THE ROLES OF POLICY, CONCEPTUALIZATIONS, AND PEDAGOGICAL METHODS IN TEACHING ABOUT SUSTAINABLE CONSUMPTION IN HIGHER EDUCATION: A MIXED METHODS STUDY

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ABSTRACT

This study sought to understand how sustainable consumption (SC) is taught within Canadian post-secondary education (PSE) institutions. More specifically, this study investigated how faculty define and conceptualize SC, both personally and within their classrooms, how they teach about SC, and how they came to teach about it in those ways. Connections between content and methods to international, national and/or institutional policies were also explored. This study was part of a larger project conducted by the Sustainability and Education Policy Network (SEPN). SEPN analyzes and compares sustainability policy development and enactment within kindergarten to grade 12 (K-12) schools and PSE institutions across Canada. The current study was situated within the national survey component of the SEPN project and utilized an embedded mixed methods design. Data included survey results, semi-structured interviews, and course materials provided by six faculty members. Data analysis stemmed from the philosophical viewpoint of constructivism. From this analysis, faculty members' definitions of SC were categorized as either *futures thinking* or *needs-based thinking*. Faculty members' conceptualizations of SC within their classrooms were categorized according to four overarching themes of: functional, sociological, psychological, and economic considerations. While faculty members utilized a variety of teaching methods, those that were also compatible with social learning theory were particularly useful in overcoming barriers. Teaching methods developed from a variety of factors unique to each individual but generally resulted from their education, research, reading, personal and work experiences, and relationships. Most participants appeared to be somewhat influenced by policies, though this influence was not always readily apparent. This study provides a useful addition to the literature as few studies assess faculty members' conceptualizations of SC and it also provides an in-depth overview of possible conceptualizations and teaching methods.

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DEDICATION

This thesis is dedicated to my father,
Bryan David Bray.

When I was discouraged, you assured, “you can do it kiddo!”

When I wanted to give up, you encouraged, “just take it one step at a time.”

When I overcame, you asserted, “I knew you could do it!”

When I finished, you exclaimed, “I’m so proud of you!”

Though we were separated by the distance of the heavens,

your words were and are always here with me,

propelling me forward to achieve my dreams.

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LIST OF ABBREVIATIONS

ACCC	Association of Canadian Community Colleges
DSP	Dominant Social Paradigm
EF	Ecological Footprint
EFA	Ecological Footprint Analysis
EfS	Education for Sustainability
ESC	Education for Sustainable Consumption
EE	Environmental Education
K-12	Kindergarten to grade 12
MEA	Millennium Ecosystem Assessment
NEP	New Ecological Paradigm
OECD	Organization for Economic Cooperation and Development
PSE	Post-Secondary Education
PBL	Problem-Based Learning
RCE	Regional Center of Expertise
SLT	Social Learning Theory
SEPN	Sustainability and Education Policy Network
SC	Sustainable Consumption
SCP	Sustainable Consumption and Production
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNEP	United Nations Environment Programme

CHAPTER 1: INTRODUCTION AND OVERVIEW

> Institutions of higher education have a responsibility to develop curriculum, and teach and train students on the principles of sustainability. (Brody & Ryu, 2006, p. 181)

Increasing evidence indicates that nations are consuming resources at rates which will affect future generations (see IPCC, 2007; Rockström et al., 2009). Transforming how we consume has become not merely advisable but essential. Post-secondary education (PSE)[1] institutions, as sites of training for young professionals, are particularly positioned to aid in reimagining possibilities. New solutions, however, necessitate holistic understandings (Tilbury, 2009), but sustainable consumption (SC) is often reduced to conceptualizations that delimit conversations and hinder liberating dialogue. The term, SC, is often defined as "doing more with less" (UNEP, 2013, n.p.), which usually includes reducing amounts consumed, such as clothes or electricity, or buying more environmentally friendly products, such as local produce. While not inherently inaccurate, these conceptualizations may not allow an in-depth conversation about why we consume in the first place. Understanding the variegated reasons for consumption may enable a reshaping of environmentally destructive habits.

Given the transformative potential of educational institutions, a missing link exists within educational research examining how this potential can be mobilized within the classroom for education for sustainable consumption (ESC), which is one component of education for sustainability (EfS).[2] This mixed methods study addresses this gap by assessing how SC is conceptualized by faculty, personally and within their teaching, and subsequent methods of instruction. Appeals for education about SC have also resulted in numerous international, national, and institutional sustainability policies and declarations. Where possible, this study assesses whether and how these policies have affected classroom practices in PSE institutions in Canada. Policies have the potential to enable sustaining practices, especially within a PSE setting

[1] PSE is an abbreviation for higher education often used in Canada. The terms "PSE" and "higher education" are used interchangeably throughout this thesis.

[2] The term ESC is utilized in this paper when the author and/or the sources cited are specifically referring to education for sustainable consumption. As little research has been conducted about ESC particularly, reference is often made to EfS. It is assumed that ESC, one component of EfS, is also compatible with approaches for EfS.

where students and faculty often only work or study at a particular university for a relatively short time period. An embedded design was utilized in which quantitative data from a national survey were embedded within the current qualitative study. The quantitative data broadly analyzed and compared sustainability policies and practices within PSE institutions and kindergarten to grade 12 (K-12) schools. The qualitative and quantitative strands were embedded for the purpose of sampling (Bryman, 2006), answering different but related research questions (Bryman, 2006), and providing further depth (Greene, Caracelli, & Graham, 1989) to the data. This thesis primarily focuses on the qualitative strand of this research.

This introduction first defines SC and overviews considerations pointing to the importance of addressing SC within education, providing a background for the study. The theoretical lens utilized to examine how SC is incorporated into PSE institutions is then briefly introduced. Finally, policy initiatives that support the urgency of this discussion are included. In subsequent sections of the thesis, the existing research literature on this topic is summarized, and the proposed methodology and methods are outlined. The study results are then presented and discussed. This thesis concludes by identifying the possible implications of the proposed study for future research and practice.

1.1 Sustainable Consumption Conversation: Opportunities for Education

1.1.1 Understanding consumption. Consumption, for the purpose of this thesis, is defined as the individual and organizational (e.g., PSE institutions, corporations) purchasing of products and utilization of natural resources for commercial and life-sustaining purposes, and includes the structural processes affecting the production-consumption system (Barth, Adomßent, Fischer, Richter, & Rieckmann, 2014). Human existence is dependent on consumption, therefore, consumption is not presented as inherently condemnatory, but education that interrogates the processes, entities, and histories implicated in unsustainable consumption is advocated.

The reasons for escalating consumption levels are partially illuminated through historical understandings. For instance, the industrial revolution of the 18th and 19th centuries initiated a revolutionary departure from previous generations, enabling *common* individuals to consume, not only to satisfy basic human needs, but also for luxury, leisure, and entertainment (van Koppen, 2009). This transition altered *why* the majority of individuals consume, at least within developed nations. Against this backdrop, "patterns of consumption have [had] a major influence on the institutions, discourses, and practices in society" that van Koppen (2009) refers to as "consumerism" (p. 369).

While van Koppen (2009) does not specifically consider the negative environmental effects of consumption, it is important to examine this interconnectivity. According to the United Nations Environment Programme (UNEP) (n.d.), current levels of consumption are exceeding the planet's "regenerative capacity," meaning that we are consuming more natural resources and energy than the planet can replenish (UN News Centre, 2010, n.p.). Rates of overconsumption are also contributing to a loss of biodiversity (UNEP, 2013). For example, scientists are reporting extinction rates of birds, mammals, and amphibians at rates 100 times, and possibly up to 1,000 times, those found in the preindustrial era (UNEP, 2013). Potentiality to stabilize consumption rates exists when considering that individuals in developing and developed countries are consuming more than they need (UNEP, 2013). The question is not whether consumption levels are unsustainable, but how do we engender transformation?

1.1.2 Why education, conceptualizations, and methods? Altering the entrenched attitudes and beliefs that have led to current, destructive consumptive practices requires innovation, which often comes from education. Indeed, Sandri (2013) argued that, "innovation is at the heart of moving societies towards more sustainable paths" (p. 765). Education has the potential to ignite innovation and critical thinking (see Tilbury, 2009). Leihy and Salazar (2011) found, however, that universities often only focus on sustainability within operations, not teaching or learning. Similarly, Vaughter, Wright, McKenzie, and Lidstone (2013) found that

most comparative research examining sustainability within PSE institutions mainly considers campus operations and governance. Innovations in facilities and campus operations have the potential to "teach" students, faculty, and staff about sustainability as sites of informal learning, but formal learning is also essential. Indeed, the Organization for Economic Co-operation and Development (OECD) (2008) wrote that, "Education is one of the most powerful tools for providing the appropriate skills and competencies to become sustainable consumers" (p. 25). Education enables consideration of new possibilities, which could lead to a much needed paradigm shift. Thomas Kuhn (1962) wrote that when working within normal science, or the normal way of conducting affairs, "new sorts of phenomena…those that will not fit the box are often not seen at all" (p. 24). Education is necessary to aid our discovery of that which we cannot see. Careful consideration of conceptualizations and teaching methods are necessary to create educational opportunities for transformation.

As EfS often transcends disciplines (Borg, Gericke, Höglund, & Bergman, 2013), it is essential to examine differential disciplinary understandings. Indeed, Christie and colleagues (2015) argued that, "Academics who understand sustainability in a limited way may teach it in a limited way" (p. 658). SC, an element of sustainability, also requires comprehensive understanding. A narrow comprehension of SC, may result in inadequate representations that hinder liberating conversations. Despite this necessity, few studies have examined faculty member's conceptions of EfS in higher education (Cotton, Warren, Maiboroda, & Bailey, 2007).

While students receive information from multiple sources, their knowledge is often structured by formal instruction, emphasizing the importance of holistic representations within the classroom. Indeed, Buenstorf and Cordes (2008) argued that, "The acquisition of consumption knowledge is shaped by the information an agent is exposed to," which highlights the importance of comprehensive representations (p. 648). In a document entitled, "Here and Now! Education for Sustainable Consumption," the UNEP (2010, n.p.) detailed recommendations and guidelines for ESC. According to this document, the goal of ESC is to

provide individuals and social groups the knowledge, values, and skills necessary to enact more sustainable behaviors:

> The objective is to ensure that the basic needs of the global community are met, quality of life for all are improved, inefficient use of resources and environmental degradation are avoided. ESC is therefore about providing citizens with the appropriate information and knowledge on the environmental and social impacts of their daily choices, as well as workable solutions and alternatives. ESC integrates fundamental rights and freedoms including consumers' rights, and aims at empowering citizens for them to participate in public debate and economy in an informed and ethical way. (UNEP, 2010, n.p.)

This document goes on to argue that due to the holistic nature of the topic, "ESC needs to develop integrated approaches that reflect the whole characteristic of life in general" (UNEP, 2010, n.p.). Interrogating the processes that facilitate and encourage consumption can provide emancipatory potential. EfS, and ESC by association, are not entirely dependent on content, methods of delivery can also affect knowledge acquisition and enactment.

Approaches to teaching EfS may be more influential than the actual content presented (Álvarez-Suárez, Vega-Marcote, & Mira, 2014). Inappropriate teaching methods may even exacerbate environmental issues. Hicks and Bord (2001, p. 423) argued that faculty, "may make things worse for students by teaching about global issues [such as sustainability] as if this were solely a cognitive endeavor," instead they argued that equal attention should be "paid to the cognitive, affective, existential, and action components of learning." Additionally, Sund and Wickman (2011) argued that, "It is not sufficient to merely integrate more subject content matter – it may also be necessary to adapt to a changed teaching approach, which also develops content in the teaching process" (p. 625). Sund and Wickman (2011) found that teachers communicate value-laden 'meta-messages' through the teaching process, which they term socialization content. For example, if students are only presented with scientific facts about environmental issues, the "value-laden" message to students is that addressing environmental issues is about learning the *right* information (Sund & Wickman, 2011, p. 626) as opposed to taking action. Similarly, Montuori (2012) argued that PSE institutions should construct shared learning

environments where knowledge is created rather than simply transferred from professor to student. Social learning theory (SLT) and practice theory have been proposed as theoretical frameworks to guide methods of teaching about SC (McGregor, 2009; van Koppen, 2009), which are elaborated on in the literature review. This study assesses if methods associated with social learning are utilized by participants.

1.2 Consumption in Sustainability Policy

International and national policies are uniquely positioned to enact changes within higher education institutions, whose population is often transient—students and faculty will come and go, and it is often the policies that will endure. For the purpose of this paper, policy is understood as a non-linear continuous cycle involving the contexts of influence, text production, and practice (Bowe, Ball, & Gold, 1992). The contexts of influence include external factors (e.g., policy actors, networks, geography, etc.) that may influence policy development. The contexts of text production include the actual policy text itself. The contexts of practice include factors affecting the enactment of a policy (e.g., power dynamics, community context, etc.). With this understanding, policy is developed not merely for insertion into an educational institution but is part of a process of "interpretation and recontextualisation" as texts are "translated into action and the abstraction of policy ideas into contextualized practices" (Ball, Maguire, & Braun, 2012, p. 3).

1.2.1 International. The importance of reducing consumption has been affirmed in international sustainability policy, initiatives, and declarations, both in education specifically and within governments more broadly. The following section provides a brief historical overview of these developments.

Calder and Clugston (2003) wrote that the signing of the Stockholm Declaration in 1972 began the integration process of sustainability into higher education. That commitment was strengthened further with the signing of the Talloires Declaration (1990) and Halifax Declaration (1991), where university administrators committed to support sustainability in higher education

institutions (International Institute for Sustainable Development, n.d.; Wright, 2002). Additionally, in 1992, the United Nations Conference on Environment and Development, created Agenda 21 (Bennett & Collins, 2009). Chapter thirty-six of that document highlighted the importance of EfS (Ellis & Weekes, 2008). While participation was voluntary, Canada did commit to the resolutions within Agenda 21 (The Post Sustainability Institute, n.d.). These commitments were affirmed again at the Earth Summit in 2012 (UN Web Services Selection, 2012).

In 2002, the World Summit on Sustainable Development created the Johannesburg Plan of Implementation, which urged governments to reduce unsustainable levels of production and consumption (Bennett & Collins, 2009). This document asked governments to create a ten-year plan to implement policies and programs to reduce consumption levels (Bennett & Collins, 2009). Canada agreed to this resolution as well (Environment Canada, 2012). In 2005, Canada also committed to the UN Decade of Education for Sustainable Development (Canada Council for the Arts, n.d.). Multiple international documents have proclaimed the importance of reducing consumption levels and educating about sustainable development, of which SC is one component.

1.2.2 National. These international commitments have also resulted in national responses within Canada. In 2007, the Association of Canadian Community Colleges (ACCC) held a symposium on environmental sustainability, which culminated in the creation of the Pan Canadian Protocol for Sustainability (Colleges and Institutes Canada, n.d.). Signatories to this document agreed to provide leadership within their institutions and communities for sustainability (Colleges and Institutes Canada, n.d.). Additionally, in 2008 six university presidents from British Columbia signed the University and College Presidents' Climate Change Statement of Action for Canada to pledge their commitment to leadership in the creation of sustainable campuses and communities (University and College Presidents' Climate Change Statement of Action for Canada, n.d.). Since this document's inception, additional university

presidents throughout Canada have also become signatories (University and College Presidents' Climate Change Statement of Action for Canada, n.d.). In 2008, the Federal Sustainable Development Act created a sustainable development office in the Department of Environment and mandated the release of a Federal Development Strategy every three years with goals and targets towards sustainable development (Minister of Justice, 2013). The first strategy, published in 2010, included commitments to achieving sustainable consumption and production (SCP) (Environment Canada, 2010). The most recent strategy, published in 2013, includes commitments to policy development about sustainable production and consumption (Environment Canada, 2013). Nationally, Canada has begun to enact policies to reduce levels of consumption at the university and governmental levels.

This study addresses, where possible, whether international, national, or institutional policies have affected teaching practices or content conceptualizations regarding SC. Winter and Cotton (2012) suggested that within institutions of higher education the presence of sustainability initiatives might result in faculties' perception of sustainability as relevant or irrelevant for their classrooms. This position, as well as the lack of research examining conceptualizations and teaching methods about SC, led to the development of the research questions for this study, which are outlined in the following section.

1.3 Research Questions

Most studies examining EfS within PSE institutions focus on sustainability generally, not consumption specifically. This thesis specifically focuses on how a particular topic of EfS, sustainable consumption, is conceptualized and taught within PSE institutions. In particular, the research asks the following questions:

- How do faculty who teach about SC at six different Canadian PSE institutions conceptualize SC themselves and within their classroom?
    - How did they come to conceptualize SC in that way?

- How do faculty who teach about SC at six different Canadian PSE institutions teach about SC?
    - How did they come to teach about SC in that way?
- Are there links between conceptualizations and/or teaching methods for SC and education policy?
    - Do policies affect the type of content taught?
    - Do policies affect the way content is taught?

This chapter has overviewed the contexts and focus for the current study. The following chapter discusses prior research, which informed the research questions and focus of this thesis.

CHAPTER 2: REVIEWING THE LITERATURE

This chapter begins by discussing various conceptualizations of SC. Practice and social learning theories are also defined in accordance to their use within this study. Previous studies about SC within PSE institutions are then summarized, highlighting gaps and opportunities for future research. Finally, the theoretical implications for this study's research methods are overviewed. While the following overview of the literature is not exhaustive, it does discuss the literature that informed the research design for this thesis.

2.1 Sustainable Consumption: What Is It and How Do We Teach about It?

After reviewing the literature, Reisch (1998) found about twenty-four different definitions of SC in existing research (as cited in Connolly & Prothero, 2003). The current study, however, is not concerned as much with specific definitions but with conceptualizations. Despite the expressed necessity for EfS, mentioned in chapter one, Wals and Blewitt (2010) reported a slow integration of EfS into university curriculum (as cited in Christie, Miller, Cooke, & White, 2015). Thomas and Nicita (2002) argued that the difficulty of defining sustainability could present one reason for its laggard inclusion. Indeed, previous studies have found that faculty may have difficulties understanding the complex concept of sustainability (Cotton et al., 2007). Additionally, conversations about conceptualizing and implementing ESC, which is often a component of EfS, within education have only received minor consideration (Adomßent et al., 2014). Thus ESC, one piece of EfS, may suffer from being situated under a larger conceptual complexity. Nevertheless, extensive theorizing about SC among sociological and psychological theorists is helpful.

A review of the literature suggested four major categories of consumption discussed in existing research: functional, sociological, psychological, and economic (Carida, 2011). The following subsections will summarize these conceptualizations. While the descriptions are not exhaustive and overlap at times, they will serve as a heuristic device for understanding the

multitude of interpretations faculty may utilize to understand and teach about what it means to consume.

2.1.1 Functional. The first orientation of SC, the functional role, describes consumption that satisfies innate human needs, such as food, water, and shelter (Carida, 2011). This categorization also addresses healthy food consumption. A wholesome diet, especially one that includes local produce, more plant-based, rather than animal-based products, and does not include processed foods or eating more than one's daily energy requirements has environmental and human benefits in reducing greenhouse gas emissions, relieving pressure on biodiversity, and improving the overall health of the individual (Friel, Barosh, & Lawrence, 2013). After basic needs are met, more existential concerns arise.

2.1.2 Sociological. The second orientation of SC considers sociological implications. A sociological perspective of consumption focuses on the purpose of consumption "in…[our] lives, both individually and as members of social groups" (Schaefer & Crane, 2005, p. 83). This section summarizes various sociological considerations through various subsections, beginning with institutional and ideological considerations. Influences from power differentials, social learning, and discourses are then explicated.

2.1.2.1 Institutional. Consumptive behaviors are influenced by institutional considerations, such as income, social class, gender norms, and diversity (Carida, 2011; Johnston & Taylor, 2008; Mont & Plepys, 2008; Räthzel & Uzzell, 2009; Schaefer & Crane, 2005). This perspective is enlightening when considering barriers, such as systemic discrimination, and facilitators, such as lifestyles. For example, because environmentally-friendly products are often more expensive, certain types of people, mainly those with disposable incomes, are better positioned to purchase them. Additionally, people of the same social class often "share similar values, lifestyles and interests" (Mont & Plepys, 2008, p. 534). Similar views may support the continuation of certain consumptive patterns. Income and social class are just two institutional variables that are inextricably linked to consumptive patterns (Crane, 2010). ESC from an

institutional perspective, adds a layer of depth by enabling consideration of why we consume and the disproportionate difficulties of achieving SC.

2.1.2.2 Ideological. Consumption is also an iterative cultural practice. According to Mick (1986), "the consumer world is a web of meanings among consumers and marketers woven from signs and symbols ensconced in their cultural space and time" (p. 196). Reflecting on cultural diversity, Holt (1995) argued that various "consumption object[s]…[are] typically consumed in a variety of ways by different groups of consumers" (p. 1). While various groups of people may utilize objects of consumption differentially, consumption may also formulate culture. Wallendorf and Arnould (1991) found that Americans utilize consumption "to construct culture," especially through the feasting rituals associated with Thanksgiving Day where an abundance of food is associated with thankfulness and satisfaction (p. 29). Similarly, cultural traditions may also construct practices by determining "the…activities and communications [that] are acceptable at any given time and location" (Buenstorf & Cordes, 2008, p. 648). The connection between culture and consumption seems to operate in a cyclical process.

Cultural practices also carry various symbolic meanings. From a sociological perspective, commodities, purchased within a particular culture, become "symbols of meaning" (Mont & Plepys, 2008, p. 533). These products, as "vessels of meaning" (Holt, 1995, p. 1), communicate various messages about status and taste (Bourdieu, 1984; Veblen 1953), self-identities, and social relationships (Douglas & Isherwood, 1996). Educating students about the sign-value (Connolly & Prothero, 2003; Kjellberg, 2008), or the meaning connected to various signs and symbols of consumption, aids in illuminating another role of consumption. These meanings and interpretations of meanings are embedded in power. Indeed, Spangenberg and colleagues (2010) argued that, "The individuals and institutions that control the mediation of symbolic resources potentially hold significant sway over individual consumers and organizations, and their spending patterns" (p. 1489). This leads to a discussion of power.

2.1.2.3 Power. Approaching consumption from the perspective of power involves acknowledging that individual actions are often constrained, shaped, and influenced by other more powerful actors. Scholars, such as Baran and Sweezy, Galbraith, Packard, and Veblen, have even suggested that consumption is the result of "manipulation and coercion by large companies" (van Koppen, 2009, p. 372). Whether or not powerful organizations are implicated in manipulation, it is evident that individual effort is not sufficient to attain SC. For example, while around 90% of energy consumption takes place during use, this amount is 90% determined in the design stage (Spangenberg, Fuad-Luke, & Blincoe, 2010). Often, even if individuals consume less, the full impact of their actions is determined by others, in this case, the company designing energy producing products. Similarly, consumer decisions are often restrained by available resources (van Koppen, 2009). For example, the ability to purchase a solar panel for one's home hinges, partly, on the availability of solar panels for purchase and self-installation (van Koppen, 2009). Actions, such as buying a solar panel, are contingent on available opportunities. Indeed, Pike and colleagues (2003) found an increased willingness among PSE students to recycle when given the opportunity (e.g., recycling bins). Understanding underlying influences of power further illuminates why we might consume.

2.1.2.4 Social learning. Considerations of power illustrate that individual decisions are not sufficient to combat consumption patterns. Likewise, individual learning alone is insufficient, as consumptive behavior is also shaped by "social learning within populations" (Buenstorf & Cordes, 2008, p. 654). Social learning may even influence consumptive behaviors more than individual learning. For example, Buenstorf and Cordes (2008) found that, "sustainable consumption patterns can spread within a population via processes of social learning even though a strong individual learning bias may favor environmentally harmful products" (p. 646). A large proportion of information received about consumptive decisions is received from our social networks (Buenstorf & Cordes, 2008; Crane, 2010). Within these networks a variety of social interactions, "such as conformism, altruism, or jealousy towards peers' behavior" can

affect current and past consumption decisions (Binder & Pesaran, 2001, p. 36). Understanding and educating about these social influences is essential to curb consumption levels.

2.1.2.5 Discourse. Within a social context, consumers are met with various competing discourses regarding SC (Crane, 2010). Scherer and Attig (1983) found that some discourses are harmful to SC (e.g., the planet's resources only exist for societal consumption) (as cited in Trauger et al., 2003). Other discourses are overly general or narrow, rendering them ineffectual for practical change. One example is "health" discourses, where health is seen as a universal good (overly general), and the emphasis is often on "getting pills into bodies" (overly narrow) without a wider consideration of the social and economic systems that cause diseases (King, 2013, p. 97). Similarly, overly general phrases, such as "saving the planet," do not correspond to how individuals personally experience and value the environment in their daily lives (Crane, 2010, p. 377). To combat such discourses, Connolly and Prothero (2003) argued that achieving SC requires changing our current methods of discourse, which have failed to explore how current discourses perpetuate overconsumption. Education examining these discourses may enable liberating dialogue. Additionally, thoughts often influence discourse. Adomßent and colleagues (2014) stated that, "It is apparent that existing ways of thinking (and acting) need to be overcome in order to enter a process of transition in terms of sustainable development" (p. 1). Education has the potential to create innovative methods of speaking and thinking SC.

2.1.3 Psychological. A third possible orientation of consumption considers psychological influences. This perspective examines the meanings of consumption for the individual (Carida, 2011), which are often affected by sociological influences. This section is organized around subsections that will address several psychological considerations beginning with an overview of connections between identity and self-image. Then the connection between emotions and consumption is examined. Links between status competition and consumption are then considered. Finally, consumers, as active agents are examined through the lens of consumer

choice, where they make decisions about how to consume, which may result in resistance through activism and is always related to citizenship.

2.1.3.1 Identity and self-image. The studies linking consumption to identity are numerous (e.g., Carida, 2011; Connolly & Prothero, 2003; Mont & Plepys, 2008; Schaefer & Crane, 2005; Spangenberg et al., 2010). For some researchers, consumption is directly connected to identity. Indeed, Belk (1988) argued that, "we are what we have and this may be the most basic and powerful fact of consumer behavior" (p. 160). Other researchers have found that consumption does not determine identity, but the two are inextricably connected. For example, Spangenberg and colleagues (2010) argued that, "products do not create identity, but they are indispensable tools to express it" (p. 1489). Additionally, Bourdieu considered how consumption might reflect a desire to distinguish oneself apart from others to display their own astute taste (Crane, 2010). Likewise, Spangenberg and colleagues (2010) argued that the symbolic function of such distinctions in the creation of identities are "important drivers of current consumption" (p. 1488). Distancing ourselves apart from "others," illustrating what we are and what we are not, may encourage elevated levels of consumption. The complex relationship between identity and consumption requires consideration of multiple variables and perspectives.

2.1.3.2 Emotional and hedonistic. Identity formation is often associated with emotional experiences. Likewise, acts of consumption are often influenced by emotions (Bowe, Ball, & Gewirtz, 1994; Mont & Plepys, 2008). Products are frequently purchased on the premise that owning an item will lead to happiness. Additionally, McKibben (1992) wrote that consumption is often employed as a replacement for emotional connections. Instances of "shopping therapy" or "stress eating" illustrate how consumption is utilized to cope with such emotional deficiencies.

Consumption as a device towards emotional stability and happiness may explain consumptive patterns. Indeed, Xiao and Li (2011) found that life satisfaction increased with prosocial spending (e.g., SC). Similarly, purchases related to philanthrocapitalism (e.g., events, such as Race for the Cure, or campaigns, such as the breast cancer pink ribbon), which

encourage responsibility for health of self and others, are connected to moral citizenry (King, 2013), and can result in happiness, which may propagate their continuation.

Similar to emotional benefits, consumption may also bring pleasure (Schaefer & Crane, 2005). For Baudrillard (1998) consumers almost have a duty to pursue pleasure. This pleasure may come from actually purchasing the item, which allows the consumer to show their style and taste (Bourdieu, 1984), or they may fantasize about a pleasurable sequence of events involving these products even though these scenarios may be unrealistic (Campbell 1987). Campbell argued that the pleasure derived from consumption was not associated with using a product, but the fantasy of what the object could bring that is pleasurable for the consumer. The act of purchasing the product enacts the fantasy, but after the product is purchased, the fantasy shifts to a new item (van Koppen, 2009). This perspective "sheds light" on consumptive behaviors "such as shopping for fun, the abundant use of symbolic promises in advertising, and the functionality of fashion" (van Koppen, 2009, p. 370). Increased pleasure and happiness may also result from elevated status achieved by certain consumptive behaviors, which are considered in the next section.

