada. Basé à l'Université de la Saskatchewan, le SEPN est la première collaboration de recherche nationale à grande échelle qui recueille et analyse des données comparables à tous les niveaux de l'éducation.

Cette étude examine le montant d'intérêt porté à la durabilité dans les pratiques et les politiques dans votre milieu de travail ou d'étude ainsi que les facteurs déterminants et les obstacles à l'adoption de la durabilité.

En participant à cette étude, vous nous aiderez à identifier comment la politique et la pratique en éducation peuvent mieux appuyer la transition vers des sociétés plus durables au niveau environnemental.

Titre du projet : Le Réseau de politiques en matière de durabilité et d'éducation ; chef de file par l'apprentissage multisectoriel, financé par le Conseil de recherches en sciences humaines du Canada

Chercheuse : Marcia McKenzie, PhD, chercheuse principale au département des fondations en éducation ; directrice de l'Institut de recherche en éducation sur la durabilité à l'Université de la Saskatchewan, 306-966-2319, marcia.mckenzie@usask.ca

Procédure :

- Aujourd'hui, vous allez participer à un groupe de discussion visant à explorer votre expérience de la durabilité dans votre milieu.
- Nous commencerons par vous poser des questions d'ordre général sur la durabilité et puis nous vous poserons des questions sur les politiques et les pratiques de durabilité qui sont utilisées dans votre milieu. Nous vous demanderons d'évaluer les initiatives en matière de durabilité de votre établissement.
- Cette groupe de discussion devrait prendre environ 1-1.5 heures.
- Nous ferons des enregistrements audio et des transcriptions de ces enregistrements.
- Nous pouvons également prendre des photos de vous pendant le groupe de discussion, mais vous pouvez décider si vous voulez les inclure dans notre projet. Les photos seront utilisées dans nos publications et présentations. S'il vous plaît indiquer au bas de ce formulaire si vous donnez SEPN l'autorisation d'utiliser des photos de vous.
- Il n'y a pas de bonnes ou de mauvaises réponses alors ne soyez pas peur de parler. Vous aussi ne pas avoir à répondre à toutes les questions que nous posons.

Risques potentiels :

- Vous ne courez pas de risques en participant à cette étude.

Avantages :

- Les participants intéressés recevront un résumé des résultats de cette étude.
- Il existe plusieurs avantages possibles en participant à cette étude y compris contribuer à la recherche sur la politique et la pratique en matière de durabilité dans les écoles canadiennes ; établir un lien entre votre école, votre commission scolaire, votre ministère ou votre établissement et un réseau national qui est à la fine pointe de la durabilité dans les écoles, présenter et célébrer les succès de votre école en matière de durabilité tout en soulignant les domaines qui ont besoin d'améliorations.

Confidentialité :

- Votre identité et vos réponses resteront confidentielles.
- Les formulaires de consentement seront entreposés séparément des données recueillies pour assurer de ne pas pouvoir identifier les participants individuels. Tous les renseignements d'identification que vous noterez aujourd'hui seront retirés une fois entrés dans notre base de données.
- Les chercheurs entreprendront pour préserver la confidentialité de la discussion, mais ne peut pas garantir que d'autres les membres du groupe feront. S'il vous plaît respecter la confidentialité des autres membres du groupe en ne divulguant pas les opinions des autres à l'extérieur de ce groupe, et être conscient que d'autres peuvent ne pas respecter votre confidentialité.
- Que vous choisissiez ou non de participer n'aura aucun effet sur votre poste (ex : emploi, réputation, accès aux services) ni sur la manière dont vous serez traité.

Droit de vous retirer :

- Votre participation est volontaire. Vous pouvez choisir de répondre seulement aux questions qui vous mettent à l'aise ou sur lesquelles vous avez des connaissances.
- Vous pouvez vous retirer de ce projet de recherche pour n'importe quelle raison sans aucune explication et sans aucune pénalité. Le droit de vous retirer s'appliquera jusqu'à ce que nous ayons diffusé les résultats. Si vous désirez vous retirer de cette étude, veuillez contacter Nicola Chopin, la gestionnaire du projet, au (306) 966-2319 ou à nicola.chopin@usask.ca.

Entreposage des données :

- Les résultats de cette étude resteront confidentiels. Les données seront entrées dans une base de données et entreposées jusqu'en 2028 et ensuite elles seront détruites.