2.1.3.3 Status competition. Thorstein Veblen introduced the term "conspicuous consumption," which is "the idea that we consume, at least in part, to display to others our social power" (Carolan, 2005, p. 82; see also van Koppen, 2009). Michael Carolan (2005) argued that we have taken this idea to another level. Now, not only do we consume to display our social power, we consume to become the "'nice thing' itself" (Carolan, 2005, p. 82) In preindustrial society, it was very obvious that consumption was a sign of power. Carolan (2005) wrote, "Those commanding large armies, in possession of huge castles, and ruling over a sizeable segment of society [obviously] possessed political power, material wealth, and social status" (p. 83). Today, however, everyone consumes, requiring additional measures to signify differing levels of power. Similarly, Duesenberry (1949) coined the phrase, "keeping up with the Joneses," which is the idea that increasing levels of consumption are essential, lest one be

overtaken by the hypothetical Jones (as cited in van Koppen, 2009, p. 370). The promise of advancement through consumption is another potential lens that may explain why we consume.

2.1.3.4 Consumer choice and activism. In the pursuit of identity, pleasure, happiness, and status, numerous consumptive decisions are enacted. According to van Koppen (2009), "In the shop the consumer is, in a way, sovereign: he or she decides on buying" and how to dispose of the products (p. 372). Lifestyles of consumers are chosen and "Some products may be avoided, while others — e.g. eco-label products, local products, refill products — are preferentially bought" (van Koppen, 2009, p. 374). Consumptive behaviors are not divorced from human agency. Consumer activism, however, is based on the idea that "in reality there is no absolute 'consumer sovereignty' — preferences are formed in a complex interaction process involving social, psychological, cognitive, and economic factors" (Spangenberg et al., 2010, p. 1488). Consumer activism involves "consumers…[using] their buying power as an instrument of environmental protest" (van Koppen, 2009, p. 373). The political consumer, created by selective purchasing, may choose to, either individually or collectively, only purchase ethical (production of products does not harm people or animals), fair trade (purchased from producers in other countries at reasonable prices), or green (produced in a way that is respectful of the environment and disposed of similarly) products (Crane, 2010). Events, such as the Burning Man Project, a week long function protesting consumerism (Kozinets, 2002), and movements, such as eco-fashion, which encourages second-hand, recycled, redesigned, and ethically made clothes (Crane, 2010), are some examples of consumption for activism among the collective. Holzer (2006) disbelieves that individual consumers can enact significant changes within the marketplace with their own decisions (e.g., consumer sovereignty). Instead he argued that social movements can enable a transformation of "individual choices into a collective statement" (Holzer, 2006, p. 406). Consumption as activism, either individually or collectively may explain why an individual chooses to consume certain products.

2.1.4 Economic. A fourth and final orientation of SC considers an economic perspective. Consumers, as citizens, are inevitable participants in a market economy. According to Schor and Holt (2000), our current "consumer society" is integrally linked to our economic system (p. vii). Traditionally, economic views of consumption have been dominated by "neo-classical views based on assumptions about utility maximization and the bounded rationality of individuals. These views regard consumers as rational decision-makers immune to external influences with price and income factors as the main factors in consumer decision-making" (Mont & Plepys, 2008, p. 532). This view of utility maximizing has dominated the literature, despite the presence of socially and culturally based views of consumption (Schaefer & Crane, 2005). This section overviews the connection between the economic processes of consumption and production. The economic implications of green consumerism are also considered. Media marketing strategies utilized to forward economic agendas are also examined and their influences contextualized within a global society.

While the majority of discourses surrounding consumption only consider production, production and consumption are integrally related (Bowe et al., 1994; Connolly & Prothero, 2003). The production-consumption "debate centres on whether it is sufficient to change consumption patterns or [is] there…also a need to reduce consumption levels" (Mont & Plepys, 2008, p. 532). Connolly and Prothero (2003) argued that production considers "the supply side" of economics, while consumption considers "the demand side" (p. 277). Conjoint consideration of production and consumption is necessary as consumer demand often drives production. Those who approach consumption from a production perspective, however, contend that solving overconsumption is possible by creating more efficient production processes (Mont & Plepys, 2008).

In addition to creating more efficient means of production, an economic standpoint usually supports green consumerism because consumption is still encouraged without changing levels of consumption (Schaefer & Crane, 2005), even though Daly (1999) suggested that our

current rates of economic growth are actually *un*economic. While green consumerism was mentioned above as a proposed means of resistance, its hegemonic potential should also be considered. Green consumerism, while not quintessentially harmful, sanctions environmentally conscious consumption, provided that green products are purchased and recycled, without considering consumption levels (Connolly & Prothero, 2003). Schaefer and Crane (2005) argued that, "The question thus arises as to whom this green consumption might appeal and why" (p. 82). Consumer education should encourage such critical inquiry.

Green consumption is often promoted by media messages. Buenstorf and Cordes (2008) contended that the media substantially influences consumption knowledge, especially through the provision of role models. In our modern age, media messages are disseminated the world over. Commodities are now produced in a global market, necessitating consideration of the impact of globalization. Many products are manufactured in distant places in relation to the consumer, effectively hiding the conditions and effects of their production. Education that sheds light on hidden actualities may encourage changed behaviors. While the media can positively influence society, education must consider its differential messages and far-reaching effects.

2.1.5 Concluding thoughts on orientations. As illustrated above, consumption is more convoluted than individual acts of consumption or production, and consumer education should reflect these complexities by considering functional, sociological, psychological, and economic implications. The next section overviews practice theory and considers consumption from a practice perspective. The potential of SLT to inform teaching methods about consumption is then examined. Finally, previous studies about SC in PSE education are summarized.

2.2 Practice Theory

Considering SC from a practice perspective permits analysis of the term's conceptual nuances mentioned in the previous section. Practice theories are a type of cultural theory that "are founded upon...different form[s] of explaining and understanding action" that place practices at the center of analysis (Reckwitz, 2002, p. 244). During the latter part of the 20th

century, various social theorists contributed elements to what has become known as practice theory, including Bourdieu, Giddens, and Foucault to name a few (Reckwitz, 2002). For Bourdieu (1977), addressing practices was necessary to attend to his primary concern of habitus— "defined as a system of dispositions," or systems that structure behavior in a certain way (p. 214, footnote). Habitus "expresses first the *result of an organizing action*…it also designates a *way of being*, a *habitual state*" (p. 214, footnote). The relationship between practice and habitus is such that habitus is "constituted in practice and is always oriented towards practical functions" (Bourdieu, 1990, p. 52).

According to Anthony Giddens' (1984) structuration theory, human behaviors are shaped and enabled by social structures, just as those structures are shaped by human behavior; they are recursively related. Practices are not merely outcomes but a continual flow whereby habits are made and remade; they consist of many elements and are dependent upon their performance. For Foucault (1977), increasing disciplinary structures within society and their subsequent effect on self-regulation of behavior was paramount. The aforementioned theorists represent just three of the major writers whose ideas have influenced what has become practice theory.

Some of the notable contributions to the body of literature that has become practice theory are found in the works of Shove, Pantzar, and Watson (2012) and Spaargaren (2003), who were also influenced by early writers of social theory. Shove and colleagues (2012) proposed that, "practices are defined by interdependent relations between materials, competences and meanings" (Shove et al., 2012, p. 24). Materials include "objects, infrastructures, tools, hardware and the body itself" necessary for the completion of a practice (Shove et al., 2007, as cited in Shove et al., 2012, p. 23). The know-how and the understanding required to complete and evaluate the performance of a practice constitutes competence (Shove et al., 2012). Meanings include "mental activities, emotion and motivational knowledge" (Shove et al., 2012, p. 23). Together these three components (i.e., materials, competences, and meanings) constitute the elements of practice.

While the tendency in practice theory is to "follow the actors," Shove and colleagues (2012, p. 22) followed the elements of practice to track how the relationships between elements change across time and space and theorized that these changing relations result in the appearance, continuance, and disappearance of practices. According to this perspective, practices exist when the elements of practices are linked (Shove et al., 2012). Consider, for example, the practice of making coffee in the morning. This practice is dependent on owning a coffee maker (materials), knowing how to make coffee (competences), and the idea that caffeine is an important part of one's morning routine (meanings). If a link between these elements is broken, the practice of making coffee is no longer possible. If practices are dependent on links between elements, then two possibilities remain: the existence of elements without linkages and the disintegration of practices when connections disappear (Shove et al., 2012). The emergence, continuance, or disintegration of a practice is affected by the introduction of new elements, alteration or disappearance in relations between elements, and the relationship between different types of practices (Shove et al., 2012).

Shove and colleagues (2012) also distinguished between understanding practices as performances (i.e. the active integration of elements) and practices as entities, which are formed through such integrations. In other words, practices are both process and product, which are configured and reconfigured during moments of enactment by the people who *carry* them (Shove et al., 2012).

According to practice theories, in general, practices are influenced by human agency and structures within society (Kennedy, Krahn, & Krogman, 2013). Spaargaren's (2003) social practice model, which drew from Giddens' structuration theory (1984), illustrated a proposed relationship between practices, agency, and structures based on ecological modernization theory (see Figure 2.1). In this model, social practices are the result of actors and structures. Structures represent the regulations and resources that form systems of provision, which include governmental agencies and shops that constrain or enable certain behaviors (van Koppen, 2009).

If, for example, the economic market within an area provides limited green options for food consumption, few individuals will choose to purchase those items even if they consider themselves environmentally conscious. Within the model, human agency is represented by the lifestyles of various actors (van Koppen, 2009), where lifestyles are constructed by a set of social practices (Spaargaren, 2003) as well as the story attached to those practices (Giddens, 1991 as cited in Spaargaren, 2003). The interaction between agency and structure occurs differentially depending on the specific practice under consideration (e.g., clothing, housing) (van Koppen, 2009). The model allows analysis of varying individual practices, rather than assuming an overarching "environmental attitude" (van Koppen, 2009, p. 374; see also Shove et al., 2012; Spaargaren, 2003). For example, if an individual decides to buy an electric car, she is not simply acting out of an environmental consciousness. She must first know how to drive a car (practice of driving—similar to Shove and colleagues' (2012) competence element of practices). Additionally, she must feel as though this type of car fits well with a favored image (lifestyle—similar to Shove and colleagues' (2012) meaning element of practices). Finally, the availability of charging stations and stores to purchase an electric car may hinder or facilitate her decision (systems of provision—similar to Shove and colleagues' materials element of practices).

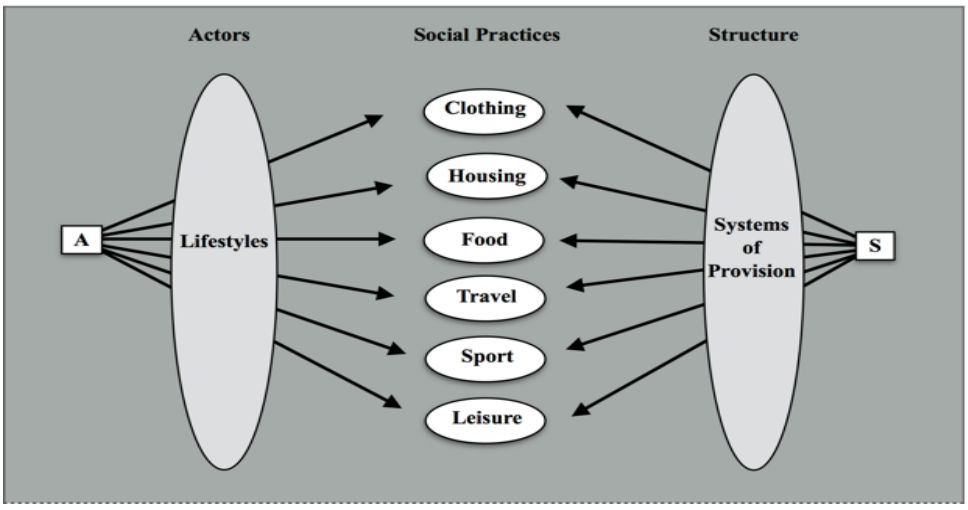

Figure 2.1. Social Practices Model (Spaargaren, 2003, as cited in van Koppen, 2009).

Likewise, faculties' teaching methods and orientations are specific practices, resulting from numerous decisions and structural limitations. Spaargaren's (2003) model allows for faculty members to consider themselves "environmentalists" even though they may teach about consumption (practice of teaching) from a limited perspective (competence). Teaching methods and orientations are also subject to conforming to a favored image within a departmental or institutional setting (lifestyle/meanings) and may be hindered or facilitated by varying levels of access to professional development materials (systems of provision/materials). Practices then are the interdependent relations of their composite elements (i.e., meanings, competence, and materials) (Shove et al., 2012) and are produced by interrelations inherent within actors and structures (Spaargaren, 2003); they are both *essence* and *effect.*

Considering practice theory, van Koppen (2009) wrote, "Consumption, then, is a moment in a practice, rather than a separate, autonomous choice…[where] the rewards of consumption are not in consumption as such, but in the practice that is maintained by it" (p. 371; see also Warde, 2005). A practice-oriented approach allows for analysis of practical needs, where "dynamics such as status competition, virtual pleasure, and identity can play a major or minor role" (van Koppen, 2009, p. 371). This approach places practices (such as SC) at the center of analysis, where sociological, psychological, and economic influences are understood to differentially affect behaviors (van Koppen, 2009).

Spaargaren's (2003) model, which was developed within the context of ecological modernization theory, suggested that an "ecological rationality" will eventually develop "in the rules and resources that drive systems of provision, and in consumer consciousness" (van Koppen, 2009, p. 375). Within this perspective, it is assumed that ecologically-efficient technological advances will result in more environmentally sustainable structures and systems of provision (Bonds & Downey, 2012). Development of such structures are not apparent, nor is it evident how processes of ecological rationalization relate to unsustainable consumer lifestyles, which often fluctuate depending on consumptive trends (van Koppen, 2009). Considerations

from social learning may provide illumination regarding this conceptual gap (van Koppen, 2009). That is, an individual practice or decision to consume more or less sustainably is influenced by numerous social interactions and structures. Indeed, Fenwick (2006) argued, "Practice-based theories also insist that learning cannot be considered solely an individual process. Learning is understood to emerge from *relations* and interactions of people with the social and material elements of particular contexts" (p. 285-286, emphasis in original). Likewise, Ingold (2000) suggested, "learning is inseparable from doing, and in which both are embedded in the context of a practical engagement with the world" (p. 416). With these theorists in mind, McKenzie and Bieler (2016) argued such considerations "challenge us to situate learning in the middle of everyday practical experience" and that the activity of learning "does something to the learner—learning occurs in the activity or experience" (p. 16). Such considerations urge us to interrogate not only product but process of learning. Formal education, one component of the learning process, involves the practice of instruction in socially situated classrooms.

Theorizations of social learning encourage us to pay attention to not only the practice of learning but the social contexts surrounding its development. Indeed, McKenzie and Bieler (2016) suggested that "learning is always situated in practical experience; in social interactions, and in places, and in the articulations that shape our relations to sociality and place" (p. 32). McKenzie and Bieler (2016) also suggested that if critical educators attend to these dimensions of learning, education may be better positioned to impact emergent cultural change:

> For example, we may choose to not only critique the perpetuation of critical issues through social interactions (e.g., daily social rhythms, bodily habits, peer groups and their embeddedness in systemic and institutional forms of privilege and oppression), but also explore how social conditions of practice may be productively mobilized to create and support the emergence of more just structures of feeling. (p. 32)

Considering ESC from a socio-practical approach may enable "emergent cultural change…to create and support the emergence of more just structures of feeling" (McKenzie & Bieler, 2016, p. 32). Through a social learning perspective, not only are existing practices, (e.g., consumptive

patterns) confronted, the social interaction involved in the process of learning within the classroom is interrogated, enabling imagination of new possibilities.

While little agreement exists on the exact interpretation of social learning (Glasser, 2009), the following section will summarize overarching themes within SLT in accordance to their usage within this study, drawing from the definition of practice mentioned above that practices are not simply outcomes but are made and remade by their carriers.

2.3 Social Learning Theory

Social learning is first and foremost a social undertaking; it is learning carried out by (and in) groups of people (van Koppen, 2009) and theorizations of social learning explore how individuals develop (Heimlich & Ardoin, 2008). Additionally, social learning can be concerned with acting on social issues (such as SC) while striving for collaboration and consensus among the collective (van Koppen, 2009). Social learning, however, is always embedded in matters of power (Dyball, Brown, & Keen, 2009; Hart, 2009) and resistance (Hart, 2009), presenting challenges for equal participation. Parson and Clark (1995), on defining social learning, wrote that, "The deepest difference is that for some, *social learning*, means learning by individuals that takes place in social settings and/or is socially conditioned; for others it means learning by social aggregates" (p. 429). The difference between the two conceptualizations is a matter of scale, where the former understanding focuses on learning by an individual who participates in social activities and the latter focuses on the overall learning of a larger group, such as the protocol for boarding a bus or train. Likewise, McGregor (2009) wrote that, within SLT, "people can learn vicariously by observing others, in addition to learning by participating in an act personally" (p. 351). The approach taken in this study is one suggested by Keen, Brown, and Dyball (2005) that, "Social learning is the collective action and reflection that occurs among different individuals and groups as they work to improve the management of human and environmental interrelations" (p. 4). While there are numerous approaches to social learning in both formal and informal

contexts, this study focuses specifically on social learning-based change approaches within formal education contexts, more particularly PSE institutions.

Social learning-based change focuses on enabling systemic transformations and may be particularly effective when teaching about SC. According to Tilbury (2009), "Learning based change helps challenge established structures and empowers individuals and groups to enable change towards sustainability" (p. 117). Social learning-based change "*challeng[es]…mental models,*" which involves reimagining and rethinking possibilities for action, encourages "*new learning approaches*," which includes methods that build capacity and foster change, and considers "pluralism and diversity" to explore new possibilities for the future (Tilbury, 2009, p. 118). When using social learning-based approaches for EfS, Tilbury (2009) argued that learners are supported to employ critical and systemic thinking to challenge root causes, not merely altering individual behaviors. Ultimately, social learning-based change requires challenging the status quo both within society and education.

Challenging embedded societal norms and conceptualizations about consumption may benefit from such an approach. Indeed, SLT has been proposed as a method of instruction for ESC conceptually by several authors (Buenstrof & Cordes, 2008; Gombert-Courvoisier, Sennes, Ricard, & Ribeyre, 2014; McGregor, 2009; van Koppen, 2009), but only two empirical studies explicitly investigated the efficacy of implementation (see Álvarez-Suárez et al., 2014; Brody & Ryu, 2006).

Tilbury (2009) identifies five key components of social learning-based change. This model correlates similarly with Dyball and colleagues' (2009) five braided strands of social learning; therefore, concepts from the two models are discussed together. The first component is partnerships for change, which involves working with networks of people to address sustainability issues (Tilbury, 2009). The second component is participation, which involves exceeding "mere consultation processes to involve people in joint analysis, planning and control of local decisions," (Tilbury, 2009, p. 127) which often involves negotiation and collaboration

(Dyball et al., 2009). The third component is systemic thinking, or consideration of how all the segments of an issue constitute the whole, promoting holistic understandings (Dyball et al., 2009; Tilbury, 2009). The fourth component is envisioning, which involves imagining an alternative future to discover underlying beliefs, motivations, and assumptions (Tilbury, 2009). The fifth component is critical thinking and reflection, where learners analyze and critically question their assumptions about an issue (Dyball et al., 2009; Tilbury, 2009). Likewise, McGregor (2009) argued that, "Consumer education must involve the examination of beliefs, attitudes, values, and meaning systems, if sustainability is to become a desired outcome" (p. 360-361). Without such analysis, it is unlikely that holistic understandings will develop.

Research has suggested that knowledge creation often occurs through experiences (Ellis & Weekes, 2008). SLT, as an experience-based and constructivist approach, has been proposed as an effective method for generating knowledge about SC (McGregor, 2009; van Koppen, 2009). Consumptive practices develop and are enacted at a particular point in time in relation to societal structures and individual decisions. These practices are not divorced from their experiential social context and are influenced (and learned) by a myriad of interactions between other individuals (van Koppen, 2009). Examining conceptualizations of SC and methods of teaching from a practice and social learning perspective, enables analysis of not only teaching practices but also how meanings and teaching practices form. This approach allows for consideration of "*how actors become"* by considering practices as part of a social process rather than single, isolated performances (Kjellberg, 2008, p. 160). This study assessed if methods associated with social learning are utilized in ESC and how faculty members' conceptualizations of SC are socially created through multiple interactions both within and outside of their classroom. Understanding this process may illuminate potentialities for change.

2.3.1 Implications for EfS and ESC. Several teaching approaches possess the capability to address these five components of social learning-based change and also align with practice and social learning theories. While the approaches mentioned here are suggested for EfS, it is

assumed they will likely also be beneficial for ESC (as one part of EfS), although less research has been conducted on effective teaching approaches for ESC in particular.

One commonly proposed method for EfS is experiential learning (Barth et al., 2014; Ellis & Weekes, 2008; Fröhlich, Sellmann, & Bogner, 2013). While acknowledging the numerous conceptions of experiential learning, within this paper experiential learning refers to a "process of cognition" (Fenwick, 2000, p. 244). Conceptions of experiential learning often differ in their emphasis on the relationship between "experience, context, mind, and learning" within this process (Fenwick, 2000, p. 246). Under this definition, experiential learning is an active construction of learning and knowledge.

Experiential learning has also been referred to as "learning by doing" as compared to passively receiving information from a lecture setting (Ellis & Weekes, 2008, p. 485). Fenwick (2000), however, argued that all learning is experiential when experience is defined broadly. Learning through experience then includes both kinesthetic and reflective activity (Fenwick, 2000). Examples of enacting experiential learning often include activities, such as role-plays, work-based internships, or community projects, (Ellis & Weekes, 2008) but the prescribed activity is dependent on the conception of experiential learning adopted and can vary greatly (see Fenwick, 2000 for typology of experiential learning perspectives). Within a social learning-based change approach to experiential learning, students can actively create and learn new sustainable behaviors. Addressing sustainability issues requires learning new ways of 'doing' everyday activities, experiential learning can initiate these new patterns.

Another effective method for EfS is problem-based learning (PBL) (Brody & Ryu, 2006; Gombert-Courvoisier et al., 2014; Pike et al., 2003; Said, Yahaya, & Ahmadun, 2007). According to Hutchings (2006), PBL is "self-directed…by students' own decisions about appropriate ways in which an issue or scenario might be approached" (p. 2). PBL can occur within an experiential learning experience and usually centers on the teacher identifying a problem and the students determining a solution, often through group work (Brody & Ryu, 2006;

Ellis & Weekes, 2008). One of the primary benefits to PBL is that it "[directs] students to work through actual sustainable development scenarios… [that build] their capacity to address the complex interaction of human decisions and the biophysical environment" (Brody & Ryu, 2006, p. 181). Hutchings (2006) and Brody and Ryu (2006) argued that PBL is particularly adept in dealing with real world, inter-disciplinary, and cross-disciplinary challenges often present in EfS. Brody and Ryu (2006) also found that PBL might be particularly effective in changing consumptive behaviors over a short period of time, such as a class semester. With a social learning-based change approach to PBL, students are confronted with problems and work together to create and learn new solutions.

A third teaching approach utilized for EfS, which also overlaps with the previously mentioned problem-based learning approach, is action-competence (Bonnett, 2002; Ellis & Weekes, 2008). Schnack (1996) defined this method of teaching as the "'capability — based on critical thinking and incomplete knowledge — to involve yourself as a person with other persons in responsible actions and counter-actions for a more humane world'" (as cited in Ellis & Weekes, 2008, p. 486). This method encourages students to think about the "*causes*" of environmental issues not the "*symptoms*" and utilizes concepts from experiential and PBL to encourage active learning by examining underlying social and structural factors (Ellis & Weekes, 2008, p. 486). Teaching for action-competence emphasizes "tangible" ways to address environmental issues by focusing more specifically on acts of consumption rather than ideas, such as "good governance" (Ellis & Weekes, 2008, p. 487). Through a social learning-based change approach to action-competence, students are provided resources (learning) and encouraged to take action (change).

While other approaches exist for teaching about EfS, the three mentioned above are also compatible with a social learning-based change and practice approach in that learning and transformation are practiced within a social context (e.g., the classroom or within the community). Combining these approaches from a practice and social learning perspective may

address the gap Glasser (2009) wrote about, where "awareness of a problem, accessibility of extensive information on its origins and impacts, and, even, stated concern about it do not guarantee action or imply that, if taken, the action(s) will be appropriate or effective" (p. 42). In other words, by engaging students through these types of approaches, which practice problem solving and action, the literature suggests that students may be better prepared to move knowledge into action in their lives outside of the academy. In addition, even when actors are concerned about environmental issues and have access to the necessary provisions to enact their beliefs, habits that are learned within a social context, may impede practices. Learning, which considers the socially affected nature of practices, may enable students to see how their habits are societally-influenced (van Koppen, 2009), which may foster *actual* and *effective* behaviors.

With their systemic, holistic, and social focus, practice and SLT perspectives may enable liberating conversations about consumption within the classroom. The following section overviews previous studies about SC within PSE institutions, highlighting gaps and opportunities for future research and providing direction for this study.

2.4 Researching Consumption: The Empirical, the Conceptual, and the Nonexistent

Little research exists on whether and how faculty teach about SC in PSE institutions, and no comparative studies of multiple sites were found. A review of the literature found numerous studies about sustainability and sustainable development generally in relation to education, but few focused on SC specifically, and even fewer with a higher education focus.[1] The following word combinations were utilized to search for articles on the database, Academic Search Complete, within titles and abstracts: "faculty" OR "professors" OR "institution" OR "university" OR "college" AND "teach" AND "consumption" OR "consumerism." An additional search was conducted with the words "education" AND "sustainable consumption." A total of 226 articles resulted from these searches. The journal, *Environmental Education*

[1] For a few notable exceptions of studies that focus on how faculty conceptualize sustainability within higher education, see Sylvestre, Wright, and Sherren (2013) and Wright and Horst (2013).

Research, which is well known for its focus on the environment and sustainability in education, was also searched. During this search, the words "sustainable consumption" and "education" were utilized and returned 235 articles. All searches were conducted between the months of May and June, 2014. The results were filtered to only include those articles that specifically addressed SC within the PSE context. This filtering resulted in six studies that focused on either teaching methods, the impact of EfS[2] on students' behavior, or connections between identity and SC behavior in relation to post-secondary education contexts. One study also focused on conceptualizations of sustainable development, with a minor focus on SC; it is included due to its relevance to the current study. These studies are summarized in the following sections. This discussion does not include a general overview of the inclusion of consumption within EfS as too many articles exist to make that search feasible.

2.4.1 Conceptualizations. Several studies were found assessing teacher's (both PSE and K-12) understanding of the term sustainable development (see Ärlemalm-Hagsér & Sandberg, 2011; Birdsall, 2013; Borg et al., 2013). Only one such study, however, mentioned SC (Cotton et al., 2007). Even in this study, SC was only measured in relation to local production and consumption patterns (Cotton et al., 2007). A gap appears to exist in EfS literature about conceptualizations of SC within the PSE context. This study addresses that gap.

2.4.2 Sustainable consumption education. Four studies were found addressing SC education within the PSE context. The first tested the effectiveness of using various multimedia approaches (e.g., animations, PowerPoint, computer-based technology, static figures) when teaching an online course about environmental science, of which SC was a topic (Su & Chen, 2009). The premise for the study was based on prior research that issues related to sustainable development are often abstract and complex; a problem potentially resolved through the use of multimedia (Su & Chen, 2009). Overall, the study found that the multimedia approach was

[2] Some of the studies reviewed below refer to environmental education (EE), not EfS. This is indicated where relevant.

successful but is more effective in addressing other issues (i.e., environmental ethics and sustainable development), rather than issues of consumption (Su & Chen, 2009). Taking into consideration Su and Chen's (2009) findings, a more participative pedagogical approach may be necessary when addressing SC, rather than one that is computer-based, which allows for little social interaction.

The second study measured the effectiveness of a constructivist teaching strategy developed from SLT (Álvarez-Suárez et al., 2014). The study measured trainee teachers' knowledge of the effects of consumerism, their attitudes regarding SC, and their behavioral intentions to engage in SC before and after the teaching intervention. The study found that the participants increased their knowledge of the effects of consumerism, increased awareness of the need for action, and developed behaviors that reflected SC as a result of the course (Álvarez-Suárez et al., 2014). The results of this study reflected the effectiveness of social learning pedagogy in teaching about SC.

The third study examined the effect of sustainability education on students' consumptive behavior, specifically focusing on a master's course in sustainable development (Brody & Ryu, 2006). The course utilized a PBL approach, where students applied sustainability principles to real-world problems (Brody & Ryu, 2006). Consumptive behaviors were measured by assessing students' ecological footprint (EF) before and after the course using the ecological footprint analysis (EFA). This tool, developed by Wackernagel and Rees (1996), measures the amount of land and water needed to sustain an individual's current level of consumption. Significantly reduced ecological footprints (EF) among participants were found during the post-test (Brody & Ryu, 2006). The results of this study suggested that master's courses about sustainability that utilize a PBL approach, which is compatible with SLT, may increase the extent of resulting sustainability behaviors as measured by their EF.

The fourth study focused on the relationship between Environmental Education (EE) and the knowledge, attitudes, and behaviors of high school and university students, including in

relation to consumption (Zsóka, Szerényi, Széchy, & Kocsis, 2013). The university students were enrolled in EE courses, while the high school students took classes that incorporated sustainability concepts across multiple disciplines. Barriers to consuming more were found to be higher among the university students and were mostly related to time and money, but many students reported that they would buy more if they could (Zsóka et al., 2013). Ultimately, their study revealed a need to increase awareness about SC among university and high school students (Zsóka et al., 2013).

2.4.3 Identity and sustainable consumption behavior. One study assessed factors of participant identity as correlated with SC behavior. This study specifically considered if there was a difference between gender, type of degree sought (business or non-business), consumptive behavior, and concern about over-consumption among university students (Tan & Lau, 2009). The study found no difference between gender, degree sought (business or non-business), and SC behavior. Additionally, the researchers concluded that the participants were not very concerned about over-consumption as exhibited by "a moderate level of sustainable consumption behavior" (Tan & Lau, 2009, p. 470). This categorization was calculated through the use of a scale adapted from one created by Said and colleagues (2007), which measures SC behaviors. It appears from the results of this study that more awareness about SC is necessary.

2.4.4 Concluding thoughts on previous studies. Considering the plethora of articles identified, relatively few were empirical studies about SC within PSE institutions. Several of the studies found a need for more awareness among students about SC. This research attempts to understand how SC is currently understood by faculty, as no studies were found on this topic. Once conceptual deficiencies are identified from the results of this study, strategies for increasing awareness within specific areas can be developed.

Relatively few studies (only two) measured the effectiveness of utilizing SLT approaches to teach about SC within the PSE context, despite conceptual backing (McGregor, 2009; van Koppen, 2009). Additionally, the studies that did not utilize a social learning approach found the

need for alternative teaching methods when instructing about SC and/or the need for increased awareness about the topic. This study assesses the extent to which methods associated with SLT are utilized to teach about SC and how teaching methods were selected by participating faculty members.

2.4.5 Concluding thoughts on researching consumption. This review of the existing literature on practice and social learning and implications for SC education within the classroom setting suggests that faculty must provide students with conceptual tools (multiple understandings of SC) and the space to apply that knowledge, through appropriate teaching methods. While students' understandings of SC are influenced by many other factors (e.g., agency, lifestyles, structures), how consumption is taught in the classroom may structure additional understandings (e.g., determining what information is accepted or rejected). Just as faculty teach about SC within a social setting (their classroom), their own conceptualizations of SC are, to a certain extent, socially constructed in the context of their daily lives. With this in mind, the following research questions were developed for this study: how do faculty conceptualize SC themselves and within their classroom, how do faculty teach about SC, and are there links between conceptualizations and/or teaching methods for SC and educational policy?

CHAPTER 3: METHODOLOGY

This research is a smaller study within a project conducted by the Sustainability and Education Policy Network (SEPN), which analyzes and compares sustainability policy development and enactment within K-12 schools and PSE institutions across Canada. The SEPN project consists of several components, including: a census of existing policy initiatives in PSE institutions and K-12 Ministries of Education and School Divisions, a content analysis of policy documents from PSE institutions and K-12 contexts, a national survey, and more in-depth site analyses of PSE institutions and K-12 contexts (see www.sepn.ca).

The current study was situated within the national survey component of the project. SEPN's national survey sought to understand how sustainability education policies are developed and enacted, including examining their relationship to practice. The survey specifically asked the question: What are the relationships between sustainability policies and sustainability practices within Canada? The survey also included a focus on policy influences and origins where possible. Questions were posed to those who develop and implement policies, such as administrators and staff, and to those who are often affected by those policies, such as administrators, staff, faculty, and students, to understand how policy might be better developed and implemented to ensure sustainable practices in relation to research, community engagement, and the formal education system in Canada. The survey consisted of two parts: part one focused on sustainability practices within schools and institutions, and part two focused on policy development.

While SEPN examines sustainability policies and practices in PSE institutions and K-12 contexts, considering the areas of overall governance, curriculum, operations, research, and community outreach, this study focused specifically on the area of curriculum within PSE institutions and assessed how faculty conceptualized SC themselves and within their classroom, how SC was taught and how those methods developed, and whether sustainability policies contributed to practices of teaching about SC.

As little empirical research has been conducted regarding ESC in PSE institutions, qualitative data collection methods were also used to provide an exploratory review of existing understandings and approaches; these included telephone interviews and collection of course materials (i.e., PowerPoint slides, course outlines, and course readings) provided by faculty. The data from the interviews and course materials were analyzed in relation to the quantitative survey data in a mixed methods approach. This enabled a layer of depth not possible from survey data alone, in order to understand how policies may be connected to teaching practices.

This chapter will first provide an overview of the methodological paradigm used within this study. The mixed methods methodology for the current study is then presented, including a definition of mixed methods research and an overview of the specific mixed method design utilized within this study. Potential challenges and strengths as they relate to this design will then be identified and addressed. Details of participant selection, data collection, and data analysis procedures involved with the quantitative and qualitative components of this study will also be outlined. Ethical considerations are then overviewed and addressed.

3.1 Methodological Paradigm and Implications for Research Methods

The overarching philosophical framework for this study's methodology operates under the "umbrella foundation" of pragmatism (Creswell & Clark, 2011, p. 101). Pragmatism allows researchers to "emphasize the research problem and use all approaches available to understand the problem," which allows for the use of differing philosophical approaches and equal or unequal weighting of the quantitative and qualitative strands depending on the research question (Creswell, 2014, p. 10).

The current study utilized the philosophical viewpoint of constructivism. According to Schwandt (2000, as cited in Mertens, 2010, p. 16), the constructivist paradigm is guided by the assumption that "knowledge is socially constructed by people active in the research process, and that researchers should attempt to understand the complex world of lived experience from the point of view of those who live it." Within this paradigm, the researcher acknowledges, "that

research is a product of the values of researchers and cannot be independent of them" (Mertens, 2010, p. 16). In accordance with this approach, faculties' orientations towards and teaching methods for SC were analyzed as the faculty constructed them themselves, with an understanding that the researcher's views and values also affected the results. It was assumed that the results did not represent universal truths agreed upon by all faculty, but potential strategies and approaches that could be adapted (Mertens, 2010; see also Burnard, 2008).

The constructivist approach is useful for this study because it is mainly concerned with the meaning of SC for faculty and how the concept is then taught within their classrooms. These meanings are constructed within a social context; therefore, merely understanding how faculty conceptualize SC is not sufficient because the concept is understood, defined, and taught within a social setting. Full comprehension of the practice of teaching about SC requires understanding both how faculty conceptualize the term and how it is applied, redefined, and recreated within the social context of its conceptualization and instruction. An understanding of teaching methods is also necessary because methods speak subjective meanings about a term's conceptualization. For example, if SC is only taught by referring to facts, the subjective message may be that learning facts is all that is required to address and understand SC, which ignores its more nuanced and socially interconnected roots. The chief aim of this study is not to prove a hypothesis but to provide a deeper understanding of how SC has been defined and taught within the classroom. The following section will define mixed method research and overview the specific design utilized within this study.

3.2 Mixed Methods Research

Mixed method research can be defined in a multitude of ways (Creswell & Clark, 2011); however, this section will outline some major considerations. Within a mixed methods design, both quantitative and qualitative data are collected and analyzed. The data are then either combined or one type is embedded within the other (Creswell & Clark, 2011). Creswell and Clark (2011) suggest that this combination process may happen at different times, either

concurrently, sequentially, or over multiple phases that may include concurrent and/or sequential timing. Priority can also be given to one type of data or may be equally distributed. Combining qualitative and quantitative research can be a challenging undertaking and necessitates providing a rationale for conducting this type of study (Creswell & Clark, 2011).

There were several reasons for using a mixed methods approach for this study. The first was that the national survey provided a pool of potential participants from which a portion of the sample for this study was drawn. Second, this study addressed similar but different research questions than the larger study, necessitating a different type of method (Creswell & Clark, 2011). Third, the qualitative study provided a layer of depth (Greene et al., 1989) not possible from a large-scale quantitative national survey.

One type of mixed methods research is an embedded design, and it is this type which is employed in the current study. According to Creswell and Clark (2011), "the premises of… [the embedded] design are that a single data set is not sufficient, that different questions need to be answered, and that each type of question requires different types of data" (p. 91). Within an embedded design, "the researcher collects and analyzes both quantitative and qualitative data within a traditional quantitative or qualitative design" (see Figure 3.1) (Creswell & Clark, 2011, p. 71). The secondary strand, either the qualitative or quantitative study "is added to enhance the overall design in some way" (Creswell & Clark, 2011, p. 72).

Figure 3.1. Mixed Methods Research: Embedded Design (graphic adapted from Creswell & Clark, 2011).

Within this study, the quantitative and qualitative strands were embedded interactively, meaning that the two methods were mixed before final interpretation (Creswell & Clark, 2011). Specifically, the two methods interacted somewhat during sampling, as the survey identified one of the participants. Additionally, the strands were mixed during data analysis, where the qualitative data were connected to the quantitative data where possible. The two data sets, both quantitative and qualitative were also embedded during the final interpretation of the data.

Within mixed methods research, it is also necessary to determine the priority of the qualitative and quantitative strands (Creswell & Clark, 2011). For this study in particular, the qualitative study had a higher priority than the quantitative study; thus the quantitative data were embedded into the qualitative data. It is also necessary to determine the timing of the quantitative and qualitative strands (Creswell & Clark, 2011). For this study, the timing occurred sequentially. After the national survey was launched, participant selection for the current study began. Additionally, "the point of interface," or the point where the two strands of research are mixed should also be determined (Creswell & Clark, 2011, p. 66). In the current study, there were several points of interface: during design, data collection, analysis, and interpretation (Creswell & Clark, 2011). Another consideration within mixed methods research is whether or not the participants will be the same for both types of methods (Creswell & Clark, 2011). For this study, only individuals who also completed a national survey were potential participants for the interviews.

Various difficulties are associated with using an embedded mixed methods design. The first is that the researcher needs expertise in both quantitative and qualitative research methods (Creswell & Clark, 2011). Within this study, this challenge was addressed by considering a strength of the embedded design itself, mainly that the design works well within a team setting (Creswell & Clark, 2011). Within the SEPN team, there were both quantitative and qualitative researchers that could provide assistance when necessary to meet the challenges of mixed methods research. A second potential challenge is integrating different types of results to answer

different research questions (Creswell & Clark, 2011). The purpose of the embedded design, however, is not to use different data sets to answer one question but to answer two distinct but similar research questions (Creswell & Clark, 2011).

Several strengths are also associated with the embedded design. One strength of the embedded design is that "the addition of supplemental data…[can] improve the larger design" (Creswell & Clark, 2011, p. 94). Specifically, for this study, the qualitative interviews provided a layer of depth not possible within the quantitative survey. Another strength is that this approach allows for different research questions to be addressed, and the subsequent results can be published separately (Creswell & Clark, 2011). Additionally, there are numerous ways to combine the various elements of mixed methods research (e.g., timing, point of interface, etc.), which allow the design to meet the requirements of a multitude of research purposes and questions (Creswell & Clark, 2011). The following section will outline the process of participant selection and data collection for SEPN's national survey and the interviews for the current study.

3.3 Participant Selection and Data Collection

3.3.1 Survey participant selection and data collection. Data collection for the national survey began in November 2014 (see Appendix A for survey questions). The national survey was administered online through the survey software, Qualtrics, and utilized two different sampling methods, purposive proportional sampling and convenience proportional sampling. To maintain the integrity of the data, a separate survey was entered into Qualtrics for each sampling method, thereby creating two databases.

Proportional sampling is a non-random method utilized when a population includes a diverse demographic distribution (Sedgwick, 2012). With this sampling method, the population is first divided into subgroups or strata; the sample size needed for each demographic is then determined proportionately according to their representation in the entire population (Sedgwick, 2012). Purposive sampling is utilized when the "researcher assumes, based on their *a-priori* theoretical understanding of the topic being studied, that certain categories of individuals may

have a unique, different or important perspective on the phenomenon in question and their presence in the sample should be ensured" (Robinson, 2014, p. 32). Convenience sampling involves, "locating any convenient cases who meet the required criteria and then selecting those who respond on a first-come-first-served basis until the sample size quotient is full" (Robinson, 2014, p. 32).

For PSE institutions only convenience proportional sampling was utilized. The convenience sample consisted of faculty and other teaching staff, students, facilities workers, sustainability staff, and administrators. The survey was distributed through listservs, newsletters, websites, and social media outlets with quotas established for proportional representation for the various participant groups by province (see Appendix B for the total number and percentage of PSE institutions, faculty, post-secondary students, and sustainability officers in Canada by province). With this sampling method, survey distribution was conducted in conjunction with SEPN's partners and other associated organizations to provide maximum national coverage. One participant for the current study was selected due to their indication of interest in a follow up study about SC on SEPN's national survey and was thereby selected through convenience proportional sampling.

3.3.2 Interview participant selection and data collection. The majority of the participants for the qualitative study were selected by purposive sampling (Creswell & Clark, 2011). Due to a low faculty response rate on the national survey and the relatively few people who indicated teaching about SC on the survey, additional faculty known to teach about sustainable consumption were directly emailed to recruit additional participants. Maximal variation sampling was utilized to ensure that "diverse individuals [were] chosen who [were] expected to hold different perspectives on the central phenomenon" (Creswell & Clark, 2011, p. 174). Efforts were made to ensure that the participants were diverse when considering age, gender, and race. Six participants were selected to participate in the current study. This number is based on Creswell and Clark's (2011) suggestion that qualitative studies should focus on

obtaining in-depth information from a small number of participants. Attempts were made to select participants from the same institution to compare approaches used within the same setting, but this was not possible. The participants were from four different provinces: one was from Manitoba; one was from Nova Scotia; two were from Ontario, and two were from Saskatchewan. Four of the participants taught at universities and two taught at colleges. Two participants were professors; two participants were associate professors; one participant was a sessional instructor, and one participant was a postdoctoral fellow.

After participants expressed interest in participating in the study, they were sent an overview of the qualitative study and an attachment of the informed consent form (see Appendix C). They were also asked to complete SEPN's national survey before an interview time was scheduled. The interviews were conducted over the telephone and Skype and took place from January to May 2015. A Skype plugin software called Call Recorder was utilized to record the interviews. Each participant was interviewed once. The interviews were up to an hour in length with approximately twenty semi-structured interview questions (see Appendix C), which allowed for additional questions to emerge during the interview process. In other words, the questions followed an interview guide but additional questions were asked to provide clarification and expand on participants' answers when necessary. An attempt was made to ask the questions in the same order, but the sequence varied some to follow the natural flow of conversation. Semi-structured questions are also commonly used with a constructivist approach (Mason, 2004).

3.3.3 Course material data collection. Faculty were also asked if they would be willing to share any course documents utilized for teaching about SC. Five participants provided such course materials. One participant provided PowerPoint slides; one participant provided course articles, a teaching autobiography, and an online video utilized in class; two participants provided course outlines; one participant provided a course outline and links to online articles, videos, and websites utilized in class.

The following section overviews data analysis considerations for the survey, interviews, and course materials individually and collectively.

3.4 Data Analysis

3.4.1 Survey data analysis. There were 1,053 respondents to SEPN's national survey, 537 of the respondents were from PSE settings. The majority of PSE participants were from Ontario (N=230), Alberta (N=85), and Quebec (N=66) (see Figure 3.2 for PSE provincial participant representation). The majority of PSE participants were from universities (N=429) (see Figure 3.3 for all PSE respondents' settings). The participants were also diverse in terms of their roles within their settings. Most participants were either PSE students (N=347) or PSE faculty members (N=94) (see Figure 3.4 for PSE respondents' roles).

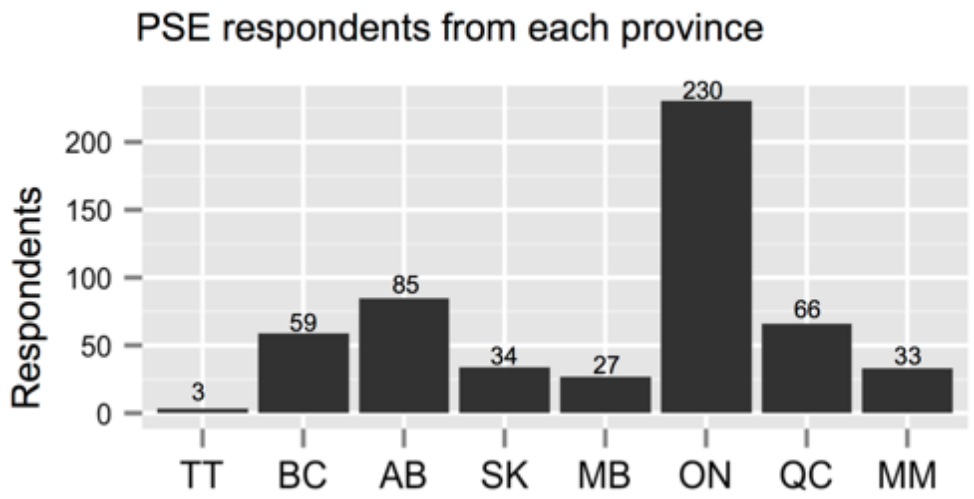

Figure 3.2. PSE Respondents from each Province

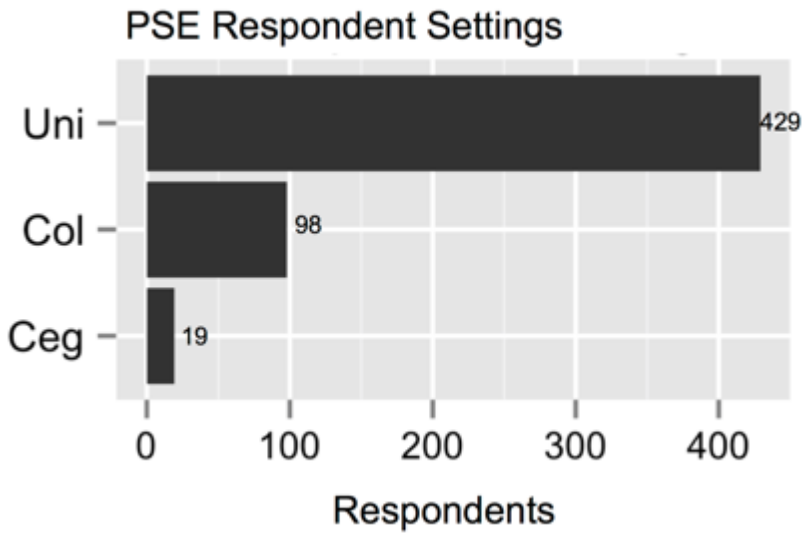

Figure 3.3. PSE Respondent Settings

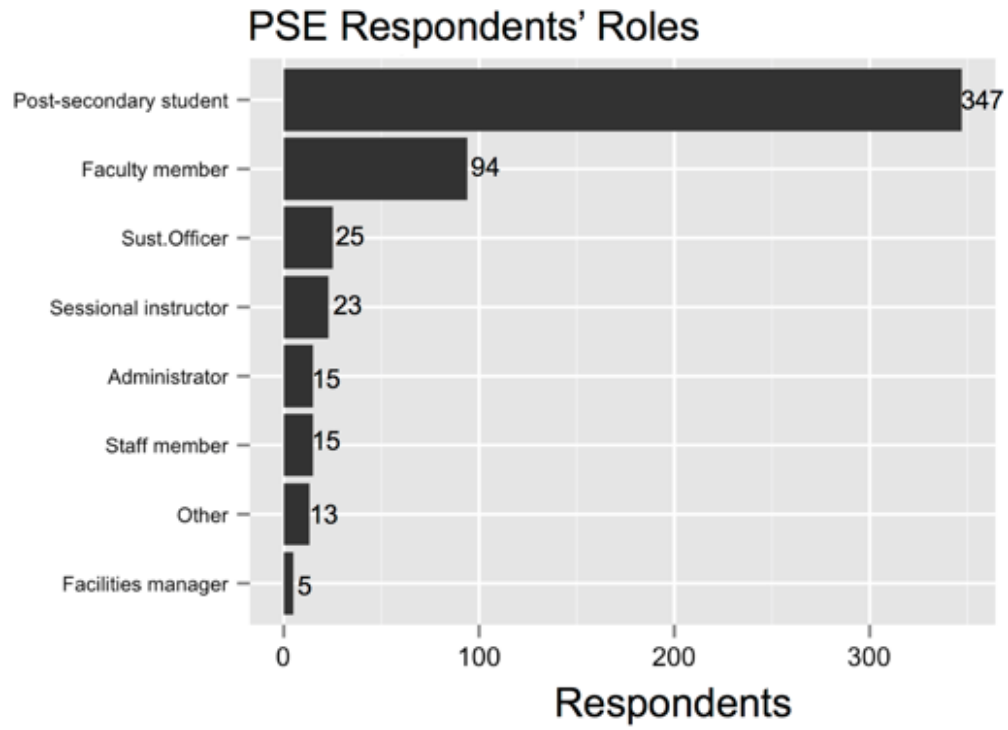

Figure 3.4. PSE Respondents' Roles

The survey was pilot tested before distribution to ensure the appropriateness of the given response categories and the functionality of the survey. Additionally, two databases were created to allow separate analysis of the data for each sampling method. Data analysis for the national survey included analyzing the data in SPSS software. PSE and K-12 data were analyzed separately.

Participants' knowledge about sustainability practices within the five areas of governance, curriculum, operations, research, and community outreach at their setting were assessed on the survey. Only results from the curriculum portion of the survey are presented here due to their relevance to the current study. In regards to curriculum, participants rated the extent to which 14 sustainability topics (e.g., consumerism) were included in curriculum at their setting. Curriculum items were rated on a 4-point ratings scale ranging from 0 (Not at All) to 3 (To a Large Extent).

Participants were also asked about their commitment to sustainability. The widely used and rigorously assessed New Ecological Paradigm (NEP) scale was utilized to measure participants' pro-environmental orientations (Dunlap, Van Liere, Mertig, & Jones, 2000; Stern, Dietz, & Guagino, 1995). This scale was revised by Dunlap and colleagues (2000) from its original version, which consisted of 12 statements and was "criticized for several shortcomings, including a lack of internal consistency among individual responses, poor correlation between the scale and behaviour, and 'dated' language used in the instrument's statements" (Anderson, 2012, p. 260). Agreement with the eight odd-numbered items indicates endorsement of the NEP, while disagreement with the seven even-numbered items indicates endorsement of the NEP (Dunlap et al., 2000). The 15 items were scored along a 5-point Likert scale ranging from -2 (strongly disagree) to 2 (strongly agree). Even-numbered items were reverse coded such that a higher score indicated a pro-NEP orientation. Responses were averaged for each participant. The revised NEP scale also measures five proposed elements of an ecological worldview: the reality of the limits to human growth (3 items), anti-anthropocentrism (3 items), the fragility of nature's

balance (3 items), rejection of human exemptionalism (3 items), and the possibility of an ecocrisis (3 items) (Dunlap et al., 2000). Scores for these five facets were also determined for the participants of the current study to further understand their NEP scores.

Participants to SEPN's national survey were also asked for their definition of sustainability. More specifically, participants were asked to indicate their own understanding of sustainability by checking all of the following response options that applied: protecting or concerned with the natural environment, interconnection between social, environmental, and economic concerns, meeting the needs of the present as well as of future generations, based in Indigenous knowledge and worldview, and a focus on a sustainable economy. Participants could also select an "other" response option and supply their own answer. These results for participants of the current study are presented to provide further context to their definitions of SC, which were identified in the interviews.

3.4.2 Interview data analysis. After the interview data were collected, transcribed, and uploaded into the data analysis software, NVivo 10, a variety of coding methods were utilized. Initial coding was utilized first. Initial coding is a first cycle coding process, which allows the researcher "to reflect deeply on the contents and nuances of your data and to begin taking ownership of them" (Saldaña, 2013, p. 100). More specifically, initial coding involves breaking down the "data into discrete parts, closely examining them, and comparing them for similarities and differences" (Strauss & Corbin, 1998, as cited in Saldaña, 2013, p. 100). The goal of initial coding is to remain open to all possible interpretations of the data (Saldaña, 2013). NVivo coding, or coding which uses the participants' words has been suggested as an additional method that can be utilized during initial coding (Saldaña, 2013) and was used during initial coding to accurately capture and honor the participants' voices regarding a topic. A preliminary list of deductive codes based on the literature review were also developed before coding the data. After initial coding, the interviews were coded according to these pre-determined codes (see Table 3.1 for deductive and inductive codes). Additionally, attribute coding was utilized to organize basic

descriptive information about the participants (e.g., school name, discipline taught within, number of years taught, etc.) (Saldaña, 2013). Appropriate visual models, figures, and tables were then created to represent the data (Creswell & Clark, 2011). The transcripts were also sent to the participants to do "member checking" to ensure they felt the transcripts accurately reflected the interview conversation (Creswell & Clark, 2011, p. 211).

After analyzing the data, it was apparent that the paths determining *how* the participants came to define SC and *how* they came to teach about SC were more different than similar. To maintain the integrity of the data, these stories are presented separately before discussing both content incorporated and methods utilized within participants' classes collectively.

3.4.3 Course material data analysis. Due to time constraints, the course materials faculty provided were overviewed for major themes related to the current study, rather than being subject to an in-depth analysis. This included reading all information provided (e.g., PowerPoint slides, course outlines, online articles, etc.). When links to videos were provided, these were watched, noting relevant themes. For the course outlines that provided course readings, these readings were accessed, where possible, and the abstracts read. If the article's abstract illustrated relevant themes, the article was read. Relevant themes were determined based on those already identified from the literature review. Also if the article mentioned consumption, it was also read. For the participant who provided course readings, these were also read for relevant themes. The teaching autobiography provided by one participant was utilized to provide context for that participant's teaching methods. Practically, the course materials were utilized to provide additional clarity and examples for faculties' statements from the interviews.

Table 3.1

Deductive and Inductive Codes for Interviews for the Current Study

Deductive and Inductive Codes:	
Functional	● Inequalities surrounding the provision of resources ● Difference between wants and needs ● Environmental effects of the modern acquisition of resources
Sociological	● **Institutional** ○ **Race** ○ **Gender** ○ **Social class** ● **Ideological** ○ Political ideology ○ **Cultural ideology** ● **Power** ○ **Individual choice restrictions** ○ Government choices and choice restrictions ● **Social learning** ● **Discourses**
Psychological	● **Identity and self-image** ○ Many identities ○ Gendered identities ○ Sustainable livelihoods ● **Emotional and hedonistic** ○ Using emotions to forward an agenda ○ Consumption and immediate emotions ○ Unequal placement of guilt on students ○ Anxiety ○ Emotions underlying motivation ● **Status competition** ● **Activism**
Economic	● **Production** ○ Whole cycle of production ○ Production of energy ○ Production of ethical products

	○ Long wave economic cycles ● **Green economy** ○ Possibilities for a green economy ○ Limits of a green economy ● **Global patterns of consumption** ○ Global origin ○ Globally available alternative lifestyles ● Critiquing neoliberalism ● Externalities ● Market system ● Ecotourism ● Exploitation of Indigenous land for profit

Notes. Bolded codes indicate deductive codes from the literature review. Unbolded codes indicate inductive codes from the interviews.