Questions ou préoccupations :

- Si vous avez des questions durant le processus, veuillez les poser à la chercheuse.
- Si vous avez des questions par la suite, veuillez contacter Nicola Chopin, la gestionnaire du projet au (306) 966-2319 ou à nicola.chopin@usask.ca.
- Ce projet de recherche a été approuvé pour des raisons éthiques par le Conseil d'éthique en recherche de l'Université de la Saskatchewan. Adressez toutes vos questions concernant vos droits en tant que participant(e) à ce comité par l'entremise du Research Ethics Office : ethics.office@usask.ca, au (306) 966-2975 ou appelez sans frais le 1 (888) 966-2975.
- Ce projet a été approuvé par le Comité d'éthique de la recherche de l'Université Laval : No d'approbation 2016-080 / 17-03-2016. Toute plainte ou critique sur ce projet de recherche pourra être adressée au Bureau de l'Ombudsman de l'Université Laval :

Pavillon Alphonse-Desjardins, bureau 3320
2325, rue de l'Université
Université Laval
Québec (Québec) G1V 0A6
Renseignements - Secrétariat : (418) 656-3081
Ligne sans frais : 1-866-323-2271
Courriel : info@ombudsman.ulaval.ca

Consentement signé

Ma signature ci-dessous indique que j'ai lu et que je comprends la description fournie ; j'ai eu l'occasion de poser des questions et j'ai obtenu des réponses à mes questions. Je consens à participer à ce projet de recherche. Une copie de ce formulaire de consentement m'a été remise pour mes dossiers.

_____ Nom du participant ou de la participante	_____ Signature	_____ Date
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Initiales Oui, les photos (images enregistrées visuellement / données) peut être pris de moi
pour la diffusion (*S'il vous plaît être conscient que même si les noms ne sont pas utilisés
vous pouvez être reconnaissable par des images visuelles présentées dans le cadre des
résultats*)

- ☐ Oui, j'aimerais recevoir les résultats de cette étude.
- ☐ Oui, j'aimerais recevoir des mises à jour sur d'autres recherches du SEPN.

Si c'est oui, veuillez fournir votre adresse électronique : _____

_____ Signature de la chercheuse	_____ Date
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28 Campus Drive
College of Education
University of Saskatchewan
Saskatoon, SK, Canada
S7N 0X1
(306)966.2319

www.sepn.ca?



Social Sciences and
Humanities Research
Council of Canada



www.sepn.ca



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Appendix I: REB Certificates



Behavioural Research Ethics
Certificate of Approval

PRINCIPAL INVESTIGATOR
Marcia McKenzie

DEPARTMENT
Educational Foundations

BEH#
15-312

INSTITUTION(S) WHERE RESEARCH WILL BE CONDUCTED
University of Saskatchewan, University of British Columbia, St. Francis Xavier University, Laval University, Wilfrid Laurier University
Ministries of Education in the provinces of: British Columbia, Manitoba, Ontario, Quebec and Nova Scotia

STUDENT RESEARCHER(S)
Kathleen Aikens, Dan Beveridge, Jada Koushik, Naomi Maina, Jaylene Murray, Adam Young

FUNDER(S)
SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL OF CANADA (SSHRC)

TITLE
The Sustainability and Education Policy Network: Leading Through Multi-Sector Learning

ORIGINAL REVIEW DATE
27-Oct-2015

APPROVAL ON
12-Nov-2015

APPROVAL OF:
Application for Behavioural Research Ethics Review
Assent for Minor to Participate in SEPN Study
Focus Group Consent Form
Interview Consent Form
Transcript Release Template
Recruitment Materials
Site Analysis Email and Phone Script Templates

EXPIRY DATE
11-Nov-2016

Full Board Meeting ☐

Delegated Review ☒

CERTIFICATION

The University of Saskatchewan Behavioural Research Ethics Board has reviewed the above-named research project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol or consent process or documents.

Any significant changes to your proposed method, or your consent and recruitment procedures should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

ONGOING REVIEW REQUIREMENTS

In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month prior to the current expiry date each year the study remains open, and upon study completion.

Please send all correspondence to:


Research Ethics Office
University of Saskatchewan
Box 5000 RPO University, 1602-110 Gymnasium Place
Saskatoon SK S7N 4J8
Telephone: (306) 966-2975 Fax: (306) 966-2069

- 2 -
PRINCIPAL INVESTIGATOR
Marcia McKenzie

DEPARTMENT
Educational Foundations

Beh #
15-312

Please refer to the following website for further instructions: <http://research.usask.ca/for-researchers/ethics/index.php>

 Vivian Ramsden, Chair
University of Saskatchewan
Behavioural Research Ethics Board

Please send all correspondence to:

Ethics Office
University of Saskatchewan
Room 306 Kirk Hall, 117 Science Place
Saskatoon SK S7N 5C8
Telephone: (306) 966-2084 Fax: (306) 966-2069



Certificate of Re-Approval

Ethics Number: 15-312

Principal Investigator: Marcia McKenzie

Department: Department of Educational Foundations

Locations Where Research

Activities are Conducted: University of British Columbia, University College of the North, University of Toronto, Laval University, Mount Allison University, Nunavut Arctic College, Canada
Ministries of Education in the provinces of: British Columbia, Manitoba, Ontario, Quebec, Brunswick, and Nunavut, Canada

Student(s): Jaylene Murray
Kathleen Aikens
Rachel Regier

Funder(s): Social Sciences and Humanities Research Council of Canada

Sponsor:

Title: The Sustainability and Education Policy Network: Leading Through Multi-Sector Learning

Approved On: 11/10/2018

Expiry Date: 10/10/2019

Acknowledgment Of: N/A

Review Type: Delegated Review

* This study, inclusive of all previously approved documents, has been re-approved until the expiry date noted above

CERTIFICATION

The University of Saskatchewan Behavioural Research Ethics Board (Beh-REB) is constituted and operates in accordance with the current version of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2 2014). The University of Saskatchewan Behavioural Research Ethics Board has reviewed the above-named project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this project, and for ensuring that the authorized project is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol or consent process or documents.

ONGOING REVIEW REQUIREMENTS

In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month prior to the current expiry date each year the project remains open, and upon project completion. Please refer to the following website for further instructions: <https://vpresearch.usask.ca/researchers/forms.php>.

Digitally Approved by Diane Martz, PhD
Interim Chair - Behavioural Research Ethics Board
University of Saskatchewan



Vice-rectorat à la recherche et à la création
Comité d'éthique de la recherche

Le 30 mars 2016

Madame Marcia McKenzie
Sustainability Education Research Institute
ED 1235, 28 Campus Drive
Saskatoon, SK, S7N 1X1

**Objet : Projet de recherche intitulé : The Sustainability and Education Policy Network : Leading Through Multi-Sector Learning
(Numéro de dossier : 2016-080 A-1 / 30-03-2016)**

Madame,

Le Comité d'éthique de la recherche en psychologie et en sciences de l'éducation a pris connaissance de votre demande d'amendement au projet cité en objet et vous remercie pour les précisions et le document fournis. Il comprend que cet amendement consiste à offrir une compensation, soit une carte-cadeau de 40 \$ aux participants qui prendront part à un groupe de discussion. Après étude, il considère que cet amendement respecte les principes éthiques de la recherche avec des êtres humains. Par conséquent, le Comité **approuve l'amendement** de ce projet **jusqu'au 1^{er} avril 2017**, comme mentionné lors de l'approbation initiale.

Mesures de suivi associées à l'émission de l'approbation du présent amendement :

1. Ajouter sur l'annonce de recrutement pour les groupes de discussion qu'une carte-cadeau de 40 \$ sera remise à chaque participant.
2. Transmettre l'annonce de recrutement modifiée ainsi que la dernière version fournie au Comité du formulaire de consentement pour les groupes de discussion chacun mentionnant nommément que le projet a été **approuvé par le Comité d'éthique de la recherche de l'Université Laval** et le numéro d'approbation (2016-080 A-1 / 30-03-2016), afin que ces documents soient déposés à votre dossier, à défaut de quoi le projet pourrait sembler ne pas avoir été approuvé par le Comité. Il est à noter qu'aucune autre modification ne peut dorénavant être apportée à ces documents, sauf si le projet doit être modifié en cours de réalisation. Le cas échéant, cette modification devra faire l'objet d'une demande d'amendement, préalablement à son application.