3.4.4 Embedded mixed methods. Within mixed methods research, the conclusions drawn from the individual qualitative and quantitative strands are referred to as inferences and the conclusions drawn from both strands are referred to as meta-inferences (Creswell & Clark, 2011). The preceding sections addressed methods and considerations for the inferences of the quantitative and qualitative studies individually. This section will address considerations for the meta-inferences.

With an embedded design the first step in data analysis is to analyze the primary data (i.e., the interview data) to answer the primary research questions, then analyze the secondary data (i.e., the survey data), and then either merge or connect the two data sets (Creswell & Clark, 2011). For this study, the quantitative data were embedded into the qualitative data. The data were connected, not merged, meaning that consideration was given to the ways that the qualitative data may explain the quantitative data and vice versa (Creswell & Clark, 2011). The next section addresses ethical implications for both the national survey and the interviews.

3.5 Ethical Considerations

Ethics approval for the entire SEPN project, including these interviews, was obtained from the Research Ethics Board (REB) at the University of Saskatchewan. No known risks were identified for the survey participants. Before beginning the survey, participants were directed to read an informed consent form, which detailed the purpose of the study, any potential risks and benefits, informed them of their rights as participants, and provided contact information for any potential questions.

At the start of the telephone interviews, verbal consent was obtained. One potential risk was identified for the interviews for the current study. A few of the questions could have made the participants uncomfortable. For example, participants were asked if they faced any barriers when selecting teaching methods for SC. This risk was addressed by telling participants that they could choose to not answer any of the questions asked. For the most part, the questions encompassed classroom content, teaching methods, and possible connections to policies, which include topics normally discussed with others.

CHAPTER 4: RESULTS

This chapter recounts how and why the six faculty participants in this study taught about ESC, as perceived by themselves, including influences from policies. First the participants are introduced. Then their personal definitions of SC and how they came to teach about SC are presented. Conceptualizations of SC discussed within their classes and teaching methods utilized are then overviewed. As the purpose of the course materials and survey responses was to augment information from the telephone interviews, these data are all discussed together within this chapter.

4.1 Meeting the Participants and their Orientations to SC

The study participants come from various backgrounds and teach differing courses (see Table 4.1). Emma and Liam both teach within the discipline of Education. Jacob is an Economics professor. Nathan teaches within the field of Philosophy. Olivia teaches within the discipline of Geography. William teaches within the fields of Education and Environmental Science. While most participants teach undergraduate students, William teaches graduate students, and Liam teaches both graduate and undergraduate students.

The participants also have varying years of experience teaching, in general, and about sustainable consumption, specifically. While some participants have more experience teaching overall, this did not always mean they had more experience with teaching about sustainable consumption. For instance, Nathan, a professor of Philosophy, has taught for twenty years, the longest of all the participants, but has only taught specifically about sustainable consumption for seven years. Emma, a professor of Education, has taught for eighteen years, all of which she has also taught about sustainable consumption. Overall, the participants were quite diverse in terms of their backgrounds and teaching experience.

Table 4.1

Participants' Disciplines, Number of Years Taught, Number of Years Taught about Consumption, Level of Students Taught, and Courses Taught

Part.	Discipline	Position	Years taught	Years taught about SC	Level taught	Courses taught
Emma	Education	Professor	18	18	Undergrad.	Outdoor Education; Environmental Education; Experiential Education; Foundations of Education; Critical Pedagogy
Jacob	Economics	Professor	16	10	Undergrad.	Political Economy
Liam	Education	Associate Professor	10	10	Undergrad.	Sociology of Education
				Taught summer courses twice	Graduate	Critical Pedagogy, Neoliberalism, and the Environment
Nathan	Philosophy	Associate Professor	20	7	Undergrad.	Interdisciplinary Studies; Philosophical Dimensions of Sustainable Development

Part.	Discipline	Position	Years taught	Years taught about SC	Level taught	Courses taught
Olivia	Geography	Sessional instructor	5	5	Undergrad.	People, Place, and the Environment; Global Perspectives on Land and Life
William	Education & Environmental Science	Postdoc. fellow	7	7	Graduate	Environmental Science; Environmental Education

Notes. Part. = Participants. Undergrad. = Undergraduate. Postdoc = Postdoctoral.

Participants' definitions of SC and their reasons for using those definitions vary, albeit not without similarities as well as differences across the definitions. Connections also exist between participants' definitions and international, national, local, and/or institutional policies. Participants' definitions were categorized into two overarching categories and four individualized foci. The two categories are *futures thinking*, meaning their definition considers future generations, and *needs-based thinking*, meaning consumption is understood as a way to address basic human needs. Four participants, Jacob, Liam, Olivia, and William, utilize definitions categorized as *futures thinking*. Two participants, Emma and Nathan, define SC using a *needs-based* definition. Some of the participants also include a specialized focus, distinguishing their definition from other's definitions. These specialized foci include critical thought, renewable energy, quality of life, and ecosystems considerations (see Table 4.2).

Table 4.2

How Participants Define Sustainable Consumption

Part.	Discipline	Definition of sustainable consumption	Categorization
Emma	Education	"I think for me recognizing that we all need to consume certain things to survive, like food and water, and we need shelter. So, there's sort of basic survival things. And then on top of that is where...we have to think about making sustainable choices even with consumption of things we need to survive. And then I think we need to think REALLY critically about everything else."	● Needs-Based Thinking ● Critical Thought Focus
Jacob	Economics	"So…meeting the needs of today's societies without compromising the future's needs."	● Futures Thinking
Liam	Education	"Well, we live on a finite planet, so whatever we consume would be something that could be either renewable or something that isn't decreased to the point that future generations are in want of. So, we should be able to consume at a rate that doesn't hurt access to these things, whatever it is we're consuming, energy or food or whatever for the future."	● Futures Thinking ● Renewable Energy Focus
Nathan	Philosophy	"So, the idea that you're looking at…how people use services and products in a way that responds to basic needs while improving quality of life and minimizing the impact on…nature. And I guess also looking at the side things that impact quality of life. So…pollution and that kind of thing."	● Needs-Based Thinking ● Quality of life focus

Part.	Discipline	Definition of sustainable consumption	Categorization
Olivia	Geography	"So, in terms of something that will…be environmentally durable. And also socially adaptable into the future."	● Futures Thinking
William	Education & Environmental Science	"So, I would kind of fall back on the old definition of sustainable consumption is consuming at a rate where ecosystems can replenish themselves. And usually that just relates to biological resources. I think sustainable consumption's incompatible with a lot of the resource extractions for…finite resources like minerals and fossil fuels."	● Futures Thinking ● Ecosystem Focus ● Renewable Energy Focus

Note. Part. = Participants.

Participants' descriptions of how their understandings of SC developed, including possible connections to policies as perceived by the participant, are included below. These descriptions are followed by how the participants came to teach about SC by highlighting significant barriers and drivers to content and methods regarding SC, including influences from international, national, local, and/or institutional policies. Participants' individual stories are presented first. Significant drivers and barriers are then presented together to highlight similarities and differences.

Emma's story begins during childhood. Growing up on a farm, her family grew their own food and repaired their own equipment. Additionally, having grown up in poverty, her parents always carefully considered consumptive decisions before making purchases. Essentially, she lived with SC practices before realizing her family's lifestyle fit such a label. She was only introduced to extraordinary wealth and waste later in life when she moved to the city. With this move came feelings of disconnect between this new city lifestyle and her childhood practices, but it was not until her master's degree in Environmental Studies that she acquired a label for her childhood practices (i.e., SC). During Emma's master's studies, her definition of SC expanded to include food choices. Prior to her graduate studies, she ate meat, but during her schooling, she

was introduced to ideas about vegetarianism and veganism as alternatives. Later in life, Emma moved again to a small city in southern Ontario where she had more contact with Indigenous people, learning much from individuals who are, as she described, "a little closer to the food chain" and "the land." Emma does not believe her definition of SC was influenced by policies.

According to Emma, her teaching method was influenced by her educational background and overall teaching philosophy. Emma believes her background in outdoor education, experiential education, and critical pedagogy, influenced the origin of her teaching methods regarding SC.[1] Emma's background in experiential education and critical pedagogy influenced her decision to rely heavily on the use of activities when teaching about SC. These approaches also prompted her to begin her classes from students' current understanding of a topic. From there, she facilitates their discovery of the multiple perspectives regarding environmental issues, encouraging critical thought. Emma was also influenced by several professors, especially her supervisor, who encouraged her to use scholarship as activism. As a student, Emma began noticing her privilege. Instead of feeling guilty, Emma decided to "spend her privilege" by including environmental and social justice themes across courses, making pedagogical decisions influenced by environmental and social justice (e.g., building safe learning spaces, using activities to unpack privilege, and going outside), facilitating praxis, which according to Emma is "the way theory, research, and practice can be connected, each influencing the other," by ensuring many different voices are heard in course readings, guest speakers, etc., and by paying attention to the "underlying assumptions of the fields, including understandings of the

[1] Outdoor education "refers to programs and curricula that utilize outdoor experiences for educational purposes, which include environmental education and personal and social development" (Tan & Atencio, 2016, p. 25). Experiential education "is a philosophy that informs many methodologies in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities." (Association for Experiential Education, n.d., n.p.). Critical pedagogy encourages "independently minded learners [to] question the status quo and engage explicitly with questions of truth, power, and justice" (Farrow, 2015, p. 1).

educational implications of race, class, gender, ability, body size, sexuality, and human/environment and human/animal relationships" (Emma's teaching autobiography, 2014). Emma tries to utilize teaching methods that engage her students:

> I don't like the top down transmission oriented approach to education, which a lot of university teaching can look like. So, I, that's why I don't lecture very much. So, for me it's really about my general teaching philosophy that I think we need to have a variety of different ways of getting at issues that engage students that are authentic and real world and that just make sense to them, you know, with their lives.

Emma does not feel she has faced any barriers when selecting teaching methods for SC, but she has altered her course content to include interesting resources provided by students (e.g., *The Story of Solutions* video by Leonard (2008)). While Emma has not experienced any barriers to her teaching methods, she sometimes receives resistance from students regarding her course content because the material is new for them. She overcomes these barriers through media literacy and critical pedagogy activities which often break down resistance. Emma also mentioned that while her teaching method is not currently affected by policies, she is worried the move towards an audit culture in academia with "specified learning outcomes" may eventually hinder some of her more creative methods.

Jacob's story begins later in life after doing his own research and reading. Initially, his understanding was influenced by books, such as Juliet Schor's, *The Overworked American*. Schor was concerned consumers were buying more than they could afford. Influenced by his reading, Jacob, an Economics professor, believes his initial definition of SC focused as much on the financial stresses experienced by the consumer due to overconsumption, as the working conditions and environment of the workers who were producing products. Jacob's approach to defining SC changed after doing more professional research (i.e., about ethical labeling, in general, and the topics of Blood Diamonds and organics, in particular) and talking with his students. He was then prompted to change his approach to focus more on the perspectives of those impacted by production as opposed to focusing equally on the consumer themselves. Jacob also acknowledged his own definition of SC is almost verbatim from the definition of sustainable

development provided by the World Commission on Environment and Development (1987, n.p.) as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (also known as the Brundtland Report).

Jacob believes his teaching method is largely influenced by his own research and reading. Jacob's research, especially regarding ethical consumption, influenced his teaching as he grappled with whether or not ethical consumption and fair trade can "solve the problems of the world producers and environmental problems associated with coffee production and stuff like that." Jacob was also influenced by several authors, such as Robert Franks' and Juliet Schor's work on SC and status competition. He was also influenced by Alan Durning who authored the book, *How Much is Enough?* Durning's (1992) book highlights the necessity of reducing ever rising levels of consumption. After reading publications by these authors, Jacob began incorporating these topics within his courses. Jacob has changed his teaching method over the years. In particular, Jacob lectures less now due to barriers he faced. Previously, his students were very resistant to the idea that marketing influences them. In response to this barrier, Jacob began using activities (e.g., tracing products) where students come to that conclusion themselves. International policies have also affected Jacob's course content. While Jacob does not focus on the content of international policies, he does discuss why an agreement on greenhouse gases, such as the Kyoto protocol, is so difficult.

For Liam, environmental issues were always important. As a high school student, he was convinced by a teacher of the necessity to protect the environment and was warned of "forces" that will pollute the environment, even if they know it is detrimental. Additionally, Liam's involvement in green politics, especially with groups such as the Toronto Nuclear Awareness Program and Greenpeace, was influential. Many years ago, Liam also personally experienced environmental degradation while living in a "beautiful" logging town with a paper mill in southern B.C. When residents were told not to eat the local crab because the paper mill was putting dioxins in the water, Liam began focusing on the environment in his teaching. Liam was

also influenced by his own reading, especially *Limits to Growth* by the Club of Rome, which argued endless consumption is not possible on a finite planet. Liam's definition of SC changed after his experience with a local social movement. This movement aptly named, Idle No More, emerged after the Canadian federal government passed two omnibus bills, Bill C-38 and Bill C-45, which deregulated fresh water (Hoekstra, 2014). Liam described Idle No More as a movement led by First Nations people who did not want to eat fish from contaminated water and rose up to challenge that bill. Idle No More was started by one of Liam's colleagues; her involvement in this movement influenced him to include a stronger focus on social movements within his teaching.

Liam does not believe his definition of SC is influenced by policies, which he perceives are "just rhetoric." While Liam thinks policies are "good to SAY," he thinks they are not enough. Liam also believes policymakers manipulate language in policies (e.g., the Clear Skies Act in the United States, which according to Liam, decreased regulations on toxic emitters, thereby increasing pollution). He also does not believe he is influenced by national declarations. Liam mentioned Harper said that Canada would sign a declaration by the year 2050, but Liam believes it is "silly to do a declaration over 35 years later when none of us will be alive." Liam also indicated that he does not believe he is affected by international declarations because these commitments are often rescinded, mentioning how Stephen Harper pulled Canada out of the Kyoto Protocol as an example. Liam believes his definition of consumption is more affected by non-governmental organizations (NGOs), such as the Council of Canadian's work on freshwater, Greenpeace, and Oxfam as opposed to policies.

Liam believes his teaching methods were mainly influenced by his teaching philosophy about the importance of student engagement. Liam uses inquiry-based methods because "the research of education says students will learn more if they're interested in the topic." While Liam initially discovered inquiry based teaching methods from a colleague, he later incorporated these methods after doing his own research regarding their effectiveness. While Liam has not

encountered barriers when selecting teaching methods, students will sometimes become upset if he calls the "oil sands," "tar sands." In response, Liam mentions, "The conservative government used to call [the oil sands] tar sands too, and they went to a public relations firm, and said help us, we're losing the battle here with the public. And the PR firm said for one thing stop calling it tar sands, call it oil sands." Liam understands why students become upset because they are worried about people they know losing their jobs. He attempts to alleviate students' worries by citing potential green job creation if energy production was fueled by green energy, not oil; thereby, exposing what is referred to in his graduate course syllabus as "the false dichotomy between a strong economy versus a healthy environment" (Liam, course outline).

Liam's course content has been somewhat influenced by institutional policies. When his university stopped using pesticides on campus, he began mentioning this within his classes. Liam also discusses his desire for his university to create a policy divesting from Big Oil and problematizes the fact that the environment program on his campus receives money from Big Oil.

Nathan believes his definition of SC was initially influenced by his work experience. As a coordinator of a Regional Center of Expertise (RCE) on education for sustainable development, he considers sustainable production and consumption as part of the broader focus of the UN and UN University. Additionally, he has been a Co-op Board member for twelve years where he has gained direct interaction with the "whole consumer world." Additionally, as a political philosopher, Nathan is interested in the "REAL world politics" of how definitions are developed by organizations (e.g., UN). He tries to understand why terms (e.g., SC) are defined in a particular way to enable agreement (e.g., among policymakers, NGOs, etc.). Nathan's definition of SC has changed over time through interactions with his colleagues. While co-teaching an interdisciplinary studies course, which focused on agency and citizenship, SC was considered as "a strategic possibility" in relation to contemporary philosophical ideas of agency (i.e., "our ability to pursue and achieve that which we value in a challenging and changing world") where

"agency is an active and responsible freedom, as embodied, for example, in citizenship" (Nathan, course outline). In other words, making sustainable choices is an expression of agency and a tangible representation of citizenship. Nathan also wrote a joint paper with other RCE members about sustainable livelihoods. As the lead author of this paper, he fleshed out what sustainable development meant in relation to SCP and sustainable livelihoods. Nathan believes his definition of SC is affected by international policies. Through his work with the RCE, he invariably encounters definitions utilized by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) and the United Nations Environment Programme (UNEP), which then influence his own personal definition.

Nathan believes his teaching methods were influenced by his research interests. Nathan is interested in historic shifts in production processes. More specifically, he is interested in the shift to market domination from tribal based systems. For him, "[SC] then is kind of a strategic tool in dealing with that market dominance," which means that Nathan often illustrates how SC (e.g., households growing their own food) can allow production and consumption outside of a traditional market system. While Nathan has not experienced any barriers when selecting course content or teaching methods, his method has changed slightly due to interactions with his colleagues, especially those in Environmental Ethics. Additionally, while he has not faced any barriers, no one has necessarily told him he should do this type of work. He believes his work with the RCE is about bringing together people who are interested in sustainability. Nathan believes he has not faced resistance from students regarding course content because he illustrates how the idea developed through different UN forums and because he is just introducing the topic.

Nathan's course content, teaching methods, and decision to teach about SC have been influenced by international and municipal policies. His course content has been influenced by several policies, including a ten-year framework, to which sustainability was central, produced as a result of the United Nations (UN) Year of the Cooperatives, the UN Environment Program,

especially their 10-year Sustainable Lifestyles Program, which meshed well with his work on sustainable livelihoods, and the UN Decade of Education for Sustainable Development. Nathan also mentioned his teaching method is affected by policies. For Nathan, policies provide data for analysis. Students within his classes analyze the strengths and weakness of policies, consider who authored the policies and why, determine the choices made within the policies, and reflect about why certain choices were not considered. Nathan's decision to teach about SC was influenced by the UN Decade for Education and Agenda 21. Additionally, Nathan's direct experience in the creation of several municipal policies (e.g., a mission statement for sustainability in his city) and his work with a local Environmental Development Working group, which came out of Agenda 21, have also influenced his decision to teach about SC.

Olivia believes her definition of SC was initially influenced by her work experience. Many years ago, she worked with an environmental organization urging people to change their behaviors by buying greener products. During her master's studies, interactions with colleagues and her own research (e.g., on systems of provision for water and energy) reoriented her focus away from individual behaviors to the systems (i.e., organizations and companies) framing available decisions. Olivia believes international and workplace policies have also influenced her definition of SC. Conventional definitions of SC within international policies, especially those emerging from the Rio conferences on sustainable development, "have very much focused on…changing the behavior of individuals." Olivia believes exposure to this trend heightened her sense of criticality when cultivating her own definition of SC.

Olivia believes her teaching method was influenced by her education, research, and interactions with students and colleagues. Through her education and research, she "[developed] an understanding of this linkage between consumption and provision." Additionally, according to Olivia, her background in Geography means she always considers the "two-way relationship between humans and the environment," which affects how she teaches about SC. She also brings her research about SC and the provision of resources (e.g., water and energy) into her classes.

Since Olivia was a researcher before she was a professor, she admits her "research informs [her] teaching more so" than her educational background. Olivia's teaching method has also changed over the years through interactions with students and colleagues. In particular, Olivia has begun using more lectures since moving to Canada due to large class sizes. Conversely, Olivia has also begun including more "interactive element[s]" by asking her students to discuss sustainability related work in which they are involved and inviting guest speakers from the community to discuss their jobs in relation to sustainability.

Olivia has experienced several barriers when selecting teaching methods for SC. Olivia mentioned, due to large class sizes, she cannot do field or group visits. The diverse background of Olivia's students was also cited as somewhat of a barrier for her teaching content. Her classes include students from the disciplines of Marketing, Business, Environmental Science, and Geography. Her main barrier, which she admits is more of a challenge than a barrier, per se, has been in illustrating potential applications of her course content to differing disciplines and careers. While her Geography and Environmental Science students already understand the concepts she is presenting, her classes allow time for the Marketing and Business students to reflect about these issues. Even though Olivia teaches students from a variety of backgrounds, she has not faced major resistance to her course content because her students discuss many definitions and ideas, only to decide which ones they feel are acceptable.

International, local, and departmental policies have influenced Olivia's teaching content, methods, and decision to teach about SC. Olivia utilizes international policies as a framing device, utilizing major policies around water and energy as an introduction to those issues. From there, she discusses how students can influence change at a local policy level. Olivia was also influenced by the Rio conferences and the Organization for Economic Cooperation and Development's (OECD) program on SCP, especially where they linked consumption and production together. Olivia utilizes local and regional policies (e.g., town planning policies) when discussing cultures of water and energy consumption. Olivia is also influenced, practically,

by institutional policies. Within her department, several of her colleagues teach the same introductory course. To ensure consistency, a departmental policy ensures all course professors cover the same main themes and use the same textbook. Olivia does not consider this a large constraint because it is an introductory level course. Olivia's decision to teach about SC was influenced by international policies related to the provision of resources, specifically economic policies which have commodified water. In addition to teaching, Olivia does some consultant work where she deals with building standards and urban development and planning policies. She includes information about these experiences when teaching about SC. She believes these examples contextualize her teaching by providing real world illustrations of the impact policies have on SC. Olivia also mentioned the presence of (or in some cases lack thereof) policies signaled the importance of teaching about SC.

William believes his definition of SC was initially influenced by his education in the biophysical sciences (i.e., ecosystems have certain thresholds). His definition of SC developed by looking at what is not SC. For him, it is not resource extraction, extreme consumption, energy using finite resources, or efficient consumption. William's definition of SC has changed over time. This change resulted from immersion in two different generations in the workplace. With baby boomers as colleagues and millennials as students, he realized sustainability looks different for these two cohorts. While his students (i.e., the millennials) were worried about available physical resources in the future, his colleagues (i.e., the baby boomers) were claiming to live sustainable lifestyles, while not actually living sustainably. William believes the juxtaposition of this dichotomy increased his criticality regarding what it means to sustainably consume.

William does not believe his definition of SC was influenced by policies. In terms of municipal policies, William mentioned that while his city has some Agenda 21 initiatives, no policies have emerged. Additionally, he mentioned even though his city has drafted a green city plan, it has been under development for about six years and is not revolutionary. He also does not believe provincial policies have influenced his understanding of SC, particularly because his

province is behind others in developing a sustainability plan. He also does not believe he is influenced by NGOs. He believes they provide recommendations, which are never coded into actual laws or practices.

William believes his teaching methods were influenced by his personal experience and conversations with colleagues. William tries to emulate teaching styles he likes and those from colleagues he works with and respects. In terms of content, when William began teaching, he focused more on ecosystems and biodiversity, but he noticed he was not receiving much interest from his students. William recounted, "I didn't have as much interest from students until I started engaging more with social systems that they were actually, felt more familiar with. So, I think I definitely incorporated a lot more look at human society in addition to just biophysical … ecosystems and biodiversity." Additionally, William has begun lecturing more since moving to Canada. Previously, his classes were more discussion-based, but when using this method in Canada, his classes were often silent. In response, he switched to lecturing. He hypothesized the silence could be the result of teaching night classes.

Overall the content within William's classes and his decision to teach about SC has been influenced by his experiences, both personal and within the classroom, and municipal and institutional policies. William's experience with cultures other than his own prompted him to question why the North American lifestyle is the one people often strive for, while widely dismissing or ignoring global alternatives. While William did not experience barriers to his teaching methods, social and economic trends (i.e., social scripts dictating the necessity of large houses and cars and reliance on nonrenewable energy resources) have provided a barrier for how SC is defined within his classes. Especially since William moved to Canada, the prevalence of unsustainable resources has made conversations about SC even more difficult because many of the resources consumed are not sustainable. He admitted that because of this, "a lot of what I wanted to talk about sustainable consumption has actually shifted to efficient consumption." According to William, while many of his students understand the concept and want to consume

less, they are unsure about the next step following critique, other than individual choices which are limited. William mentioned his students feel trapped by a social system where they "HAVE to own a car. [They] HAVE to get a home in the suburbs because that's all [they] can afford." William has altered his course content to focus more on alternative lifestyles, human society, and efficient consumption in response to his personal experiences and those with students. The course content within William's classes has also been influenced by institutional policies, which focus on efficient versus sustainable consumption. While William admits that efficient consumption is not sustainable, he believes it is a more pragmatic approach because many people cannot choose a completely sustainable lifestyle. William's decision to teach about SC was influenced by municipal policies outside of North America. The policies of other cities around the world have allowed him to see what is possible.

In sum, participants believe their definitions of sustainable consumption are influenced by a variety of factors (e.g., education, research, reading, and personal and work experiences) and a range of people (e.g., colleagues, students, and First Nations people). Three participants (i.e., Jacob, Nathan, and Olivia) believe their definitions are affected by policies and three participants (i.e., Emma, Liam, and William) believe their definitions are not affected by policies. A side by side glance of the drivers and barriers[2] to teaching methods and content mentioned by participants is presented in Table 4.3, highlighting similarities and differences.

[2] This focus on drivers and barriers is similarly aligned with SEPN's national survey, which tried to determine influences that acted as drivers and/or barriers for sustainability practices at their PSE setting.

Table 4.3

Drivers and Barriers for Participants' Teaching Methods and Content

Drivers and Barriers:	**Participants**					
	Emma	**Jacob**	**Liam**	**Nathan**	**Olivia**	**William**
Drivers: Education						
Disciplinary background	✓				✓	
Reading		✓				
Research		✓	✓	✓	✓	
Teaching philosophy	✓		✓			✓
Drivers: People and Culture						
Experiences with other cultures						✓
Interactions with colleagues			✓	✓	✓	✓
Interactions with students					✓	✓
Professors	✓					
Students recommend materials	✓					
Drivers: Policies						
Institutional policies			✓			✓
International policies		✓		✓	✓	
Local policies					✓	
Municipal policies				✓		✓
Provide data for analysis				✓		
Barriers: People and Culture						
Diverse background of students					✓	
Students not interested in material					✓	✓
Students resistant to material	✓	✓	✓			
Barriers: Workplace Setting						
Large class sizes					✓	
Sessional instructor					✓	
Barriers: Society						
Social and economic trends						✓
Barriers: Policies						
Departmental policy					✓	

On SEPN's national survey, participants also indicated their definition of sustainability (see Table 4.4). As expected, participants' definitions of sustainability largely expand on their

definitions of SC, as SC is one piece of sustainability. There were, however, a few interesting observations. For instance, while Jacob's definition of SC in his interview was closely aligned with meeting the needs of present and future generations, his definition of sustainability on the survey only included a focus on a sustainable economy. Additionally, Nathan's SC definition, which includes a quality of life focus in terms of pollution, was further elucidated through his addition of "sustaining natural and human capital" on the survey.

Table 4.4

How Participants Define Sustainability on the National Survey

Part.	Protect. or concerned with the natural env.	Interconnection between social, env., and economic concerns	Meeting the needs of present and future generations	Based in Indigenous knowledge and worldview	A focus on a sustainable economy	Other: Sustaining natural and human capital
Emma	✓	✓	✓	✓	✓	N/A
Jacob					✓	N/A
Liam	✓	✓	✓	✓	✓	N/A
Nathan	✓		✓			✓
Olivia		✓	✓	✓		N/A
William	✓					N/A

Notes. Part. = Participants. Protect. = protecting. env. = environment(al).

As part of SEPN's national survey, participants were also asked questions to gauge their overall commitment to sustainability. Participant's commitment to sustainability was measured by utilizing the New Ecological Paradigm scale (NEP) (see Figure 4.1 for NEP scores for all national survey participants). Possible scores could have ranged from -2 (strongly disagree) to +2 (strongly agree). Higher scores indicate agreement with the NEP as opposed to the dominant

social paradigm (DSP). The mean NEP score for the current study is 1.07 (SD = 0.42), indicating a general tendency to agree with the NEP.

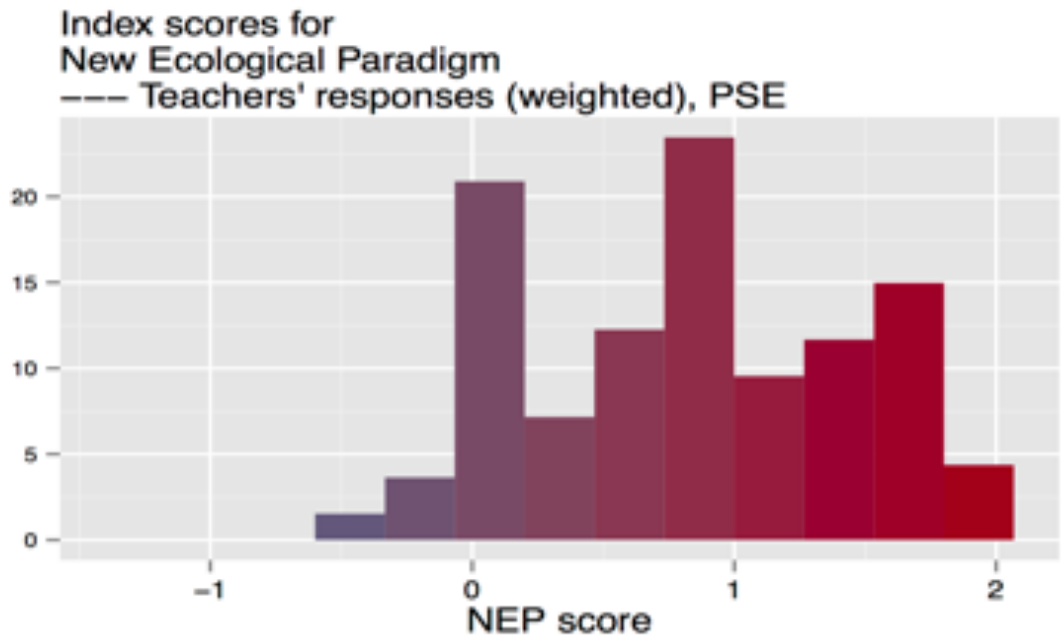

Figure 4.1. Index Scores for the New Ecological Paradigm Scale: All Teachers' Responses (weighted), PSE (N=1,053)

The means and standard deviations for the current study for each item on the NEP are presented in Table 4.5. Agreement with the eight odd-numbered items indicates endorsement of the NEP, while disagreement with the seven even-numbered items indicates endorsement of the NEP (Dunlap et al., 2000). Even-numbered items were reverse coded such that a higher score indicates a pro-NEP orientation.

Table 4.5

Means and Standard Deviations for the NEP Scale for the Current Study (N=6)

Item:	M	SD
1. We are approaching the limit of the number of people the Earth can support.	0.67	0.82
2. Humans have the right to modify the natural environment to suit their needs.	0.33	1.21
3. When humans interfere with nature it often produces disastrous consequences.	1.17	0.75
4. Human ingenuity will insure that we do not make the Earth unlivable.	1.5	1.22
5. Humans are seriously abusing the environment.	1	1.55
6. The Earth has plenty of natural resources if we just learn how to develop them.	0.33	1.21
7. Plants and animals have as much right as humans to exist.	1	1.10
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations.	1.33	0.82
9. Despite our special abilities, humans are still subject to the laws of nature.	1.67	0.52
10. The so-called "ecological crisis" facing humankind has been greatly exaggerated.	1.83	0.41
11. The Earth is like a spaceship with very limited room and resources.	0.67	0.82
12. Humans were meant to rule over the rest of nature.	1.5	0.84
13. The balance of nature is very delicate and easily upset.	0.33	1.21
14. Humans will eventually learn enough about how nature works to be able to control it.	1.17	0.98
15. If things continue on their present course, we will soon experience a major ecological catastrophe.	1.5	0.84
Total	1.07	0.42

The revised NEP scale also measures five proposed elements of an ecological worldview: the reality of the limits to growth, anti-anthropocentrism, the fragility of nature's balance, rejection of exemptionalism, and the possibility of an ecocrisis (Dunlap et al., 2000). Overall, participants' results indicate a general tendency to agree that humans are not exempt from the constraints of nature (anti-exemptionalism) and the possibility of an eco-crisis (eco-crisis). There is less agreement regarding: the human potential to upset the balance of nature (balance of nature), the inherent value of nature (anti-anthropocentrism), and the existence of limits to growth for human societies (limits to growth). Table 4.6 shows the means and standard deviations for each of the five facets for participants of the current study. The following section will detail how participants define SC within their classes.

Table 4.6

Means and Standard Deviations for the Five Facets of the NEP Scale for the Current Study (N=6)

Subscale	**M**	**SD**
New Ecological Paradigm Scale (NEP)	1.07	0.42
Facets (1-5)		
Limits to Growth	0.56	0.58
Anti-Anthropocentrism	0.94	0.95
Balance of Nature	0.94	0.68
Anti-Exemptionalism	1.44	0.78
Eco Crisis	1.44	0.54

4.2 Course Content Regarding SC

Analysis of course materials and the interviews suggest that the content included in participants' courses addresses the functional, sociological, psychological and economic aspects

of consumption as outlined in the literature (Carida, 2011). While methods of inclusion vary among participants, all four aspects are considered by each participant. The sub-themes identified below were inductively generated but are grouped under the major deductive themes identified in the literature review (i.e., functional, sociological, psychological, and economic), as these themes provided a useful organizational structure. The accounts of how each participant included each of the four aspects of consumption are detailed below.

4.2.1 Functional. As described in the literature review, functional consumption includes purchases related to human survival (Carida, 2011). Food consumption that is healthy for both humans, in terms of relying on more plant-based rather than animal-based products, and the environment, in terms of local production is also included. All six participants address this area of consumption within their classes in differing ways, including identifying *inequalities surrounding the provision of resources,* the *difference between a want and a need* when purchasing products, and the *environmental impact of modern efforts to acquire resources* (see Table 4.7).

Inequalities surrounding the provision of resources are discussed in five participant's classes in various ways, including the use of slave labor in the prawn industry in Thailand (by Jacob), the implications of the commodification of water (by Olivia), the inequalities surrounding toxic waste exportation from richer to poorer countries (i.e., by Emma and Olivia), and the use of resource extraction methods (e.g., fracking) that are often disproportionately environmentally destructive to First Nations land (by Liam). Some participants (i.e., Jacob and Olivia) also mention that people in developed countries use more resources than those in developing countries. Two participants (i.e., Emma and Nathan) include a focus on the difference between absolute and relative poverty to highlight huge consumption level differentials within a population.

Five participants also discuss the *difference between wants and needs* within their classes. Discussions include that people are sometimes taught to think their wants are needs (by Emma)

and that people often buy things they do not need (by Jacob). The overconsumption of resources, such as using more water than is necessary for survival, is also mentioned (by Olivia). Ideas about purchasing smaller products, such as houses and cars, are also included (by William). One participant (Nathan) also includes a focus on the philosophical implications of having the freedom to choose how to meet one's needs.

The *environmental effects of the modern acquisition of resources* are also discussed by five participants. Discussions include the environmental effects of modern industrial agriculture (by Olivia), the negative environmental effects of non-renewable resource extraction on the land, air, and water (by Liam), and the effects of trawling on biodiversity in oceans (by Jacob). Additionally, the link between SC and food choices is highlighted (by Emma). The environmental benefits of local production are also discussed (i.e., by Emma, Nathan, and Olivia).

Table 4.7

Functional Themes in Relation to Consumption Incorporated in Courses

Participants	**Functional Themes**
Emma	***Inequalities surrounding the provision of resources*** ● Considers inequalities surrounding spent resource exportation (e.g., shipping toxic waste from richer to poorer countries) within her course material (Leonard, 2010). ● Mentions while some people need to consume less, others need to consume much more to survive in a course material (Leonard, 2010). ***Difference between wants and needs*** ● Highlights how, "People are taught to think that their wants are needs" and the resulting link to consumerism. ● Mentions various resources, such as *The Lorax* by Dr. Seuss, teachers can utilize to illustrate the difference between a want and a need. ***Environmental effects of modern acquisition of resources*** ● Mentions food choices (e.g., vegetarianism and veganism) that do not rely on unsustainable industrial animal production processes, which propagate numerous environmental and health concerns.[a] ● Mentions choosing local products is "greener because it doesn't have

	the transport associated with it. And you can do more research on the production practices."
Jacob	***Inequalities surrounding the provision of resources*** ● Includes a focus on the inequalities within the prawn food industry in Thailand, which is fed by slave labor in a course material (Hodal et al., 2014). ● Highlights the environmental impacts that would follow if other less affluent countries followed in Western countries' footsteps. ***Difference between wants and needs*** ● Suggests "people buy things that maybe they don't need." ***Environmental effects of modern acquisition of resources*** ● Includes a course reading about the negative effects on the biodiversity of the Sea of Cortez in Mexico due to trawling (Vance, 2013).
Liam	***Inequalities surrounding the provision of resources*** ● Includes a focus on how the negative environmental effects of resource extraction often disproportionately affect First Nations communities. ***Environmental effects of modern acquisition of resources*** ● Includes a focus on the ramifications of extracting non-renewable resources for energy, especially with environmentally destructive methods (e.g., fracking), on the land, air, and water.
Nathan	***Inequalities surrounding the provision of resources*** ● Discusses the difference between absolute and relative poverty, beginning with the Brundtland Report's focus on meeting "the needs of the poorest [i.e., absolute poverty]," and then expanding to highlight issues resulting from "huge differentials in terms of consumption within a population [i.e., relative poverty]." ***Difference between wants and needs*** ● Considers the philosophical importance of the freedom to choose how to meet one's needs through Amartya Sens Capability Approach.[b] ***Environmental effects of modern acquisition of resources*** ● Mentions the potential of choosing local production to reduce the "negative impacts upstream" if you think about what is "embedded within [a] product in terms of the way it's been made and how it's been shipped and all of that."

Olivia	***Inequalities surrounding the provision of resources*** ● Considers the commodification of water by analyzing global situations where water was once free, but now individuals must pay for this vital resource. ● Considers inequalities surrounding spent resource exportation (e.g., shipping toxic waste from richer to poorer countries) within her course material (Olivia, PowerPoint slides). ● Highlights how people in developed countries use more resources than those in developing countries. Course PowerPoint slides highlight how, "people in developed countries on average consume about 10 times more water daily than those in developing countries." ***Difference between wants and needs*** ● Discusses the overconsumption of resources. For example, one of Olivia's PowerPoint presentations highlight that while human survival only requires about 5 liters of water per person for drinking and 50 liters of water per person for cleaning, cooking, and sanitation a day, Canadians consume 300 liters a day for residential use alone. ***Environmental effects of modern acquisition of resources*** ● Discusses the costs and benefits of industrial agriculture versus sustainable farming (Olivia, PowerPoint slides). ● Highlights how, "agriculture has done more than any other activity to transform the natural world in the last 10,000 years" and how modern "industry privileges economies of scale and profit above sound ecological relations" (Olivia, PowerPoint slides). ● Discusses the pros and cons of buying organic products versus buying from local farms in a course material (Olivia, PowerPoint slides).
William	***Difference between wants and needs*** ● Poses questions, such as "humans need shelter, but do you need the three-bedroom house in the suburbs," to his students. His students usually realize they can still live a "good life" even if they do not own a large house or vehicle. He also acknowledges that humans need access to transportation but asks his students to consider if they need "energy intensive" vehicles.

4.2.2 Sociological. The sociological aspect of consumption includes the purpose of consumption within the lives of individuals, who are also connected to and influenced by social

interactions (Schaefer & Crane, 2005). Sociological considerations are included in all participants' courses (see Table 4.8). Discussions include *institutional* and *ideological* considerations in relation to consumption. The influence of *power*, *social learning*, and *discourses* to structure choices are also mentioned.

Participants include *institutional* considerations within their classes through discussions about race, gender, and social class in relation to consumption. Discussions about race include the implications of white flight on SC (i.e., by Jacob and William) and environmental racism[3] (i.e., by Jacob and Liam). The implications of gender marketing on consumption patterns are also considered (by William). Participants also include how social class can limit choices about where to shop, where to live, and products bought (i.e., by Emma, Jacob, and William).

Ideological meanings, often expressed through the beliefs, politics, culture, or religion of a group of people, may also affect consumptive practices. Participants consider the implications of political and cultural ideologies on consumption practices. Discussions regarding political ideologies include references to the corporate agenda (by Liam) and the importance of the political system in enacting positive changes for SC patterns (i.e., by Jacob and Liam). Cultural ideologies are discussed in terms of First Nations peoples' traditional ways of life (by Emma), the social and cultural construction of knowledge (by Olivia), the differential roles cultures can assign based on gender (by Emma), and the influence of marketing and advertising on cultural ideologies regarding how much and what is consumed (i.e., by Emma and Jacob). Cultural understandings regarding the meaning of having a 'quality of life' are also mentioned (i.e., by Emma, Nathan, and William).

The influence of *power* to restrict individual and governmental choices is also mentioned in participants' courses. Considering consumption from the perspective of power, while not denying human agency, recognizes actions are often structured or constrained by more powerful

[3] Environmental racism occurs when environmental hazards are placed in close proximity to communities of low income or ethnic minority people (Covert & Konczal, 2016).

actors. Participants mention the limited availability and accessibility of stores, services, and products can reduce power to choosing amongst alternatives at best and disallowing alternatives at worst (i.e., by Emma and William). Participants also discuss the power marketing and advertising can wield over consumptive decisions (i.e., by Emma, Jacob, and Olivia). While discussions acknowledge people's agency to make their own decisions, they also implicate marketers' attempts to infiltrate that agency. The power of Big Oil to limit choices is also mentioned (by Liam). The power of policies to limit choices is also considered (i.e., by Olivia and William). One participant (Nathan) considers the power of military consumption through its representation of strength.

While discussions of power illustrate how individual decisions can be restricted, the *social learning* aspect of consumption acknowledges the significance, of not just individual learning, but also learning which occurs in social groups. Within a social setting, individuals encounter various written and spoken discourses, which can frame possibilities, imaginings, and actions or be utilized for subversion and beguilement. One participant (Olivia) discusses how knowledge (e.g., about water or energy use) is transferred among groups of people. Two participants consider how discourses affect conversations and actions related to SC. Discourses related to success and happiness are included (by William). One participant (Liam) also exposes the power of written discourses to conceal intentions.

Table 4.8

Sociological Themes in Relation to Consumption Incorporated in Courses

Participants	**Sociological Themes**
Emma	***Institutional*** *Social class:* ● Includes a focus on how social class may affect people's choices about where to buy products (e.g., shopping at Wal-Mart because it is all they can afford). ***Ideological*** *Cultural ideology:*

	● Includes a focus on how First Nations people live closer to the land (e.g., hunting and fishing). ● Includes a focus on the differential roles cultures can assign based on gender (i.e., gendered cultures).[c] ● Includes the correlation between amount of TV watched and consumption levels within a course material (Leonard, 2010).[d] ● Includes information that even though Americans are making more money and buying more, they are not happier in a course material (Leonard, 2010).[e] ● Includes a focus on cultural ideas around planned and perceived obsolescence[f] in a course material (Leonard, 2010). ***Power*** *Individual choice restrictions:* ● Discusses the manipulative effect of greenwashing (i.e., telling people products are green when they are not (e.g., toilet paper)). ● Includes a focus on the illusion of choice (i.e., many options in stores but they are often made with toxic chemicals) (Leonard, 2010). The same course material also argues, "The powerful are those who set the agenda, not those who chose from the alternatives it offers" (Leonard, 2010, p. 172). ● Discusses how, in small communities, the types of shops available is limited. ● Discusses how, "advertisers purposively make people feel inadequate. And that buying crap will make them somehow magically better."
Jacob	***Institutional*** *Race:* ● Discusses white flight to the suburbs through a prisoner's dilemma activity (see Teaching Methods section) ● Includes a focus on environmental racism in a course material (Vance, 2013). *Social class:* ● Includes a focus on the connections between social class and consumption patterns. Jacob mentions examples, such as people with lower incomes smoke more than those of higher incomes. ● Includes a social class survey that students complete as part of his course materials (Atherton, Neal, Kaura, Jeavans, & Applied Works, 2013). ***Ideological***

	Political ideology: ● Highlights that in some countries companies are restricted from marketing to children. ● Has students take a "Political Typology Quiz," which asks a series of questions to determine their political ideology (Pew Research Center, 2016). *Cultural ideology:* ● Focuses on how firms encourage individuals to consume through marketing by creating a social attachment. ***Power*** *Individual choice restrictions:* ● Presents the power of consumer choice as an area of conflict between consumers and firms. Jacob argues that while consumers are "the final arbiters of what is produced in our society…They are influenced, cajoled, badgered, berated through a wide variety of mechanisms that firms would like to use to try and influence them to consume."
Liam	***Institutional*** *Race:* ● Discusses environmental racism for the purpose of corporate profit. *Social class:* ● Suggests the topic of "social class & a consumer-based society" is missing from current social studies curriculum (Liam, course outline). ***Ideological*** *Political ideology:* ● Emphasizes the importance of voting for political parties which support various green initiatives, such as alternative energy and public transportation. ● Begins his courses "with my own stuff around ideology and ideology critique," including a focus on the "corporate agenda."[g] ***Power*** *Individual choice restrictions:* ● Includes a focus on how the power of Big Oil can limit choices. According to Liam, corporations often make decisions that hurt people or the environment for corporate profits.[h] ***Discourses*** ● Exposes the power of written discourses to conceal intentions within his classes (e.g., the Clear Skies Act and the Healthy Forests Act).[i]

Nathan	***Ideological*** *Cultural ideology:* ● Mentions by eliminating planned obsolescence, consumption can be decreased without affecting quality of life; that is, you don't "lose utility by purchasing less, rather the things you buy last longer." ***Power*** *Government choices and choice restrictions:* ● Mentions the power of consumption to maintain order through its representation of strength by highlighting how consumption within the military is often very unproductive in terms of its utilization and destruction of large quantities of resources.
Olivia	***Ideological*** *Cultural ideology:* ● Focuses on the meanings assigned to social practices, particularly considering differing water uses (e.g., recreation, agriculture, industry) and waste among cultures. Within a course material, Olivia dispels the myth that richer societies must create more waste, due to higher consumption rates, by comparing Canada to other developed nations (e.g., Japan) where that is not the case (Olivia, PowerPoint slides). ***Power*** *Individual choice restrictions:* ● Highlights how "consumers are not solely to blame [for overconsumption]—product makers have duped us into always wanting the latest model rather than valuing things that are made to last" (Olivia, PowerPoint slides). ● Highlights how cultural ideas around comfort dictate building standards in terms of "what you can…do in order to heat or cool a building." ***Social learning*** ● Discusses how knowledge (e.g., about water or energy use) is transferred among "neighbors and peers and friends" and influences "how people think about and talk about sustainability and consumption."
William	***Institutional*** *Race:* ● Discusses the link between race and consumption in terms of white flight. According to William, due to white flight, many people now

	live further away from their jobs and commute longer distances, thereby using more fossil fuels, because of fear and discrimination. *Gender:* ● Considers how gender is used to market consumption, such as clothing and makeup for men and women. *Social class:* ● Mentions social class may affect decisions about where to live. William mentioned his students often feel forced to buy housing in the suburbs because they cannot afford to live in the city proper. ***Ideological*** *Cultural ideology:* ● Utilizes UN data about quality of life (e.g., comparisons across countries of gross national happiness, lifespans, etc.) to highlight some countries with lower levels of consumption (e.g., Japan and Scandinavia) have higher qualities of life than the United States and Canada to question cultural assumptions (i.e., the idea that more is better, long commutes are unavoidable, and big houses are desirable). ● Considers the impact of cultural familial expectations on SC choices, such as feeling pressured to buy a large home. ***Power*** *Individual choice restrictions:* ● Compares zoning laws within different countries (e.g., Japan and Korea). He highlights how in some countries, it is possible to have "a clinic, and a school, and a grocery store, and a pharmacy" in the same neighborhood, eliminating the need to travel long distances to access basic services. *Government choices and choice restrictions:* ● Discusses how international trade agreements can restrict choices. William mentions because "corn's very water-intensive Mexico wanted to get rid of using corn syrup in a lot of its additives and its food stuffs and the NAFTA [North American Free Trade Agreement] treaty basically forbid the Mexican government from doing that." ***Discourses*** ● Considers how economic and social constructs and discourses related to success and happiness can limit choices through the social scripts they prescribe, hindering consideration of other possibilities.

4.2.3 Psychological. The psychological aspect of consumption includes the meaning of consumption for the individual (Carida, 2011) and is discussed in all participants' courses (see Table 4.9). Psychological considerations include the effects of *identity and self-image*, *emotions*, *status competition*, and *activism* on choices related to SC.

The connection between consumptive decisions and *identity and self-image* is considered through discussions about many identities, such as environmentalist and active lifestyles (i.e., by Emma and Jacob), the link between marketing and gendered identity formation (by William), and the connection between identity and sustainable livelihoods (by Nathan). Two participants (i.e., Emma and Jacob) also highlight the role of marketing in identity creation. The emotional and hedonistic aspect of consumption considers the effect *emotions* and the pursuit of self-indulgence have on consumptive decisions. Discussions related to emotions include the various ways emotions, such as shame and guilt are utilized to forward an agenda by companies (i.e., by Emma and Jacob), the link between consumption and immediate emotions (i.e., by Emma and Jacob), the often unequal placement of guilt on students regarding SC choices, especially when discussing the importance of reducing consumption levels (by William), the emotion of anxiety in relation to consumption (by Nathan), and the emotions underlying motivation and how emotions may drive motivations surrounding SC decisions (by Nathan). The *status competition* aspect of consumption is also considered and includes the utilization of consumptive decisions to display status or power (i.e., by Emma, Jacob, Nathan, and William).

While the previous mention of "power" in the sociological section highlighted ways participants mention consumer choices are restricted when attempting to consume sustainably, this section considers how participants include discussions of the power inherent in *activism* through individual and collective choices within their classes. Specifically, the power within green consumerism and ethical consumption choices is considered. While green consumerism focuses on purchasing products whose production minimally affected the planet ("green consumerism," 2016), ethical consumption includes purchasing products whose production

reduces or avoids social and/or environmental damage ("ethical consumerism," 2016). Due to their similarity, they are discussed together here. Green consumerism and ethical consumption are discussed in terms of choosing what, how much, and the size of products purchased and the companies/people from which they are bought (i.e., by Emma, Jacob, Nathan, and William). The power of consumer choice to influence available products in the market is also discussed (i.e., by Jacob, Nathan, and Olivia). The importance of expressing political choices as citizens (e.g., voting, planning, organizing) is also emphasized (i.e., by Emma, Liam, and Nathan). Discussions and participation in a community rally are included (by Liam) as well as broader discussions conceptualizing what activism for SC should resemble (by Jacob).

Table 4.9

Psychological Themes in Relation to Consumption Incorporated in Courses

Participants	**Psychological Themes**
Emma	***Identity and self-image*** *Many identities:* ● Mentions environmentalist identities (among others), which are often associated with fleece and outdoor gear. She does not want students judging others, thinking they are exempt from identity formation through consumption. ● Highlights the role of marketing in identity creation. ***Emotional and hedonistic*** *Using emotions to forward an agenda:* ● Mentions "kids can feel ashamed if they don't have fancy running shoes." ● Mentions guilt associated with campaigns where children sell cookies, which can prey on emotions. ● Discusses how people's fear of death can convince them to buy things they do not need. *Consumption and immediate emotions:* ● Mentions that after basic needs are met, the happiness associated with additional purchases decreases within a course material (Leonard, 2010).[j] ***Status competition***

	● Includes a focus on status competition through student created autobiographies where students often write that they realize where their "need" to make certain types of purchases originated. ***Activism*** ● Mentions choosing to purchase fewer quantities of products. ● Includes a focus on the importance of being an active citizen in relation to consumption in a course material (Emma, course reading).[k]
Jacob	***Identity and self-image*** *Many identities:* ● Mentions the link between consumption and active lifestyles (among others) where customers are encouraged to buy products, such as Nike shoes, to fit within a prescribed identity. ● Highlights the role of marketing in identity creation. ***Emotional and hedonistic*** *Using emotions to forward an agenda:* ● Includes a focus on the social attachment firms associate with their products. Jacob mentioned, "If we were left to our own devices as individuals, that would result in some very unprofitable firms." This requirement leads to marketing, which "creates a social attachment between people and the goods they consume." *Consumption and immediate emotions:* ● Mentions how, "buying something actually makes people feel quite good about themselves for a fairly short period of time, and then your enjoyment of the act of consumption, sort of, dwindles." ***Status competition*** ● Mentions "people don't derive individual satisfaction from consuming things. That the satisfaction they derive is only in reference to some peer group," using readings from Robert Franks and Juliet Schor. ***Activism*** ● Compares the power of individual choices versus political action within his classes. In particular, he mentions, "activism is not a justification for consumption, but consumption has been taken to be a form of activism." That is buying certain products (e.g., ethical products) has become activism. He talks about "the extent to which sustainable consumption acts as a substitute for political action and whether it's a reasonable substitute for political action." ● Mentions choosing to purchase fewer quantities of products. ● Mentions ethical consumption (which he considers a synonym for SC)

	is "the use of your choice, as a consumer, to make production more ethical, whether that's social or environmental, I haven't really made a distinction." He also discusses the strengths and weaknesses of this understanding of SC (i.e., just buying organic food will not solve the major environmental issues in the world).
Liam	***Activism*** ● Includes a focus on "understand[ing] the effects of neoliberalism[l] on Indigenous peoples' traditional ways of life, and their resistance to them" (e.g., the New Brunswick anti-fracking protests) (Liam, course outline). ● Mentioned an Idle No More rally that took place during one of his graduate classes, which he later attended with many students. ● Mentions the importance of voting for parties that are supportive of SC initiatives (e.g., public transit).
Nathan	***Identity and self-image*** *Sustainable livelihoods:* ● Mentions that when livelihood activities are paired with sustainability (e.g., buying local foods), this impacts identity formation.[m] ***Emotional and hedonistic*** *Anxiety:* ● Considers Jean Paul Sartre's critiques about addressing anxiety.[n] *Emotions underlying motivation:* ● Considers Aristotle's motives of acquisition.[o] ***Status competition*** ● Discusses status competition using the ideas of relative and absolute poverty. That is the standards by which a "poor" lifestyle is measured differs significantly in Western countries as opposed to third world countries where a larger portion of the population suffers from absolute poverty. While, within many third world countries, consumptive decisions often stem from the need to survive, consumptive decisions within highly developed countries, often stem from the need to be perceived as wealthy by their peers. ***Activism*** ● Mentions while fair trade (i.e., a form of ethical consumption whereby the producer of a good is paid a fair wage (Samuel, Derrick, & Scott, 2014)) is commendable, it is also important to consider who you are buying *from*, not just choosing a greener or more ethical product by

	purchasing products from "non-accumulating business structures" (e.g., cooperatives vs. Wal-Mart) to maintain a balanced concentration of wealth. ● Mentions markets "have this notion of consumer autonomy or sovereignty as a basic way in which they make things." He is, however, interested in judging why people buy certain products and whether or not their choices are prudent. In particular, Nathan analyses the ethics of markets in terms of the theory of ethical utilitarianism.[p] ● Includes a focus on "global citizenship."[q]
Olivia	***Activism*** ● Discusses how "producer and consumer choices determine the types of resources/materials used [to make products] and the amount and type of wastes produced" (Olivia, PowerPoint slides).
William	***Identity and self-image*** *Gendered identities:* ● Highlights the role of marketing in gendered identity creation. He mentions, for example, that advertisements for purses and makeup are usually targeted at women, not men. ***Emotional and hedonistic*** *Unequal placement of guilt on students:* ● Juxtaposes the consumptive decisions of students' parents and teachers, which are often extreme examples of consumption (e.g., large houses and cars), to highlight inconsistencies between those lifestyles and the expectations placed on students to consume less. ***Status competition*** ● Questions the desire to live a North American lifestyle. ***Activism*** ● Mentions buying smaller products (e.g., houses and cars). ● Questions "the assumptions of what [students] need to lead…a 'good life.'"

4.2.4 Economic. Considering SC from an economic perspective acknowledges the inevitable connection between consumption and production processes and the economy. All participants mention economic considerations, including *production,* the *green economy, global patterns of consumption, critiques of neoliberalism*, *externalities*, discussions about consumption

within a *market system*, *ecotourism*, and *exploitation of Indigenous land for profit* (see Table 4.10).