Maison Michael-John-Brophy
2241, chemin Sainte-Foy
Québec (Québec) G1V 0A6
CANADA

418 656-2131, poste 4506
Télécopieur : 418 656-2840
cer@vrc.ulaval.ca
www.cer.ulaval.ca

Au nom du Comité, je vous remercie d'avoir soumis votre demande d'approbation d'amendement à son attention. Je vous souhaite le plus grand succès dans la poursuite de vos travaux de recherche et je vous prie d'accepter, Madame, mes salutations distinguées.

Claude Goulet, président

Comité d'éthique de la recherche en psychologie et en sciences de l'éducation

Maison Michael-John-Brophy
2241, chemin Sainte-Foy
Québec (Québec) G1V 0A5
CANADA

418 656-2131, poste 4506
Télécopieur : 418 656-2840
cer@ccr.ulaval.ca
www.ccr.ulaval.ca

December 16, 2015

Dr. Marcia McKenzie/Ms. Kathleen Aikens/Ms. Naomi Maina
Ms. Jaylen Murray/Ms. Nicola Chopin
Sustainability Education Research Institute ED1235,
28 Campus Drive,
Saskatoon, SK, S7N 1X1

I am writing with respect to your recent submission to the University's Research Ethics Board (REB) (2015-063) "The sustainability and education policy network: leading through multi-sector learning". The REB has reviewed the documentation of this project and determined that it meets its ethical guidelines.

The REB requests that all researchers who submit projects for ethics review provide a brief report at the end of the year outlining their progress with data collection and commenting on any problems they may have encountered. Please complete Form 3: Annual Progress Report (or Completion Report) of Research Involving Human Subjects, and print, sign, and submit a copy to the Office of Research Services. This form is available on our website at www.mta.ca/reb. Researchers are also urged to contact REB immediately if any ethical issues arise during data collection.

Members of the board would like to thank you for your submission and wish you great success with your research.

Sincerely,

Dr. Odette Gould, Chair
Mount Allison University Research Ethics Board
Email: reb@mta.ca

Cc: Dr. Karen R. Grant, Provost and Vice-President, Academic and Research

Nunavummi Qaujisaqtulirijikkut / Nunavut Research Institute

Box 1720, Iqaluit, NU X0A 0H0 phone: (867) 979-7279 fax: (867) 979-7109 e-mail:
roshe.cote@arcticcollege.ca

SCIENTIFIC RESEARCH LICENSE

LICENSE # 01 014 16N-M-Amended

ISSUED TO: Marcie McKenzie
College of Education
University of Saskatchewan
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Saskatoon, SK
S7N 0X1 Canada

TEAM MEMBERS: N. Chopin, K. Aikens, J. Koushik, M. Lawlor, N. Maina, J. Murray, K. Riley, A. Young, K. S-Ishister

AFFILIATION: University of Saskatchewan

TITLE: The Sustainability and Education Policy Network (SEPN): Leading Through Multi-Sector Learning.

OBJECTIVES OF RESEARCH:

The Sustainability and Education Policy Network (SEPN) is a network of researchers and organizations advancing sustainability in education policy and practice across Canada. Based at the University of Saskatchewan, SEPN is the first large scale, national level research collaboration to collect and analyze comparable data at all levels of education. This study asks about the degree to which a sustainability focus is included in practices and policies in your work or study setting and about the drivers and barriers to sustainability uptake.

TERMS & CONDITIONS:**DATA COLLECTION IN NU:**

DATES: April 01, 2016-December 31, 2016

LOCATION: Iqaluit

Scientific Research License 01 014 16N-M-Amended expires on December 31, 2016

Issued at Iqaluit, NU on October 17, 2016

for

Mary Ellen Thomas
Science Advisor





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PROTOCOL REFERENCE #UCN 2015/16-EXT-02

March 9, 2016

Marcia McKenzie
College of Education
University of Saskatchewan
By email: Marcia.McKenzie@usask.ca

Dear Ms. McKenzie:

Re: Your research protocol titled 'The Sustainability and Education Policy Network: Leading through Multi-Sector Learning'

ETHICS APPROVAL

Approval Date: March 7, 2016

Expiry Date: March 7, 2017

We are writing to advise you that you, as Principal Investigator, have been granted annual ethics approval for the above-referenced research protocol through the UCN Research Ethics Board (REB) full review process.

Please contact us no fewer than six weeks before the expiry date of March 7, 2017 if you plan to involve human participants in your research past that date.

Any substantive changes in methodology or project design must be reviewed and approved by the UCN REB prior to implementation.

Adverse events (unanticipated negative consequences or results affecting participants) must be reported to the UCN REB Chair, as soon as possible and in any event, no more than 3 days subsequent to their occurrence.

Best wishes for the successful completion of your research.

Yours sincerely,

Abayomi Orededbe
UCN REB Chair

Regional Centres

Flin Flon, Churchill, Swan River, Pimicikamak (Cross Lake), Tataskweyak (Split Lake), Chemawawin (Easterville), Nisichawayasihk (Nelson House), Bunibonibee (Oxford House), Mathias Colomb (Pukatawagan), Misipawistik (Grand Rapids), Norway House, and St. Theresa Point

THE UNIVERSITY OF BRITISH COLUMBIA

To: Fallon , Gerald
Educational Studies
Date: April 5, 2016
Subject: H16-00073 (Amendments to Study)
Harmonized Review Project
Principal Investigator: Gerald Fallon

**This is an automatically generated email sent to the Principal Investigator and Primary Contact;
Please do not reply.**

The Post Approval Activity (PAA) for the application identified above was reviewed by the Research Ethics Board and has been approved.

For Renewals & Amendments:

Please click on the following link to view your approval certificate: [RISe](#)

- This link will take you to the RISe homepage whereby you must log on using your CWL login to access the above mentioned application
- Once you have gained access to the PAA Homepage, click the “View” link located next to the subheading, “PAA Approval Certificate” on the right side of the screen

Or you may take the following steps to view your approval certificate:

- Log on to RISe (<http://rise.ubc.ca/rise>) using your CWL login
- Locate and click the above application title under the “Human Ethics” tab then click on the "View" link located next to the subheading "Current Approval Certificate" on the study homepage

For Acknowledgements:

Please click on the link (<http://rise.ubc.ca/rise>) to view your approved acknowledgement

- This link will take you to the RISe homepage whereby you must log on using your CWL login to access the above mentioned application
- Locate and click the above application title under the “Human Ethics” tab, that will take you to the study homepage. Then select the "Post Approval Activities" tab on click on the name of approved acknowledgement to view the PAA homepage for that acknowledgement
- Once you have gained access to the PAA Homepage, click the “View” link located next to the subheading, “PAA Approval Certificate” on the right side of the screen

If you have any questions regarding this notification, please contact your REB Administrator.



UNIVERSITY OF
TORONTO

OFFICE OF THE VICE - PROVOST, FACULTY & ACADEMIC LIFE

February 18, 2016

Dear Jaylene Murray,

Re: The Sustainability and Education Policy Network: Leading Through Multi-Sector Learning

Please accept this letter as permission from the Office of the Vice President and Provost to access faculty, staff and students at the University of Toronto for the purpose of your research project as outlined in your proposal dated January 27, 2016.

If, during the course of your research, any significant changes occur to the information provided in your proposal, particularly in regards to your access to faculty, you will be responsible for notifying our office.

Thank you for completing the Confidentiality Agreement. We remind you that maintaining the confidentiality of faculty, students and staff throughout your project is of utmost importance and take this as your assurance that individuals used in your research will not be presented in any way which will allow for their identification and that information provided will only be used in the manner outlined in your proposal.

We wish you luck in undertaking your research.

Yours sincerely,

Sioban Nelson,
Vice-Provost, Faculty & Academic Life

cc: Office of the Vice-Provost Students & First Entry Divisions
Office of the Vice-President, Human Resources & Equity

/sr

Appendix J: Permission to Reproduce

Permission to reproduce chapter two of this manuscript was received on July 24, 2020 from the Content Editor of Emerald Publishing Ltd.

The article was originally published as:

Murray, J. (2018). Student-led action for sustainability in higher education: A literature review. *International Journal of Sustainability in Higher Education*, 19(6), 1095–1110.

<https://doi.org/10.1108/IJSHE-09-2017-0164>

The version included in this thesis is an edited version of the Submitted Manuscript Under Review (SMUR) that was originally submitted to the *International Journal of Sustainability in Higher Education*. Minor amendments have been made to ensure this chapter meets the specifications and formatting requirements as set out by the University of Saskatchewan's College of Graduate and Postdoctoral Studies.