Production is mentioned in all participants' classes in varying ways. Participants consider the importance of considering the whole cycle of production, the production of energy, the production of ethical products, and long wave economic cycles. Within four participants' courses (i.e., Emma, Jacob, Nathan, and Olivia), a focus on the whole cycle of production includes consideration of the entire process of production from raw resources until the product is manufactured, shipped, and marked for consumption. The production of energy is discussed by revealing the environmental destruction surrounding oil production for corporate profit (by Liam) and by seeking more efficient energy use options (by William). The production of ethical products is discussed in terms of how the economics of production enter the market of ethical consumption (by Jacob). Ethical production is especially considered in terms of the alteration of ethical standards to increase profits and then deceptively labelling those products as ethical. Long wave economic cycles (i.e., Kondratiev cycles) are also mentioned by one participant (Nathan). According to Nathan, these cycles represent periods of growth and decline (e.g., depressions) in the economy over a period of 50 to 60 years. In his attempts to discern the root causes of these dips, Nathan has often found the culprit to be imbalances in the concentration of wealth within a society. Nathan brings this analysis of Kondratiev cycles into his classes.

A shift towards a *green economy* considers how the economy can function in a way that minimizes its impact on the environment. Participants consider the possibilities and limits of a green economy. Possibilities inherent within a green economy include green job creation (by Liam) and alternative currencies, such as local currencies (by Nathan). One participant (Nathan) also asks why the economy is selecting certain types of resources, such as oil, plastic, and metal, to make products. Limitations of a green economy within one participant's classes (Nathan) include the lack of a focus on the social and cultural dimensions of sustainability and the

acknowledgement that even a green economy supports an agenda, the intentions of which should be analyzed.

Considerations of *global patterns of consumption* acknowledge the global exchange, dependence, and exploitation involved in consumption and production processes. All participants mention global patterns of consumption. Discussions include the global origin of products and resources (i.e., by Emma, Jacob, and Nathan) and globally available alternative lifestyles (i.e., by Olivia and William). Within one participant's courses (Liam), the degradation of the environment as a direct result of *neoliberal deregulation is critiqued*.

Two participants (i.e., Emma and Jacob) discuss the link between economics and consumption by utilizing the economic concept of *externalities*. One of Emma's course materials explains the concept as making someone else pay for our *stuff* (Leonard, 2008). According to Leonard (2008), we make other people pay for our *stuff* with the loss of their natural resources and clean air and some children pay with their future (e.g., dropping out of school to work). Jacob includes a focus on externalities by explaining that if goods have externalities attached to them the price in the market is too low and people will overconsume.

Two participants (i.e., Jacob and Nathan), consider the possibilities within and critiques of the *market system*, including analyzation of the historical reliance on a market system and consideration of the products that should have market value and the products that are intrinsically valuable. The positives and negatives of *ecotourism* are also highlighted through a course material (by Jacob). Two participants (i.e., Jacob and Liam), discuss environmental racism and *exploitation of Indigenous peoples' sovereign land and waters for economic profit*.

Table 4.10

Economics Themes in Relation to Consumption Incorporated in Courses

Participants	Economics Themes
Emma	***Production*** *Whole cycle of production:* ● Mentions "all elements of the production process. And, you know, where things are coming from, WHO'S making it, transport issues, all of that stuff." ***Global patterns of consumption*** *Global origin:* ● Mentions not only the global origin of materials but also the global assembly of products. In particular, she includes a focus on the human impact of sweatshops, believing "there's real humans behind those labels" (see Bigelow, 1997). ● Shows the video, *The Story of Solutions,* by Annie Leonard (2008), which illustrates the hidden story behind the origination of our *stuff*. ***Externalities*** ● Includes a focus on the concept of externalities as making someone else pay for our *stuff* (Leonard, 2008).
Jacob	***Production*** *Whole cycle of production:* ● Includes a focus on the Bangladeshi garment industry and the life cycle of our clothes (i.e., growing cotton, spinning, sewing, and shipping processes) and the subsequent human and environmental consequences (Poulton, Panetta, Burke, & Levene, 2014). *Production of ethical products:* ● Highlights that "ethical consumption is subject to the same market forces that any other production decision would be." According to Jacob, within an ethical consumption context, this means "what firms are interested in doing is trying to sell their ethical products for as high a price as possible and incur as low a cost as they possibly can." Jacob mentions this often translates into corporations, "having the lowest possible standards [they] can and putting the highest possible price tag on those standards."[r] ***Global patterns of consumption*** *Global origin:*

	● Includes a focus on the global origins of our food industry, highlighting many of the prawns eaten in the west come from CP Foods prawn farms in Thailand (Hodal et al., 2014). ***Externalities*** ● Explains that, "in general, if goods have externalities attached to them, then the price in the conventional market is too low and people over-consume. And, so, if externalities are prevalent then overconsumption is also prevalent." ***Market System*** ● Utilizes a course reading entitled, "What Markets can—and Cannot—Do" by Samuel Bowles (1991) to discuss what is and is not possible within a market system. ***Ecotourism*** ● Highlights the positives and negatives to ecotourism through a course material (Vance, 2013).[s] ***Exploitation of Indigenous land for profit*** ● Includes a course reading highlighting how the sovereign waters of the Seri people are under threat by trawlers fishing in the Sea of Cortez in Mexico (Vance, 2013).
Liam	***Production*** *Production of energy:* ● Includes a focus on resource extraction to produce oil and the subsequent destruction to the environment. ***Green economy*** *Possibilities of a green economy:* ● Illuminates the influx of green jobs that would follow (e.g., building solar panels) a shift towards green energy. ***Critiquing neoliberalism*** ● Includes a focus on the economics of consumption to challenge free market, deregulated capitalism, which is supported by many corporations. According to Liam, "[corporations] need more money. They want higher consumption than like zero growth, which would be sustainable. That doesn't work for them." ***Exploitation of Indigenous land for profit*** ● Considers corporate exploitation of First Nations peoples' lands through non-renewable resource extraction. Liam has shown a film illustrating how the production of oil in Fort McMurray was "destroying the natural habit for the First Nations people that lived up

	around Fort Chipewyan."
Nathan	***Production*** *Whole cycle of production:* ● Includes a focus on consumption "as part of the concept of SCP, sustainable consumption AND production. So, it's always kind of welded together." *Long wave economic cycles:* ● Includes a focus on drastic dips in consumption (e.g., depressions) that negatively affect quality of life within these cycles. ***Green economy*** *Possibilities of a green economy:* ● Considers how alternative currencies could advance a sustainability agenda.[t] ● Mentions "other types of consumerisms." That is, he asks, "Why is our economy selecting for certain types of materials in the first place...Why does everything have to be made out of oil and types of plastics and metal? What is it about our economy that it chooses those things?" ● Asks "if we've got these carbon limits, what's the best use of the materials [i.e., oil, coal, and natural gas]?" Nathan mentioned, "Maybe oil's a better product than coal. And maybe natural gas used in…my house for heating is the better use, since it burns at 95% efficiency and directly converts to heat, versus natural gas being burned for electricity production." For Nathan these types of questions illustrate the importance of consumer choice in selecting the best uses of natural resources. *Limits of a green economy:* ● Mentions the green economy supports an agenda and encourages students to analyze who is advancing this agenda. ● Mentions a green economy focus does not consider the social and cultural dimensions of sustainability. ***Global patterns of consumption*** *Global origin:* ● Focuses on the "embedded carbon in products" especially products coming from south east Asia, which have large amounts of embedded coal and electricity, not only within the products themselves but also within the shipping of those products. ● Shows the video, *The Story of Solutions,* by Annie Leonard (2008), which illustrates the hidden story behind the origination of our *stuff*.[u]

	Market system ● Considers the history of economic market systems. Nathan is particularly interested in how people move from a "tribal based system to one dominated by chiefs or then one dominated by monarchs and now one dominated by market activity?" ● Mentions alternatives to market consumption and production.[v] ● Considers which products should have market value and which are intrinsically valuable using Immanuel Kant's distinction between "persons and things."[w] ● Discusses the board game Monopoly within his classes. He illustrates the difference between consumption and investment by highlighting, "what happens to consumption at various points in the game." Nathan also mentions Monopoly was invented as a critique of the market system within his classes.
Olivia	***Production*** *Whole cycle of production:* ● Discusses production "in terms of cycles and flows" and tries to think about "where resource use can be reduced and also how [resource use is] constructed through that cycle as well." ● Illuminates the many systems involved in production and how consumption can be minimized before products arrive at stores and are marketed for consumption (e.g., water embodied in food exported from California to China (Olivia, PowerPoint slides)). ● Discusses production by "strip[ping] it right back to resources through manufacturing, production systems, and then into the realms of consumption." ***Global patterns of consumption*** *Globally available alternative lifestyles:* ● Includes a focus on how resources (e.g., water and energy) are consumed differently around the world (e.g., high income countries devote most of their water to industry, while low and middle income countries devote most of their water to agriculture (Olivia, PowerPoint slides)).
William	***Production*** *Production of energy:* ● Includes a focus on efficient consumption after seeing the actual results (e.g., reduced greenhouse gases and waste) his university achieved with

	its "techno efficiency for energy" focus within its policies. ***Global patterns of consumption*** *Globally available alternative lifestyles:* ● Discusses how many people around the world live happy and healthy lives while also consuming less than many Western countries.

To further understand how SC was discussed within participants' classes, they were also asked if their overall focus centered on why people consume or on the effects of consumption. While most participants indicated a focus on both, one participant, Liam, does not talk about why people consume:

> The why, it's pretty tricky, you know, if a professor or teacher wants to get in there and say hey, all these things that you enjoy… [such as] going out driving around the prairies or anywhere…I don't want to say, look, we can't do that anymore. But I might talk about climate change and the thought of not having a SUV. I mean people still want to have a vehicle, but maybe they don't need a Hummer.

While Liam talks in great length about the effects of SC (see above), he does not focus on why people consume.

4.2.5 Sustainability curriculum topics incorporated across setting. The preceding sections included a focus on how SC is incorporated in participant's courses. On the national survey, participants were also asked to indicate the extent to which fourteen sustainability topics are included at their setting, of which consumerism was one (see Table 4.11). Curriculum items were rated on a 4-point ratings scale ranging from 0 (Not at All) to 3 (To a Large Extent). Sustainability was most commonly integrated into curriculum through the theme of justice (M=2.83; SD=0.41). The topic of consumerism was only somewhat included in curriculum (M=1.83; SD=0.75) at participants' settings. Overall, all 14 topics were incorporated at participants' settings to a moderate extent (M=2.16); SD=0.33).

Table 4.11

Extent to which 14 Sustainability Topics Are Incorporated at Participants' Settings

To what extent are the following sustainability topics integrated into curriculum in your setting?	M	SD
1. Management of natural resources (e.g., energy or water management	2	0.89
2. Intrinsic value of nature (e.g., biological diversity, deep ecology)	2.17	0.75
3. Nature (e.g., nature awareness, outdoor classrooms)	1.67	1.03
4. Economy (e.g., economic systems as they relate to environment)	2.5	0.55
5. Justice (e.g., social and ecological justice, human rights, ethics)	2.83	0.41
6. Citizenship (e.g., democracy, governance, conflict resolutions)	2.5	0.55
7. Cultural (e.g., art and environment, ecoliterature)	2.17	0.41
8. Environmental health	1.83	0.41
9. Consumerism	1.83	0.75
10. Local issues	2.5	0.55
11. Global issues	2.17	0.41
12. Indigenous perspectives	2.17	0.98
13. Sustainability (e.g., conceptions and history of approaches to sustainability)	2	0.63
14. Alternative futures (e.g., preparing for the future, responses to ecological disasters, alternative fuels)	1.83	0.75
Total	2.16	0.33

Notes. Curriculum items were rated on a 4-point ratings scale ranging from 0 (Not at All) to 3 (To a Large Extent).

4.3 Teaching Methods

This section details how SC is taught within participants' classes (i.e., teaching methods, assessments). Participants' teaching methods and assessment techniques are discussed together to highlight similarities and differences. The methods and assessments included below are those utilized by participants to specifically address SC, but as all participants indicated that SC is included as part of other course content, this discussion of methods and assessments also includes those utilized to address broader course topics. Connections between SLT approaches and teaching methods are then presented.

All participants utilize lectures, although the frequency of their use and length varies. While Emma "rarely [uses] lectures," she will sometimes provide a "mini-lecture" of no more than twenty minutes to introduce a topic. Jacob mainly uses lectures to teach about SC, due to large class sizes. Liam uses short lectures during the first half of the semester (see discussion of inquiry-based methods below). Nathan usually begins his classes with lectures before switching to other methods. Olivia mainly utilizes lectures to teach about SC. William has switched to using more lectures in his classes since moving to Canada due to silence experienced in his night classes as mentioned earlier.

Small and large group activities and discussions are also varyingly used by all participants. Instead of lecturing, Emma uses various activities to highlight issues, including a product tracing activity, described in a course material as when students, "select an everyday object, and trace it back to its original components following a path through the organic materials used, the biochemical processes required, the labour and energy utilized, etc." (Emma, course reading). This activity illustrates where products that students purchase originate. Emma also utilizes an alien spy activity, where students are given an artefact, such as a celebrity or environmental magazine, and pretend to be alien spies. As spies, they must draw how a typical human looks, as represented by those artefacts. This activity is utilized to discuss the connection between identity and consumption. Emma also prepares treasure hunts, where her students search

for something on campus to illustrate a point about SC. Additionally, because Emma is teaching teachers, she provides activities her students can use within their classes. One example is an activity where students measure the ecological footprint of their high school (Sawchuk & Cameron, 2000). Emma also uses small group discussions about a topic, followed by large group discussions. Jacob utilizes small group activities with his higher level classes, which have smaller class sizes. In these classes, Jacob utilizes a product tracing activity, similar to Emma's, where students are encouraged to critically consider the clothes they are wearing and why they purchased those items. Jacob also utilizes an activity to illustrate how externalities lead to overconsumption and overproduction. Jacob also utilizes a "prisoner's dilemma"[4] activity to explain white flight to the suburbs (i.e., if your neighbors flee to the suburbs to avoid inner city crime, the independent rational maximizing course of action is to also move to suburbia) and the subsequent negative impacts of suburban sprawl. These activities encourage students to utilize problem solving skills in regards to a variety of social and environmental issues. Within Liam's classes, lectures are followed by small and large group discussions to further consider issues. Nathan's higher level classes also do problem solving activities in small groups. One such activity utilizes the Millennium Ecosystem Assessment (MEA)[5] to analyze four global scenarios

[4] According to Jacob, the prisoner's dilemma is based on the following scenario: Two people have been arrested for a "small" crime they have been caught doing red-handed, such as driving a stolen car. However, the police suspect they have done something worse, such as murder, but they have no evidence to convict them. The police then interrogate the suspects separately and give them one choice: they can either confess or not confess to the murder. They also tell each of the suspects that they are interrogating their friend who might tell on them. They are given the option to tell on their friend and go free or not tell on their friend and possibly be put away for murder. According to Jacob, the "prisoner's dilemma" is the idea that when an individual is making their own independent decision, which will also have an impact on another individual's independent decision, "even though they're trying to do what's best for themselves, will end up hurting themselves."

[5] The MEA assesses "the consequences of ecosystem change for human well-being and the scientific basis for action needed to enhance the conservation and sustainable use of those

that might unfold with different participants and power brokers. Within Olivia's classes, students discuss films seen in class in small groups. William uses small group work activities by providing students past or future scenarios regarding SC to problem solve and role play.

Various types of media are also utilized by all participants, including videos (i.e., by Emma, Liam, Nathan, and Olivia), interactive websites (by Jacob), satirical online newspapers (by Jacob), and online forums (by William). A video entitled, *The Story of Solutions,* by Annie Leonard (2008) is utilized by two participants (i.e., Emma and Nathan). Liam also shows videos related to resource extraction (e.g., a documentary about Fort Chipewyan First Nations people experiencing high rates of unusual illnesses after an oil sands operation began upstream from their water supply). Nathan shows YouTube videos, illustrating how "failures in development are tied to adverse consumption patterns." Students in Olivia's classes also watch various films about resource use and SC. Jacob also utilizes various interactive websites to teach about SC. One such resource traces the human and environmental effects of Fast Fashion[6] in the context of the Bangladeshi garment industry (Poulton et al., 2014). The website includes the history of the industry and the personal accounts, in writing and video, of those impacted by that history. A variety of interactive online resources (e.g., the ideology quiz and class calculator, previously described in the Course Content section above) are utilized in Jacob's courses. Jacob also utilizes satirical articles from online newspapers, such as an article entitled, "New Fig Newtons Ad Preys on Inherent Human Weakness" by *The Onion* (2007), to illustrate points. In this article, human weaknesses ranging "from greed and gluttony to the compulsive need for self-gratification" are parodied in a fictional account of a commercial convincing people Fig Newtons are not "bland and tasteless."

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systems and their contribution to human well-being" (Millennium Ecosystem Assessment, 2005, n.p.).

[6] Fast Fashion is described in a course material as "an accelerated cycle of design, production and supply that means trends can be spotted, copied and sold within weeks" (Poulton et al., 2014, n.p.).

Media literacy[7] activities are also included by two participants (i.e., Emma and Liam). Within Liam's courses, critical media literacy techniques are utilized to expose corporate media's attempts to thwart collective environmental consciousness (Liam, course outline). For example, students compare articles about the Deepwater Horizon Oil Spill as represented by mainstream media, alternative media, environmental groups, and the oil industry (Liam, course outline). He utilizes these activities to not only encourage critical thinking but to also demonstrate relevant pedagogy students can utilize as teachers.

Three participants (i.e., Emma, Olivia, and William) engage with the broader community when teaching about SC through community outings and guest speakers. Emma and Olivia both bring in guest speakers to discuss their jobs in relation to sustainability. William attends community activities, such as green building showcases, and visits the local aquarium and zoo with his classes.

The anticipation and mitigation of guilt potentially associated with environmental issues shape both content and methods utilized in Emma's classes. Emma mentioned she "[pays] attention to the emotional dimension" because she doesn't want her students "getting stuck on guilt." Teachers not succumbing to guilt is a concern not only when her students are in her classes, but also when they become teachers themselves. Within one of Emma's course materials, students are given suggestions for how to anticipate and mitigate distress their students may feel when discussing environmental issues by selecting stories with hopeful endings and by "[imagining] both probable and preferred outcomes, and then to think of ways to move toward the preferred one(s)" (Emma, course reading). The anticipation and mitigation of guilt forms part of Emma's teaching method in both content and form.

[7] Media literacy, in general, is the ability to evaluate and critique varying forms of media, such as television, radio, internet, newspapers, etc. (Schwartz, 2000). Media literacy activities involve gathering information from varying sources about the same issue to uncover differential ways of presentation to expose authorial biases (Schwartz, 2000). Media literacy activities allow students to discover phenomena for themselves, rather than being told of their existence (Schwartz, 2000).

Liam employs inquiry-based teaching methods. With this method, Liam provides short lectures for the first half of the semester, particularly about ideology, ideology critique, and the corporate agenda. In groups, students then select topics, related to the course material, they want to learn more about before teaching the class through presentations during the second half of the semester.

Participants also employ various assessment measures. As mentioned previously, SC is included as one topic within the participants' courses; therefore, assessment measures cover SC alongside broader course topics. Four participants assess their students with essays (i.e., by Emma, Jacob, Liam, and Nathan). In Emma's classes, students write essays about what and how they have been teaching within their classrooms or other learning sites. Jacob's students submit essays summarizing and critiquing an article from a reputable magazine (e.g., *The Economist, The Atlantic Monthly, The New Yorker*, etc.). Essays are the main method of evaluation in Nathan's courses. Liam's graduate students also prepare an essay "on a topic that demonstrates understanding of how neoliberalism affects the natural world," and include pedagogical ideas for teaching about that topic (Liam, course outline). As Nathan teaches Philosophy courses, his students are evaluated according to how well they can justify their position on an argument and cogitate subsequent implications, risks, and strategic interventions. Nathan mentioned he encourages students to consider their essay in terms of real world situations (e.g., a policy recommendation) where they need to convince someone with power of an argument.

Three participants (i.e., Emma, Jacob, and Nathan) evaluate their students on their participation and engagement in activities and discussion. Several participants teach teacher candidates; therefore, their students create lesson plans, which are then assessed (i.e., by Emma and Liam). Additionally, many of their teacher candidates self-report how they are incorporating course material into their own classes. While they are not graded on this, it does allow several of the participants to gauge uptake of material (i.e., Emma and William). Two participants (i.e., Jacob and Olivia) also utilize exams to evaluate students. In reference to these exams, Jacob

mentioned his students are asked to "in a sort of horrible, rote oriented way reproduce the ideas that people have about the influence that marketing has in our society. And how firms work in order to encourage people to consume." Olivia also utilizes web-based assignments and film worksheets to assess students. Olivia's students complete web-based assignments where they critically evaluate different perspectives on an issue (e.g., different perspectives on climate change). Also, after watching films, students complete worksheets, which are designed to foster discussion and critical thinking.

One participant (Liam) utilizes presentations and the creation of a website as part of his course assignments. Presentations are Liam's main method of assessment and can take a variety of forms, including role plays. For Liam's undergraduate courses, these presentations must be, according to the course syllabus, "informative, interactive, and engage participants in creative and critical analyses of social studies curriculum and teaching" (Liam, course outline). During these presentations, teacher candidates show a website they have created, which includes additional resources. His undergraduate students also prepare lesson plans for their topic, which are posted on their group's website, allowing all students in the course access to the lesson plans. Liam's graduate students prepare presentations arguing for "increased ecological consciousness in these current neoliberal times" and sustainable economic development (Liam, course outline). Their presentations must also include a critical pedagogy activity (Liam, course outline). Within all of Liam's classes, students' incorporation of criticality in their assignments is a crucial part of their evaluation.

William utilizes several small projects that lead up to one final project. William's assessments are influenced by a desire to incorporate practical application. His students complete several smaller projects instead of one large final project because he believes this is more reflective of the real world. While his smaller projects have addressed issues, such as sustainability in relation to biodiversity and greenhouse gas emissions, his final projects have included activities, such as rezoning their city to decrease greenhouse gas emissions.

Overall, the most common teaching methods among participants are group activities and discussions, lectures, and the utilization of various types of media, which are used by all participants. The most common assessment technique is essays, which are utilized by four participants. A side by side glance of the teaching methods and assessment techniques of all the participants in the current study is included in Table 4.12.

Table 4.12

Teaching Methods and Assessment Procedures Participants Utilize

Teaching Methods and Assessment Techniques:	**Participants**					
	Emma	**Jacob**	**Liam**	**Nathan**	**Olivia**	**William**
Teaching Methods						
Anticipation and mitigation of guilt	✓					
Community engagement	✓				✓	✓
Group activities and discussions	✓	✓	✓	✓	✓	✓
Inquiry-based methods			✓			
Lectures	✓	✓	✓	✓	✓	✓
Media	✓	✓	✓	✓	✓	✓
Media literacy	✓		✓			
Assessment Techniques						
Class participation	✓	✓		✓		
Essays	✓	✓	✓	✓		
Exams		✓			✓	

Teaching Methods and Assessment Techniques (continued):	Participants					
	Emma	Jacob	Liam	Nathan	Olivia	William
Assessment Techniques (continued)						
Film worksheets					✓	
Lesson plans	✓		✓			
Presentations			✓			
Self-reporting	✓					✓
Several small projects						✓
Web-based assignments					✓	
Website			✓			

4.3.1 Connections to social learning theory. Participants' teaching methods were also analyzed to determine if they included elements of a Social Learning Theory (SLT) approach, which has been proposed as an effective framework for ESC, and if so, what moments of opportunity and/or learning can be gathered from their experiences? According to Tilbury (2009), social learning-based change for sustainability "seeks to implement systemic change within the community, institutions, government, and industry through a process which is underpinned by…[five] key components" (p. 123) These five components, as previously mentioned in the literature review, include partnerships for change, participation (i.e., beyond mere consultation), systemic thinking, envisioning, and critical thinking and reflection (Tilbury, 2009). While seemingly a purely cognitive endeavor, systemic thinking "take[s] into account the relationship between system components…[and] is a critical component of learning based change for sustainability as it assists people to understand the systems they are attempting to change" (Tilbury, 2009, p. 123). Likewise, envisioning, while primarily concerned with

conceiving of an alternative future to uncover underlying beliefs, motivations, and assumptions, also "contextualizes socio-environmental contexts…[and] offers direction and provides impetus for action by harnessing people's deep aspirations which motivates what people do in the present" (Tilbury, 2009, p. 124). Similarly, critical thinking and reflection "helps identify power relationships within the community and question the cultural assumptions which influence our choices" and can take place "through dialogue in a workshop, during a meeting, through role playing exercises, or through constructing visual maps" (p. 125). These five components also correspond similarly to Dyball and colleagues' (2009) five braided stands of social learning. Teaching approaches, previously mentioned in the literature review due to their compatibility with a social learning-based change approach, included experiential learning, problem-based learning, and action competence. While not an exhaustive list of all teaching methods potentially compatible with a social learning-based change approach, these methods provide a framework for analysis for the current study. The following section highlights the significant connections and disconnections between participants' teaching methods and a social learning-based change approach as evidenced by their interviews and course materials. This analysis is not meant to highlight who taught SC *better* but serves as a framework for describing participants' teaching methods. All participants use elements of SLT, some more than others. Social learning-based change methods utilized by each participant are included in Table 4.13 along with key examples.

Table 4.13

Elements of Social Learning-Based Change Incorporated into Participants' Teaching Methods

Participants	**Methods Utilized**
Emma	***Systemic Thinking*** ● Emma mentioned, "I want them to have a systemic understanding of what's going on and…where their stuff is coming from." ***Envisioning*** ● Emma mentioned, "If we don't offer possible things that students can do, they can get stuck in guilt or despair. So, we talk about different choices they can make."

	Critical Thinking ● Emma mentioned, "I tend to, you know, teach from a critical pedagogy mindset where I'm starting wherever the students are, doing lots of activities." ***Experiential Learning*** ● Emma mentioned, "I come at, you know, all of my teachings from wanting to offer engaged learning so that I don't like the top down transmission oriented approach to education, which a lot of university teaching can look like. So, I, that's why I don't lecture very much." ***Action-Competence*** ● Emma utilizes many different activities (e.g., media literacy, tracing products, treasure hunts, etc.) to teach about SC. ***Participation*** ● Emma first discovered the resource *The Story of Solutions* from a student before later incorporating it into her course materials.
Jacob	***Critical Thinking*** ● Jacob has students look at things they are wearing or using in class and asks them why "they purchased that particular thing as a way to try and tease out the idea that marketing influences them rather than trying to TELL them that marketing influences them." ***Experiential Learning*** ● Jacob uses activities with his higher level classes (e.g., Prisoner's Dilemma). ***Participation*** ● Jacob mentioned his teaching method, "changed in the sense that because I found students quite resistant to the idea that marketing influences them and their decisions as consumers, is that I've less tried to lecture about it and more tried to have students come to the conclusions themselves."
Liam	***Systemic Thinking*** ● Liam links environmental issues to democracy, voting, and the corporate agenda. ***Critical Thinking*** ● The presentations and papers within Liam's classes must include a critical component. ***Experiential Learning*** ● During Liam's classes, students first learn about an issue themselves before teaching the class through presentations. ***Action-Competence***

	● Liam mentioned a rally in class and then attended it with several students.
Nathan	***Systemic Thinking*** ● Nathan has students "situate where consumption is in the whole process" of production and consumption. ***Critical Thinking*** ● Nathan is always concerned with the "root causes" of phenomenon. ***Problem-Based Learning*** ● Using the Millennium Ecosystem Assessment, Nathan's students analyzed "who the players were and what responses there could be to those scenarios." ***Action-Competence*** ● Nathan has his students think about their essays as a policy recommendation, where they have to take a position, evaluate risks, and convince someone of an argument to make a strategic intervention.
Olivia	***Systemic Thinking*** ● Olivia focuses on "systems of provision" not individual behaviors. ***Critical Thinking*** ● Olivia has students provide "a critical account" of how an issue (e.g., climate change) is presented through web-based assignments. ***Experiential Learning*** ● Olivia mentioned, she "tends to use a number of different definitions and get the students to discuss, you know, how they think about sustainable consumption," and then she has them discuss which definitions they feel are "the most…acceptable ones really." ***Participation*** ● Olivia has invited guest speakers from the community to discuss "how they manage… energy and water and different resources."
William	***Systemic Thinking*** ● William mentions individual choices are constrained by many outside factors (e.g., familial expectations, social scripts about success and happiness, policies, etc.) within his classes. ***Envisioning*** ● William provides students future and past scenarios to problem solve through. ***Critical Thinking*** ● William's students question the assumptions about what is necessary to lead a "good life."

	Participation ● When William first began teaching, he focused more on ecosystems and biodiversity, but he altered his approach after not receiving much interest to engage more with the social systems with which they were interacting. ***Experiential Learning*** ● While William has switched to using more lectures since coming to Canada, he does, however, use other experiential methods (e.g., role plays, community activities, and group discussions, etc.). ***Action-Competence*** ● William is very pragmatic in his approach to teaching about SC, mentioning, "I sometimes think it's easier to give people something concrete [i.e., buying smaller houses and cars] instead of just presenting everything and, like, then telling students to go off and fix it."

While there is limited capacity to assess faculty's teaching methods without direct observation, the preceding section has presented faculty member's own accounts of how they teach about sustainable consumption, highlighting aspects that correlate with social learning-based change.

TABLE NOTES

[a] Negative effects of unsustainable animal production processes include the release of greenhouse gases, reliance on fossil fuels, exploitation of water and land resources, etc. (see for example Nguyen, Hermansen, & Mogensen, 2010; Stehfest et al., 2009).

[b] Sen's Capability Approach focuses on "the moral significance of individuals' capability of achieving the kind of lives they have reason to value" (Wells, n.d., n.p.). That is, whether or not people take advantage of the opportunities available to them, having the freedom to choose an alternative is significant (Wells, n.d.). Wells (n.d., n.p.) writes, "For example, even if the nutritional state of people who are fasting and starving is the same, the fact that fasting is a choice not to eat should be recognized."

[c] A course reading highlights how, within North American culture, males and females participating in outdoor education are not only expected to behave in certain ways (e.g., men secure the canoes, women do the cooking, etc.) but are also expected to wear certain clothes (Emma, course reading). Through the same course reading, Emma introduces her students to "eco-grrls," a group of young women interested in environmental concerns who also challenge traditional gender roles (Emma, course reading). According to Kim Fry and Cheryl Lousley (2001), "The caricature of an eco-grrl wears Mountain Equipment Co-op clothes with a backpack and hiking boots, complemented by unshaven legs, no makeup and a bandanna covering her hair" (p. 25) (as cited in Emma, course reading). While challenging traditional gender roles, eco-grrls may be encouraging, not opposing, a different brand of consumption in the form of wilderness recreational wear (Emma, course reading).

[d] Within one of Emma's course materials, Juliet Schor's research in her book, *The Overspent American*, is cited highlighting how "each additional five hours of television watched per week led to an additional thousand dollars of spending per year" (as cited in Leonard, 2010, p. 167).

[e] One of Emma's course materials mentions that, in 1957, Americans described themselves as "very happy," a level not achieved since, "Even though we're making more money and buying more Stuff today than we did fifty years ago, we're no happier" (Leonard, 2010, p. 149).

[f] Within one of Emma's course materials, Brooks Stevens, the inventor of the term planned obsolescence, defines it as "instilling in the buyer the desire to own something a little newer, a little better, a little sooner than is necessary" (as cited in Leonard, 2010, p. 161). Connected to planned obsolescence is the idea of perceived obsolescence, discussed in the same course material from Emma, as when "the item isn't broken, nor is it really obsolete at all; we just perceive it as such…This is where taste and fashion come into play" (Leonard, 2010, p. 162).

[g] Within Liam's classes, the corporate agenda refers to "the corporate takeover of society, including the environment." Within this agenda, according to Liam, the environment suffers destruction and contamination simply for corporate profit. Liam believes even people who care about the environment can be "beholden to the money that the corporations can offer." For Liam, the solution lies in the power of democracy to vote for parties supportive of the environment, not the corporate bottom line.

[h] See, for example, Bennett (2014) and Schwartz and Gollom (2014) regarding the destruction of First Nations peoples' land due to environmentally damaging practices related to resource extraction and the illnesses faced due to chemicals left in the land, water, and air as a result of resource extraction practices.

[i] According to Liam, the Clear Skies Act, which was passed in the United States, "[lowered] the regulations on toxic emitters." According to Liam, instead of creating "clearer" skies, as the policy's name suggests, it actually "[allowed] more pollution into the skies." The Healthy Forests Act, also passed in the United States, is another act mentioned in Liam's classes, which allowed logging companies to log in national parks.

[j] Leonard (2010) wrote, "When a person is hungry, cold, in need of shelter or some other basic material necessity, then of course more Stuff will make him or her happier. But once people's basic needs are met…the marginal increase in happiness we get from further Stuff actually decreases" (p. 149).

[k] Leonard (2010) mentions, "Being an informed and engaged consumer is not a substitute for being an informed and engaged citizen" (p. 175).

[l] While "defining neoliberalism is a potentially reductive undertaking" due to its complex, ever-shifting, and contested nature (Aikens & Hargis, manuscript submitted for publication), it is commonly described as a return to laissez-faire economics (i.e., deregulation, privatization, and withdrawal of the state) often to the detriment of the environment (Harvey, 2005).

[m] For Nathan, "what citizenship is to governments, sustainable livelihoods [are] a basic identity in relation to markets." In other words, market activities are one set of livelihood activities, or activities that sustain life. When livelihood activities are paired with sustainability (e.g., buying local foods), this impacts identity formation.

[n] According to Nathan, while consumption is often seen as a way to address anxiety, Sartre critiques what a healthy and an unhealthy approach is for handling anxiety. Nathan brings this debate into his classes.

[o] Nathan considers Aristotle's motives of acquisition, specifically in terms of "the well-being of the household" and "acquisition of money for money's sake in terms of usury." Aristotle believed there were natural and unnatural acquisitive motives (Alvey, 2011). For Aristotle, "Where natural acquisition is limited by the desire for useful things according to need, the unnatural version is associated with the unlimited desire for money" (Alvey, 2011, p. 135). Various emotions (e.g., happiness from making money) could fuel, what Aristotle would call, a person's unnatural motive of acquisition. This unnatural motive of acquisition could lead to unsustainable consumptive decisions (e.g., extracting oil) in the pursuit of money.

[p] This theory espouses that the most moral action is the one that promotes the "Greatest happiness for the greatest number" of people (Hirsch, Kett, & Trefil, 2002, p. 112). Nathan critiques notions that happiness can only be maximized by purchasing products from a market system, and highlights, for example, that people and communities can choose to make products outside of a market system (e.g., households growing their own food) within his classes.

[q] According to Snider, Reysen, and Katzarska-Miller (in press), global citizenship involves "awareness, caring, and embracing cultural diversity while promoting social justice and sustainability, coupled with a sense of a responsibility to act" (as cited in Reysen & Katzarska-Miller, 2013, p. 860).

[r] For example, Jacob mentioned that when corporations have entered into ethical markets, they have "tried to lower the standards of fair trade. They've tried to only sell a small proportion of their product line as fair trade. They've tried to convince consumers that they, themselves, are very ethical in their regular production practices."

[s] In this article, the Mexican government, due to overfishing in the Sea of Cortez, offered fisherman $30,000 to surrender their fishing permits and take up ecotourism enterprises. While ecotourism provided lucrative opportunities at first, when the 2008 global economic crisis hit, many fishermen were left without a source of income.

[t] See for example Seyfang and Longhurst (2013) regarding local currencies.

[u] This video mentions, for example, "for every one garbage bag you create downstream, another seventy were made upstream" (Leonard, 2008). Nathan uses this statistic to highlight the potential inherent within local production to reduce overall consumption.

[v] Nathan mentions, for example, that "78% of our needs are met through market consumption." He highlights opportunities (e.g., households growing their own food) to transition from a heavy reliance on markets within his classes.

[w] According to Nathan, Kant argued that *things* have "intrinsic value." This focus leads to a discussion about proper and improper commodities, in terms of "what things should we apply market norms to and what things is it inappropriate to apply market norms to" within his classes.

CHAPTER 5: DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH AND PRACTICE

Several points for discussion emerged from participants' interviews, course materials, and national survey responses, which are included in this chapter.

5.1 Participants' Definitions and Paths to Understanding SC

The business of defining sustainability has been a long and tedious task, and has been occurring at least since 1962 with the publishing of Rachel Carson's *Silent Spring* (International Institute for Sustainable Development, 2012). Since then, numerous definitions of sustainability and sustainable development have emerged. One of the most common definitions came out of the 1987 World Commission on Environment and Development, which produced a document entitled, *Our Common Future* (also known as the Brundtland Report), in which they defined the concept:

> Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

As mentioned in the Results chapter, participants' definitions of SC were categorized by the researcher as *futures thinking* or *needs-based*. These categories also appear to correspond with the definition of sustainable development presented in the Brundtland Report.

A second common definition emerged from the 2005 United Nations General Assembly and is commonly referred to as the three pillars definition of sustainability. This definition of sustainability states that there are, "three components of sustainable development – economic development, social development and environmental protection –… [which are] interdependent and mutually reinforcing pillars" (General Assembly, 2005, p. 12). One participant (Olivia) defined sustainable consumption as consumption that is "environmentally durable and also socially adaptable into the future." This definition appears to reference two of the three pillars of sustainability (i.e., social and environmental) and also includes reference to thinking about the future. While only two participants (i.e., Jacob and Nathan) specifically mentioned they were

influenced by the Brundtland definition, all participants appear to have been influenced by already available definitions of sustainability (see Table 4.2 from Results section).

Participants also discussed how they came to conceptualize SC. Surprisingly, the most common response included reference to their education, personal research, and reading. While acknowledging the importance of education for EfS (and by extension ESC) is not novel, especially after the United Nations declared 2005-2014 the Decade of Education for Sustainable Development in response to its recognized importance (General Assembly, 2002), it was surprising that faculty believed their SC conceptualizations were largely influenced by individual endeavors. These results indicate that the potential for faculty to influence that education through their choice of research projects and reading selections, however, cannot be understated. Just as faculty are influenced by their own research and reading, they also influence the voices and perspectives heard and unheard by their students through their choices of, not only assignments, but also reading selections.

5.2 Course Content Regarding SC

Conversations within participants' classes regarding SC include considerations of the functional, sociological, psychological, and economic aspects of consumption as identified in the literature (Carida, 2011). While the literature review for this study provided a general framework for understanding SC, participants' discussions of the functional, sociological, psychological, and economics categories of SC provided both a fleshing out of theoretical ideas into actual, practical examples and an expansion of insights and conceptualizations.

Considering the functional aspect of SC, participants provide real life examples of the difficult business of providing for innate human needs (e.g., slave labor in the Thai prawn industry) within their classes. Class discussions also expand into philosophical considerations, such as the difference between wants and needs. When discussing sociological considerations, participants also provide examples (e.g., white flight as an institutional representation of the link between race and consumption) and expansions (e.g., considerations of, not only cultural, but also political ideologies) within their classes. Sociologically, there were also a few noticeable silences. For example, while four participants include institutional considerations, the influence of gendered marketing is only included by one participant (William) within his classes. Discussions about SC and gender may be especially relevant in light of recent research that

suggests eco-friendly behaviors may be perceived as "unmanly" (Brough, Wilkie, Ma, Issac, & Gal, 2016, p. 567). Additionally, only one participant (Olivia) discusses SC and social learning influences. As suggested in the literature review, social learning may influence consumptive behaviors even more than individual learning (Buenstorf & Cordes, 2008) and should be taken into consideration within ESC. Additionally, the sociological influence of discourses on SC is only discussed within two participants' (i.e., Liam and William) courses. Understanding the polysemic nature of discourses may become increasingly relevant for environmental educators in light of recent political paradigmatic shifts towards 'post-truth' where "objective facts are less influential in shaping public opinion than appeals to emotion and personal belief" (Oxford University Press, 2016, n.p.). While post-truth rumblings are not new within the field of Environment and Sustainability, climate change deniers having emerged in the 1970's (see Jacques, Dunlap, & Freeman, 2008; Weart, 2011), the recent surge in uptake among a wide variety of actors across multiple issues warrants studied consideration. Psychological considerations of SC within participants' classes also included a fleshing out of ideas (e.g., examples of identities promoted through consumptive behaviors, such as active lifestyles) as well as expansions (e.g., the idea that even environmentalists maintain their identity through consumption). Economic conversations regarding SC within participants' classes also provide practical examples (e.g., through a focus on the whole cycle of production of the Bangladeshi garment industry) and elaborations (e.g., through discussions about the link between externalities and overconsumption).

5.3 Teaching Methods and Connections to Social Learning Theory

Participants' teaching methods were also analyzed to determine if methods consistent with social learning-based change were utilized. While all participants used elements of social learning-based change approaches, two participants overcame significant barriers by altering their methods to approaches more closely aligning with SLT. One participant, Jacob, switched from lecturing to using tracing product activities when teaching students that marketing influences them. He found this approach, which allowed students to make this discovery for themselves, enabled him to overcome a significant barrier. While his students were quick to admit marketing influences other people, they were hesitant to concede a similar vulnerability. Social learning-based change approaches support the experiential discovery undergone by

Jacob's students. Additionally, William mentioned, "I didn't have as much interest from students until I started engaging more with social systems that they were actually, felt more familiar with…in addition to just…biophysical ecosystems and biodiversity." After fully embracing the socially contextual nature of learning, William overcame the barrier of student interest, which is significant because Hootstein (1994) argued that students learn more when they are interested in the topic.

Participants also reported how they came to teach about SC. Unsurprisingly, research was among the top responses. More surprisingly, interactions with colleagues were also mentioned by four participants. While two participants (i.e., Nathan and William) cited academia as a lonely profession, they also both cited interactions with colleagues as being influential in their teaching content and methods. Professors may be influenced by their colleagues more than they are aware, again reaffirming the importance of social learning considerations when teaching about SC (see for example, Buenstrof & Cordes, 2008; Gombert-Courvoisier et al., 2014; McGregor, 2009; van Koppen, 2009).

5.4 Implications for Future Research

Participants' commitment to sustainability was measured using the NEP. While numerous studies have utilized the rigorously assessed NEP scale (Dunlap et al., 2000; Stern et al., 1995), to measure the environmental attitudes of students (e.g., Byrka, 2010; Jennings, Smith, & Ghosh, 2014; Jowett et al., 2014; Lee, 2008; Rideout, Hushen, McGinty, Perkins, & Tate, 2005; Shephard et al., 2015), only one study was found which measured the environmental attitudes of faculty using the NEP, and it was a minor focus (Kuo & Jackson, 2014).[1] This correlates similarly to Cotton and colleagues (2007) finding that "little previous research exists on lecturers' understanding of and attitudes toward sustainability" (p. 579). Likewise, Christie and colleagues (2015) found that even fewer studies focused on the viewpoints of faculty regarding EfS on a nationwide, multi-disciplinary scale. While broad overviews of EfS initiatives

[1] Kuo and Jackson's (2014) study surveyed undergraduate students at an engineering university before (N= 370) and after (N= 318) an environmental studies course to determine if pro-environmental orientations increased after the course. The four instructors of the nine sections of this course also completed the questionnaire; their overall NEP mean score was 65.8 and scores ranged from 61 to 74 (Kuo & Jackson, 2014). The participants in the current study scored similarly, with an overall mean of 61.0 and scores ranging from 54 to 71.

in PSE settings exist (e.g., Tilbury, Keogh, Leighton, & Kent, 2005; UNESCO, 2009), they often provide results regarding the entire sector of curriculum rather than investigating the individual opinions of faculty not directly involved in EfS (Christie et al., 2015). Studies that have investigated the opinions of faculty often focus on a single university, discipline, or case study and usually only include faculty with expressed interests in sustainability (e.g., Cotton et al., 2007; Carew & Mitchell, 2006; Joseph, Nichol, Janggu, & Madi, 2013).[2] Several previous studies have identified faculty members' beliefs and attitudes towards EfS as barriers to its incorporation in higher education institutions (e.g., Dawe, Jucker, & Martin, 2005; Velazquez, Munguia, & Sanchez, 2005) further warranting investigation, especially across disciplines. Furthermore, one of the participants in the current study, William, expressed concern about hypocritically placing "a lot of burden onto young students when they're in a framework where their parents and their teachers are buying homes and cars that are extreme examples of consumption." While these results cannot prove or disprove William's concern, it does appear there is an unbalanced focus in the literature on the environmental attitudes of students, which presents a research opportunity to utilize the NEP to measure faculty member's environmental orientations, which ultimately affect student learning. While students are not without their own agency to influence their own learning, the role of teachers in facilitating uptake and knowledge acquisition cannot be understated (Prasertcharoensuk, Somprach, & Ngang, 2015).

From a social learning perspective, the NEP could also be utilized before and after specific environmental courses to assess how orientations shift for both faculty and students.[3] This would be especially interesting considering that William mentioned his inclusion of SC within his classes shifted towards efficient consumption, in part, due to his interactions with his students who felt as though they needed a tangible SC solution. While environmental orientations can shift for a variety of reasons and the use of the NEP should be interrupted

[2] A notable exception is Christie and colleagues (2015) who investigated faculty opinions across all Australian universities in all disciplines.

[3] The previously mentioned study by Kuo and Jackson (2014), which utilized the NEP to measure pro-environmental orientations of faculty, did not indicate if the faculty completed the NEP both before and after the environmental studies course. It appears the orientations of faculty were only measured at one point in time as only one NEP mean score was reported.

cautiously, it possesses the potential to indicate potential instances of social learning within formal education settings.

While this study utilized the NEP to measure faculty member's environmental orientations nationwide across disciplines, the sample size of the current study was relatively small and cannot provide generalizable results. A research opportunity exists to utilize the NEP to measure faculty member's orientations with larger sample sizes and to include faculty with and without expressed interests in sustainability to better understand how sustainability is taught across Canada and across disciplines. Additionally, as little research exists regarding how faculty conceptualize and teach about SC, the findings from this study may be utilized in future quantitative studies seeking to compare conceptualizations and methods to draw broader conclusions. Finally, students' reception of SC teaching could be measured to assess if/how students' orientations do/do not correlate with faculty member's orientations.

5.5 Implications for Future Policy and Practice

This study has provided a glimpse into how SC is addressed in teaching within the fields of Education, Environmental Science, Philosophy, Economics, and Geography. Participants' insights reaffirmed both the necessity and benefit of approaching sustainability and SC from interdisciplinary understandings, especially for future practice. Despite participants' diverse backgrounds, some similar ideas and resources regarding SC surfaced in course content within very different fields. For example, within Jacob's Economics courses, the concept of externalities is discussed in terms of the idea that, if externalities are present, overconsumption will also be present because the market price for products does not include the full cost (e.g., human, environmental, and economic) of production. Whereas discussions regarding externalities within Emma's Education courses, centered around defining externalities as when we make other people pay for our *stuff* (Leonard, 2008). In both cases the negative effects of externalities are discussed, but in one course, it is used as an explanation of a situation (i.e., an economic reason for overconsumption), and in the other, the focus is on the injustices caused by the presence of externalities. When ideas regarding SC crossed disciplines (e.g., the economic concept of externalities being discussed in an education course) within participants' classes, they were often explained in different ways depending on the discipline as the previous example exemplifies. In terms of future practice, putting multiple disciplines into conversation with each

other within course content has the potential to enable a broader understanding of SC. In the example mentioned above, the topic of externalities can be approached both from an economic understanding in terms of how it can fuel overconsumption and from an environmental ethics approach in terms of justice as one example. Resources also crossed into other disciplines' course content at times. For example, Annie Leonard's (2008) *Story of Solutions* video was utilized in Emma's education courses and Nathan's Philosophy courses, further indicating that some resources regarding SC can be relevant within different disciplinary classes. In terms of future practice, course readings and course offerings which span disciplines may foster broader understandings regarding SC. As a further implication for future practice, this study could also be utilized as a resource for faculty who teach about SC given it provides an overview of the multitude of ways to conceptualize SC and possible methods for instruction, as well as data on faculties' experiences with various conceptualizations and methods.

A further implication for future practice also emerges when considering the post-truth political paradigmatic shift (Geoghegan, 2016) mentioned earlier towards emotionality and away from objectivity. For many, the year 2016 was nothing if not an emotional search for some semblance of subjective truth. While the swirl of semi-truths, half-truths, untruths, and manipulations of truths, (e.g., Donald Trump's denial that he blamed the Chinese for inventing Global Warming; see CNN, 2017; D. Trump, 2012), were not all related to environmental matters, together they led to warnings about the increasing spread of a false news "epidemic" (Clinton, 2016, n.p.). Critical media literacy, which was also utilized by two participants in the current study, may be particularly positioned to see through a haze of "alternative facts" (NBC News, 2017, n.p.).[4] In general, media literacy is the ability to analyze and critique varying forms of media, such as television, radio, internet, newspapers, etc. (Schwartz, 2000). Media literacy activities include investigating how the same issue is presented in varying sources to uncover differential ways of presentation and to expose authorial biases (Schwartz, 2000). Media literacy allows students "to be an active participant with the media, consciously creating knowledge and understanding, rather than simply being a passive recipient of media messages" (Tisdell &

[4] The term "alternative facts" was coined by US Counselor to the President Kellyanne Conway during a NBC "Meet the Press" interview where she defended the White House Press Secretary, Sean Spicer's false statements regarding the attendance turnout at Donald Trump's inauguration as US President (NBC News, 2017, n.p.).

Thompson, 2007, p. 2). This is especially relevant within an EfS and ESC context in light of a recent executive order signed by US President Donald Trump to advance the approval of the Keystone XL and Dakota Access oil pipelines (Jones, Diamond, & Krieg, 2017). As measures are put into place to advance these pipelines, which are antithetical to SC, it remains to be seen how they will be represented in the media in the US and Canada, including references to their human and environmental impacts. This executive order is just one example of why critical media literacy may become increasingly important in battling an escalation of post-truth rhetoric. Coupling critical media literacy with historical analyses (e.g., treaty rights of Indigenous peoples and even social media messaging history) may also be particularly useful when educating about EfS, generally, and ESC, specifically.

While this study does not provide generalizable results, it does provide an account of how policies relate to conceptualizations and teaching methods within a particular place and time. While some policy influences regarding participants' course content were more obvious, others were less so. For example, participants focused more on the social and economic considerations of SC as opposed to functional and psychological considerations within their courses. This emphasis could be unconsciously connected to the three pillars definition of sustainability (i.e., social, environmental, and economic), indicating the content of policies may be more influential than what is explicitly expressed.

5.6 Concluding Thoughts

Participants within the current study variously considered SC within their classes. Their approaches were largely driven by their backgrounds and fields of study. While the direct impact of international, national, and institutional policies on content and teaching methods included in classes was less apparent, their contextual significance in some cases provided a rationale and/or signaled the importance of inclusion of an SC or sustainability focus.

Given the need to radically transform our relationship with the earth, the need for ESC has never been greater. The potential of education to aid this transformation should not be understated. SC, a multifaceted concept, has been integrated into multiple fields of study. Understanding the various permutations and uptake of SC will help facilitate revolutionary education, especially due to the potential of education to foster innovation and critical thinking (Tilbury, 2009). PSE institutions are particularly positioned to aid in the shaping of young

professionals. The focus on sustainability in many universities, however, is often centered on facilities management, not teaching and learning (Leihy & Salazar, 2011; Vaughter, McKenzie, Lidstone, & Wright, 2016). A stronger focus on sustainability education, in general, and ESC, in particular, among PSE institutions may enable the creation of more sustainable societies.

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Appendix A

National Survey Questions

SEPN
The Sustainability and Education Policy Network

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

About SEPN
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.

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Social Sciences and Humanities Research Council of Canada / Conseil de recherches en sciences humaines du Canada
Canada

NATIONAL SURVEY
POST-SECONDARY EDUCATION

Are universities, schools, school boards, and ministries currently supporting the transition to more environmentally sustainable societies through their practices and policies? Help us answer this question by filling out this 15-20 minute survey.

This survey investigates 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. Sustainable practices may include activities such as buying local food or researching alternative energy on your school or campus.

Your voice, perspective, and insight are critical to building sustainable policies and practices within Canadian schools and institutions.

To participate in the survey, you should have some awareness of at least one of the following:

- What sustainability practices exist in your work or study setting?
- What has supported the development of sustainability practices in your work or study setting?
- What has hindered the development of sustainability practices in your work or study setting?
- Whether there are any policies that address sustainability in your work or study setting, and if so, factors may have contributed to their development and implementation.

Participants must be involved with the education system in Canada.

Please **share the survey link** with anyone you feel might be able to answer this survey. Multiple surveys can be completed from one setting.

ETHICS CONSENT FORM

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

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

Dr. Randolph Haluza-DeLay, Associate Professor, Department of Sociology, King's University College, 780-465-3500 (ext. 8063), randolph.haluza-delay@kingsu.ca

Potential Risks and Benefits:

- There are no anticipated risks to you by participating in this research
- Interested participants will be provided with a summary of the survey's results

Compensation:

- Participants can enter a draw for one of 80 pre-loaded $40 VISA gift cards and one of three $150 gift certificates for a bookstore of your choice. The contact information you provide to enter into the draw will not be associated with your survey responses in any way

Confidentiality and Right to Withdraw:

- Your survey responses are anonymous and confidential
- Only aggregate data will be reported so there will be no way to identify individual participants
- 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
- Your participation is voluntary. You can choose to skip questions and answer only those 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 data from the study will apply until you have submitted your survey. After this time, it may not be possible to identify which survey data are yours to withdraw your responses

Questions or Concerns:

- For questions while completing the survey, 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

Consent:

By completing and submitting the questionnaire, **YOUR FREE AND INFORMED CONSENT IS IMPLIED** and indicates that you understand the above conditions of participation in this study.

INTRODUCTORY QUESTIONS

1. In which province or territory are you located?

◯ Alberta	◯ Nova Scotia	◯ Québec
◯ British Columbia	◯ Northwest Territories	◯ Saskatchewan
◯ Manitoba	◯ Nunavut	◯ Yukon
◯ New Brunswick	◯ Ontario	
◯ Newfoundland and Labrador	◯ Prince Edward Island	

2. Which one of the following best describes the current work or study setting for your primary role? *(Pick only one)*

◯ Cégep	◯ College	◯ University

3. What is your primary role?

◯ Post-secondary student	◯ Facilities manager	◯ University President
◯ Sessional instructor	◯ Sustainability officer/ coordinator	◯ Other *(Please specify)*: _____
◯ Faculty member	◯ Staff member	
◯ Custodian	◯ Administrator	

4. Please specify the name of the university, college, or cégep at which you currently work or study:

_____

5. If you work for a provincial ministry of education, please indicate which ministry you work for:

◯ Ministry of Education
◯ Ministry of Advanced Education

SUSTAINABILITY DEFINITIONS

6. Which of the definitions below **best matches** the concept of sustainability **most commonly used in your setting?** *(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 of future generations
- ☐ Based in Indigenous knowledge and worldviews
- ☐ A focus on a sustainable economy
- ☐ Other *(Please specify):* _____
- ☐ I don't know

7. Which of the definitions below **best matches your own** understanding 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 of future generations
- ☐ Based in Indigenous knowledge and worldview
- ☐ A focus on a sustainable economy
- ☐ Other *(Please specify):* _____

Instructions

When responding to the survey questions, please:

- Answer the questions in relation to **your entire work or study setting**, not just for the particular unit or department in which you work or study,
- Answer in relation to *current* practices and policies, and
- Answer the questions to the **best of your knowledge.**

Use the following definitions to answer the survey:

	Definition
Management/Governance	Overall vision, policies, leadership, and management of a school or institution (e.g., strategic plan, mission statement, budget)
Curriculum	Any academic programs or policies that incorporate sustainability (e.g., academic plan, sustainability course, major, or degree)
Operations/Facilities	Related to physical buildings and facilities management (e.g., water or energy conservation, transportation, composting, operations plan)
Research	Research activities conducted by faculty about sustainability or policies directing research (e.g., sustainability research centers, research plan)
Community Outreach	Collaborations between the educational institution and community members or organizations in relation to sustainability initiatives (e.g., public conferences, community-based teaching)
Sustainability	Any use of the term 'sustainability' which, at minimum, must address concern for the natural environment
Policy	A high level governance document (be it a policy, plan, strategy, or mandate) that addresses sustainability uptake in an institution, school division, or Ministry

SUSTAINABILITY IN PRACTICE

This part of the survey asks about sustainability practices at your setting within management/governance, curriculum, operations/facilities, research, and community outreach. To participate in this part of the survey, you should have **some awareness** of existing sustainability practices in your work or study setting. Please refer to the definitions provided as needed and answer the questions to the **best of your knowledge** and in relation to **your entire work or study setting**, not just for the particular unit or department in which you work or study.

1. How knowledgeable are you of:

	Not At All	Somewhat	Moderately	Extremely
Whether or not there is a **focus on sustainability practices** in your setting?				

If you answered "Not at All Knowledgeable," please skip to page 10, "Drivers and Barriers"

2. To your knowledge, is sustainability taken into account in the overall management or governance of your setting?
   - ○ Yes
   - ○ No *(Skip to page 6, question 3, "Curriculum")*

Definition	
Management/ Governance	Overall vision, policies, leadership, and management of a school or institution (e.g., strategic plan, mission statement, budget)

   a. To what extent is sustainability integrated into the following areas of management or governance in your setting?

	Not at All	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know
Overall vision *(e.g., strategic plan, mission statement)*					
Budgeting *(e.g., green fund, green scholarships, willingness to take on additional financial cost)*					
Investment *(e.g., endowment, socially responsible investment, green investments)*					

   b. Are there any administrative staff or groups in your setting responsible for implementing sustainability? *(Check all that apply)*
      - ☐ Senior administration responsible for sustainability
      - ☐ Sustainability committee or working groups (ongoing)
      - ☐ Sustainability task force (temporary)
      - ☐ Sustainability officer, coordinator, or office
      - ☐ Other *(Please specify)*: _____
      - ☐ My setting does not have people or a group responsible for implementing sustainability
      - ☐ I don't know

c. To your knowledge, does your setting provide any sustainability training or orientations for the following groups? (*Check all that apply*)

- ☐ Students
- ☐ Teachers/faculty
- ☐ Facilities workers/operations staff
- ☐ Sustainability officer/coordinator
- ☐ Administrators
- ☐ Other *(Please specify)*: _____
- ☐ None of the above
- ☐ I don't know

d. Overall, to what extent do policies that address sustainability at your setting have measurable outcomes?

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

e. In your setting, to what extent do policies that address sustainability require progress reporting towards meeting sustainability outcomes?

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

f. How does your setting currently support the implementation of policies that address sustainability? (*Check all that apply*)

- ☐ Budget allocations specific to policy implementation
- ☐ Professional development (e.g. sustainability content training for educators)
- ☐ Sustainability consultants to aid in policy implementation
- ☐ Sustainability officers
- ☐ Other *(Please specify)*: _____
- ☐ My setting has not yet committed support specifically to policy implementation
- ☐ I don't know

g. Are there any other management or governance initiatives you are aware of that are furthering sustainability in your setting? Please describe them.

_____

_____

_____

_____

_____

3. To your knowledge, is sustainability taken into account in the overall curriculum of your setting?

   ○ Yes

   ○ No *(Skip to page 7, question 4, "Operations")*

Curriculum — **Definition**: Any academic programs or policies that incorporate sustainability (e.g., academic plan, sustainability course, major, or degree)

a. To what extent do you feel that the following approaches have been used to include sustainability in curriculum throughout your setting?

	Not at All	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know
New discipline-specific course(s) developed					
New interdisciplinary course(s) developed					
Integrated into existing course(s)					
Established a major or degree					

b. To what extent are the following sustainability topics integrated into curriculum in your setting?

	Not at All	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know
Management of natural resources *(e.g., energy or water management)*					
Intrinsic value of nature *(e.g., biological diversity, deep ecology)*					
Nature *(e.g., nature awareness, outdoor classrooms)*					
Economy *(e.g., economic systems as they relate to environment)*					
Justice *(e.g., social and ecological justice, human rights, ethics)*					
Citizenship *(e.g., democracy, governance, conflict resolutions)*					
Cultural *(e.g., art and environment, eco-literature)*					
Environmental health					
Consumerism					
Local issues					
Global issues					
Indigenous perspectives					
Sustainability *(e.g., conceptions and history of approaches to sustainability)*					
Alternative futures *(e.g., preparing for the future, responses to ecological disasters, alternative fuels)*					

c. If you are a faculty member, do you teach about sustainable consumption in your classes?

   ○ Yes → If yes, would you be willing to be contacted for additional research on this topic? Please enter your contact information below: (By entering your contact details here, your survey responses will be associated with your name and email address)

   Name: _____

   Email: _____

   ○ No

4. To your knowledge, is sustainability taken into account in the overall operations or facilities of your setting?

- ○ Yes
- ○ No *(Skip to page 8, question 5, "Research")*

Operations/ Facilities

Definition

Related to physical buildings and facilities management (e.g., water or energy conservation, transportation, composting, operations plan)

a. To what extent is sustainability currently integrated into the following areas of facilities management or operations within your setting?

	Not at All	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know	Not Applicable
Energy use *(e.g., lighting, insulation, energy efficiency)*						
Sustainable energy initiatives *(e.g., solar, wind, geothermal)*						
Building construction or renovation *(e.g., green building rating system)*						
Transportation *(e.g., bicycle lanes, electric or hybrid vehicles, shuttle buses)*						
Housing *(e.g., sustainable dorms, housing for staff near campus)*						
Cleaning *(e.g., use of environmentally friendly products)*						
Reducing release of hazardous chemicals *(e.g., no pesticide use, low-emitting paints)*						
Management of grounds *(e.g., school yard greening, water efficient landscaping)*						
Conserving water in buildings *(e.g., toilets, water management)*						
Dining *(e.g., biodegradable, donating extra food, composting food waste)*						
Recycling *(e.g., plastic, glass, electronics, waste oil, metals, paint)*						
Information technology *(e.g., suppliers must take back packaging, recycling)*						
Disposal of hazardous waste *(e.g., toxic waste, pharmaceutical waste, agricultural waste)*						

b. To your knowledge, has your setting tracked emissions using any of the following? *(Check all that apply)*

- ☐ Greenhouse gas emissions inventory
- ☐ Carbon footprint measurement
- ☐ Water footprint measurement
- ☐ Sustainability assessment or audit
- ☐ Other *(Please specify)*: _____
- ☐ None of the above
- ☐ I don't know

5. To your knowledge, does your setting conduct research on sustainability?

   ○ Yes

   ○ No *(Skip to page 9, question 6, "Community Outreach")*

Research — **Definition**: Research activities conducted by faculty about sustainability or policies directing research (e.g., sustainability research centers, research plan)

a. To what extent does your institution prioritize research in the following areas?

	Not at All	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know
Resource extraction *(e.g., oil, minerals)*					
Alternative energy					
Environmental protection or conservation					
Resource management					
Climate change					
Development of sustainable products/technologies					
Education for sustainability					
Environmental justice					
Other *(Please specify):*					

b. To what extent does your setting partner in some capacity with the following groups on research that addresses sustainability?

	Not at All	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know
Government agencies					
Industry or business					
Non-governmental organizations					
Other post-secondary institutions					
Other *(Please specify):*					

c. Which of the following characterizes the types of research partnerships at your setting? *(Check all that apply)*

	International	National	Provincial	Local	I Don't Know	Not Applicable
Government agencies						
Industry or business						
Non-governmental organizations						
Other post-secondary institutions						
Other (*Please specify):*						

d. Does your institution have any of the following types of research centres focused on sustainability issues? *(Check all that apply)*

☐ Interdisciplinary centres ☐ Discipline-specific centres ☐ None of the above ☐ I don't know

6. To your knowledge, is sustainability taken into account in the overall community outreach of your setting?

- ○ Yes
- ○ No *(Skip to page 10, question 7, "Drivers and Barriers")*

Community Outreach

Definition

Collaborations between the educational institution and community members or organizations in relation to sustainability initiatives (e.g., public conferences, community-based teaching)

a. To what extent does your setting engage with the broader community on sustainability in the following ways?

	Not at all	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know
Public conferences or events					
Public awareness campaigns or education on sustainability					
Distributing printed Information created by your setting *(e.g., signs, newsletters, slogans, guides)*					
Public consultations on sustainability issues					
Seeking community representation on sustainability committees or initiatives					
Participating in community sustainability committees or initiatives					
Sharing resources *(e.g., expert knowledge)*					
Research collaborations with community					
Community action projects *(e.g., community garden)*					
Community-based teaching					

b. To what extent does your setting partner in some capacity with the following groups for community outreach about sustainability?

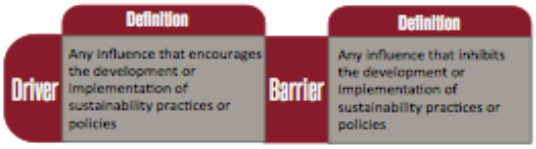
	Not at All	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know
Government agencies					
Industry or business					
Non-governmental organizations					
Other post-secondary institutions					
Other *(Please specify):*					

c. Which of the following characterizes the types of community outreach partnerships at your setting? *(Check all that apply)*

	International	National	Provincial	Local	I Don't Know	Not Applicable
Government agencies						
Industry or business						
Non-governmental organizations						
Other post-secondary institutions						
Other *(Please specify):*						

DRIVERS AND BARRIERS

This part of the survey asks about drivers and barriers that may have influenced the development of sustainability practices at your setting. To participate in this part of the survey, you should have **some awareness** of drivers or barriers that have supported or hindered the development of sustainability practices in your work or study setting. Please refer to the definitions of drivers and barriers displayed below as needed and answer the questions to the **best of your knowledge** and in relation to **your entire work or study setting**, not just for the particular unit or department in which you work or study.



7. How knowledgeable are you of:

	Not At All	Somewhat	Moderately	Extremely
Drivers that influence the inclusion of **sustainability in practices** in your setting?				
Barriers that influence the inclusion of **sustainability in practices** in your setting?				

If you answered "Not at All Knowledgeable" to both questions, please skip to page 13, "Sustainability Policy Development"; otherwise, go to question 8

8. Please rate the extent to which the following have acted as drivers or barriers in implementing sustainability practices in your setting:

People and Settings	Strong Barrier	Somewhat of a Barrier	Neither Barrier nor Driver	Somewhat of a Driver	Strong Driver	Both a Driver and Barrier	I Don't Know
PEOPLE:							
Student involvement							
Teacher/faculty involvement							
Sustainability officer/coordinator involvement							
Operations staff involvement							
Administrator involvement							
Parents							
Involvement of individuals outside your setting							
Other *(Please specify):*							
RELATIONSHIPS:							
Relationships within your setting *(e.g., authority, who has say, resistors, interpersonal relations)*							
Channels of communication between different levels of personnel *(e.g., faculty and staff)*							
Channels of communication between government and your setting							
Other *(Please specify):*							

Please rate the extent to which the following have acted as drivers or barriers in implementing sustainability practices in your setting:

Networks	Strong Barrier	Somewhat of a Barrier	Neither Barrier nor Driver	Somewhat of a Driver	Strong Driver	Both a Driver and Barrier	I Don't Know
OTHER SETTINGS:							
Mandate from a governing body							
Desire to enhance reputation							
Competition with other settings							
Following the example of other settings							
Competing priorities *(e.g., time, literacy of students, different subject area expectations)*							
Restructuring pressures							
Financial incentives *(e.g., grants, scholarships)*							
Other *(Please specify):*							
NETWORKS AND MEDIA:							
Networks *(e.g., UNESCO, Regional Centers of Expertise)*							
Professional associations							
Conferences or seminars							
Social media							
Print or online resources *(e.g., news articles, news sites/documents)*							
Other *(Please specify):*							

Please rate the extent to which the following have acted as drivers or barriers in implementing sustainability practices in your setting:

Community and Place	Strong Barrier	Somewhat of a Barrier	Neither Barrier nor Driver	Somewhat of a Driver	Strong Driver	Both a Driver and Barrier	I Don't Know
COMMUNITY VALUES:							
Values within society that support sustainability							
Values within society that do not support sustainability							
Culture or expectations of surrounding community							
Indigenous knowledge and perspectives							
Political priorities regarding sustainability							
Other *(Please specify):*							
COMMUNITY PARTNERS:							
Community programs and initiatives							
Corporate partnerships							
Other *(Please specify):*							
PLACE:							
Institutional buildings and grounds *(e.g., building design, green space, common space)*							
Surrounding local businesses or organizations							
Surrounding natural environment							
Other *(Please specify):*							

Please rate the extent to which the following have acted as drivers or barriers in implementing sustainability practices in your setting:

Policies	Strong Barrier	Somewhat of a Barrier	Neither Barrier nor Driver	Somewhat of a Driver	Strong Driver	Both a Driver and Barrier	I Don't Know
International policies *(e.g., Kyoto declaration)*							
National policies *(e.g., Federal Sustainable Development Act)*							
Provincial policies *(e.g., Ministry of Environment acts and/or policies)*							
Municipal policies *(i.e., city or town policy directions or priorities)*							
Policies in your setting *(e.g., budget mandates)*							
Other local policies *(e.g., Aboriginal priorities)*							
Other *(Please specify):*							

Please rate the extent to which the following have acted as drivers or barriers in implementing sustainability practices in your setting:

History and Resources	Strong Barrier	Somewhat of a Barrier	Neither Barrier nor Driver	Somewhat of a Driver	Strong Driver	Both a Driver and Barrier	I Don't Know
HISTORY:							
History of overall priorities in your setting							
History of sustainability initiatives in your setting							
Other *(Please specify):*							
RESOURCES:							
Sustainability office							
Internal funding *(e.g., institution)*							
External funding *(e.g., government)*							
Desire to save money							
Technology and equipment							
Staffing *(e.g., number, quality)*							
Time *(e.g., availability)*							
Research on best practices							
Other *(Please specify):*							

a. In your experience, what is the most influential driver of implementing sustainability in practice in your setting and why?

_____

_____

_____

_____

_____

b. In your experience, what is the most influential barrier of implementing sustainability in practice in your setting and why?

_____

_____

_____

_____

_____

9. In your experience, have any of the following perceptions hindered the implementation of sustainability in practice in your setting? *(Check all that apply)*

- ☐ Perceptions that sustainability is someone else's concern
- ☐ Feelings that individual actions cannot make a difference
- ☐ Lack of awareness about sustainability issues because individuals do not experience negative effects first hand
- ☐ Other (*Please specify):* _____
- ☐ None of the above
- ☐ I don't know

SUSTAINABILITY POLICY DEVELOPMENT

This section of the survey asks about factors that may have influenced policy development. Policies that address sustainability could range from a mandate to incorporate sustainability within your setting to a policy that has a sustainability component, such as an academic plan. To participate in this part of the survey, you should have **some awareness** of how policies that address sustainability were developed. Please answer the questions to the **best of your knowledge** and in relation to **your entire work or study setting**, not just for the particular unit or department in which you work or study.

10. How knowledgeable are you of:

	Not at All	Somewhat	Moderately	Extremely
How policies that address sustainability in your setting **were developed**?				

If you answered "Not at All Knowledgeable," please skip to page 17, "Policy Effects"

The Influences of People and Networks on Policy Development

11. Thinking of the current policies that address sustainability in your setting, to what extent have the following individuals been involved in policy development?

	Not at all	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know	Not Applicable
Students						
Teachers/faculty						
Facilities workers/operations staff						
Sustainability officer/coordinator						
Administrators						
Families						
Public						
Provincial government						
Other *(Please specify):*						

12. Do you agree that these were the right people to have this responsibility?

	Yes	No	I Don't Know	Not Applicable
Students				
Teachers/faculty				
Facilities workers/operations staff				
Sustainability officer/coordinator				
Administrators				
Families				
Public				
Provincial government				
Other *(Please specify):*				

a. If these were not the right people, then why not?

_____

_____

_____

_____

_____

13. Within your setting, to what extent do you think the following networks had an influence on the development of policies that address sustainability?

	Not at all	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know
International networks *(e.g., UNESCO)*					
National networks *(e.g., of administrators, staff, or students)*					
Local networks *(e.g., municipality, school division, community groups)*					
Professional associations					
Conferences or seminars					
Other *(Please specify):*					

14. Within your setting, to what extent do you think the following media had an influence on the development of policies that address sustainability?

	Not at all	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know
Scholarly publications *(e.g., books and/or journal articles)*					
Newspaper or magazine news stories					
Radio programming					
Television or films					
Web-based resources and social media					
Other *(Please specify):*					

The Influences of Community and Place on Policy Development

15. To your knowledge, when policies that address sustainability were developed within your setting were any of the following considered? *(Check all that apply)*

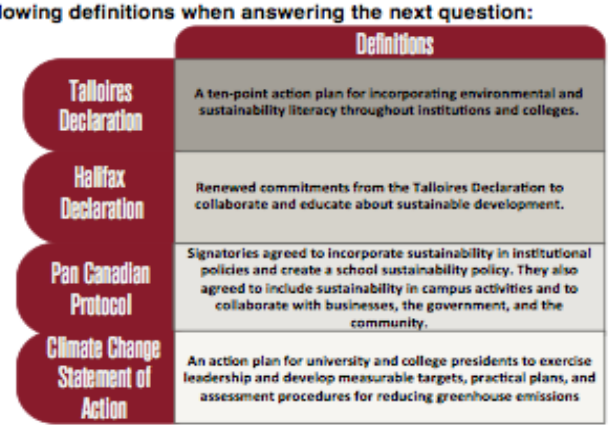
- ☐ Values within society that support sustainability
- ☐ Values within society that do not support sustainability
- ☐ Culture or expectations of surrounding community
- ☐ Indigenous knowledge and perspectives
- ☐ Political priorities regarding sustainability
- ☐ Community programs and initiatives
- ☐ Corporate partnerships
- ☐ Institutional buildings and grounds (e.g., building design, green space, common space)
- ☐ Surrounding local businesses or organizations
- ☐ Surrounding natural environment
- ☐ Other *(Please specify):* _____
- ☐ None of the above
- ☐ I don't know

The Influences of Other Policies on Policy Development

16. Within your setting, to what extent has the development of policies that address sustainability been influenced by existing policies at the following levels?

	Not at All	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know
International *(e.g., Kyoto)*					
National *(e.g., Federal Sustainable Development Act)*					
Provincial *(e.g., Ministry of Environment acts, Ministry of Education policy)*					
Municipal *(e.g., municipal policy directions or priorities)*					
Policies in your setting *(e.g., budget mandates)*					
Other local policies *(e.g., Aboriginal priorities)*					
Other *(Please specify):*					

Please refer to the following definitions when answering the next question:



	Definitions
Talloires Declaration	A ten-point action plan for incorporating environmental and sustainability literacy throughout institutions and colleges.
Halifax Declaration	Renewed commitments from the Talloires Declaration to collaborate and educate about sustainable development.
Pan Canadian Protocol	Signatories agreed to incorporate sustainability in institutional policies and create a school sustainability policy. They also agreed to include sustainability in campus activities and to collaborate with businesses, the government, and the community.
Climate Change Statement of Action	An action plan for university and college presidents to exercise leadership and develop measurable targets, practical plans, and assessment procedures for reducing greenhouse emissions

17. To your knowledge, have any of the following international declarations influenced the development of policies that address sustainability at your setting? *(Check all that apply)*

- ☐ Talloires Declaration
- ☐ Halifax Declaration
- ☐ Pan Canadian Protocol for Sustainability
- ☐ University and College Presidents' Climate Change Statement of Action
- ☐ Other *(Please specify):* _____
- ☐ My institution has not signed any international declarations
- ☐ I don't know

18. In your experience, what is the most influential driver in developing policies that address sustainability in your setting and why?

_____

_____

_____

_____

_____

19. In your experience, what is the most influential barrier in developing policies that address sustainability in your setting and why?

_____

_____

_____

_____

_____

POLICY EFFECTS

This part of the survey asks about the influences of policies that address sustainability on practices. Policies that address sustainability could range from a mandate to incorporate sustainability within your setting to a policy that has a sustainability component, such as an academic plan. To participate in this part of the survey, you should have **some awareness** of how policies that address sustainability influence practices. Please answer the questions to the **best of your knowledge** and in relation to **your entire work or study setting**, not just for the particular unit or department in which you work or study.

20. How knowledgeable are you of:

	Not at All	Somewhat	Moderately	Extremely
How policies that address sustainability **influence practices**?				

If you answered "Not at All Knowledgeable," please skip to page 19, "Personal Information"

21. In general, to what extent do you think policies that address sustainability at your setting have been successful in influencing the adoption of sustainability initiatives?

Not at all successful ○ Slightly successful ○ Moderately successful ○ Extremely successful ○ I don't know

Please refer to the following definitions when answering the next question:

22. Overall, to what extent do you think the following areas of practice are influenced by policies that address sustainability at your setting?

	Definition
Management/ Governance	Overall vision, policies, leadership, and management of a school or institution (e.g., strategic plan, mission statement, budget)
Curriculum	Any academic programs or policies that incorporate sustainability (e.g., academic plan, sustainability course, major, or degree)
Operations/ Facilities	Related to physical buildings and facilities management (e.g., water or energy conservation, transportation, composting, operations plan)
Research	Research activities conducted by faculty about sustainability or policies directing research (e.g., sustainability research centers, research plan)
Community Outreach	Collaborations between the educational institution and community members or organizations in relation to sustainability initiatives (e.g., public conferences, community-based teaching)

	Not at All	To Some Extent	To a Moderate Extent	To a Large Extent	I Don't Know
Management/ governance					
Curriculum					
Operations/ facilities management					
Research					
Community outreach					

23. To your knowledge, have any evaluations been done that examined the impact of policies that address sustainability in your setting?

- ○ Yes
- ○ No
- ○ I don't know

a. If yes, please provide a brief description and URL:

_____

_____

_____

24. To what extent are you satisfied with the effects of existing policies that address sustainability in your setting?

- ○ Not at all satisfied
- ○ Slightly satisfied
- ○ Moderately satisfied
- ○ Extremely satisfied *(If extremely satisfied, skip to page 18, "Personal Information")*
- ○ I don't know

Please refer to the following definitions when answering the next question:

	Definition
Management/ Governance	Overall vision, policies, leadership, and management of a school or institution (e.g., strategic plan, mission statement, budget)
Curriculum	Any academic programs or policies that incorporate sustainability (e.g., academic plan, sustainability course, major, or degree)
Operations/ Facilities	Related to physical buildings and facilities management (e.g., water or energy conservation, transportation, composting, operations plan)
Research	Research activities conducted by faculty about sustainability or policies directing research (e.g., sustainability research centers, research plan)
Community Outreach	Collaborations between the educational institution and community members or organizations in relation to sustainability initiatives (e.g., public conferences, community-based teaching)

a. Within your setting, which areas of existing policies that address sustainability do you think need to be improved? *(Check all that apply)*

- ☐ Management/governance
- ☐ Curriculum
- ☐ Operations/facilities management
- ☐ Research
- ☐ Community outreach
- ☐ All areas are adequately covered by policies
- ☐ Other (*Please specify):*

  _____
- ☐ I don't know

b. Within your setting, how do you think existing policies that address sustainability can be improved? *(Check all that apply)*

- ☐ Increase resources *(e.g., financial, supplies, human resources)*
- ☐ Provide greater specificity *(e.g., in goals, implementation plans)*
- ☐ Broaden focus *(e.g., focusing on multiple areas)*
- ☐ Set more challenging goals
- ☐ Stronger leadership
- ☐ The policy should remain as is
- ☐ Other *(Please specify):* _____
- ☐ I don't know

PERSONAL INFORMATION

25. To best interpret your answers, we are interested in how you answered the previous questions. Which description of sustainability **best represents** how you responded to the survey questions? *(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 of future generations
- ☐ Based in Indigenous knowledge and worldviews
- ☐ A focus on a sustainable economy
- ☐ Any use of the term 'sustainability' which, at minimum must address concern for the natural environment
- ☐ Other *(Please specify):* _____

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

○ Not at all ○ Somewhat ○ Moderately ○ Extremely

27. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
1. We are approaching the limit of the number of people the Earth can support.					
2. Humans have the right to modify the natural environment to suit their needs.					
3. When humans interfere with nature it often produces disastrous consequences.					
4. Human ingenuity will insure that we do not make the Earth unlivable.					
5. Humans are seriously abusing the environment.					
6. The Earth has plenty of natural resources if we just learn how to develop them.					
7. Plants and animals have as much right as humans to exist.					
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations.					
9. Despite our special abilities, humans are still subject to the laws of nature.					
10. The so-called "ecological crisis" facing humankind has been greatly exaggerated.					
11. The Earth is like a spaceship with very limited room and resources.					
12. Humans were meant to rule over the rest of nature.					
13. The balance of nature is very delicate and easily upset.					
14. Humans will eventually learn enough about how nature works to be able to control it.					
15. If things continue on their present course, we will soon experience a major ecological catastrophe.					

28. What is your age?

○ 15-19	○ 35-39	○ 55-59	○ 75-79
○ 20-24	○ 40-44	○ 60-64	○ 80-84
○ 25-29	○ 45-49	○ 65-69	○ 85-89
○ 30-34	○ 50-54	○ 70-74	○ 90 and older

29. What is the highest level of education you have completed?

○ Less than high school	○ Bachelor's degree
○ High school	○ Professional degree
○ Some post-secondary	○ Master's degree
○ College diploma	○ Doctoral degree

30. What is your gender identity?

- ○ Female
- ○ Male
- ○ Another gender identity (This may include Aboriginal Two-Spirit, Transgender, and other)
- ○ Decline to answer

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

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

32. Do you have any additional comments?

_____

_____

_____

_____

_____

_____

_____

_____

_____

Thank you for taking the time to respond to this survey!

For more information about this survey or
the Sustainability and Education Policy Network and its research,
visit www.sepn.ca or
contact Nicola Chopin, Project Manager at nicola.chopin@usask.ca

www.sepn.ca

Appendix B

Table B1. Number and Percentage of Post-Secondary Institutions, Teaching Staff, Post-Secondary Student Enrolments, and Sustainability Officers by Province

Province	**Post-Secondary Institutions**		**Full-Time University Teaching Staff (2010-11)***		**Post-Secondary Enrolments (2011-12)****		**Sustainability Office(r)s**	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
AB	21	9.55%	4846	10.78%	189,258	9.48%	6	8.22%
BC	27	12.27%	6125	13.63%	269,898	13.52%	12	16.44%
MB	9	4.09%	1776	3.95%	60,978	3.05%	3	4.11%
NB	7	3.18%	1228	2.73%	31,635	1.58%	0	0.00%
NL	4	1.82%	946	2.11%	28,188	1.41%	1	1.37%
NS	13	5.91%	2170	4.83%	55,062	2.76%	2	2.74%
ON	59	26.82%	16307	36.29%	783,198	39.23%	19	26.03%
PE	3	1.36%	247	0.55%	8,067	0.40%	1	1.37%
PQ	59	26.82%	9629	21.43%	512,070	25.65%	28	38.36%
SK	15	6.82%	1660	3.69%	53,379	2.67%	1	1.37%
Territories					4,470	0.22%		
NT	1	0.45%	NA	NA			0	0.00%
NU	1	0.45%	NA	NA			0	0.00%
YU	1	0.45%	NA	NA			0	0.00%
TOTAL	**220**	**100.00%**	**44934**	**100.00%**	**1,991,733**	**100.00%**	**73**	**100.00%**

***** Statistics Canada (2012a)

**Statistics Canada (2012b)

Appendix C

Interview Protocol

Interview Script, Verbal Consent Statement, and Interview Questions

I would like to invite you to participate in this short interview. Participation is voluntary and you can stop the interview at any time. The information we collect is kept strictly confidential and none of the answers that you provide will be attributed to you personally. This interview would also be recorded so that I can more accurately remember what we discussed. If you would like more information regarding this study, please contact the University of Saskatchewan Research Ethics Office toll free at 1-888-966-2975.

Are you willing to participate in the Interview?

1. Yes	Continue
2. No	Thank and end interview
3. Later/Not right now	

Ok, I'm going to start by just asking a few introductory questions.

1) What university do you teach at?
2) What discipline do you teach within?
3) How long have you been teaching? About sustainable consumption, specifically?
4) Within your classes, do you teach a separate course related to sustainable consumption, or is sustainable consumption included as part of another course topic?

Now, I'm going to ask some questions about your definition of sustainable consumption.

5) How would you define sustainable consumption?
    a. How do you think that you came to conceptualize sustainable consumption in that way?
        i. Has this definition ever changed based on interactions with students or colleagues?
    b. How is sustainable consumption typically defined within your classes?
        i. Did you face any barriers to defining sustainable consumption in that way within your classes? If so, how were they overcome?

Now, I'm going to ask some questions about how sustainable consumption is taught within your classes.

    c. Would you say that your overall approach to teaching about sustainable consumption is about learning how to do more with less or reducing levels of overall consumption?
    d. Would you say that the reasons for consumption provided in your classes are more concerned with innate human needs, such as access to food water shelter, the social purpose of consumption, the meaning of consumption for an individual, or the economics of consumption?

i. **Depending on their answer to the above question, ask one or more of the following follow up questions/prompts:**
    1. **(Functional)**:
        a. Could you elaborate on the specific areas of human needs that you consider? (Food, water, health, etc.)
    2. **(Sociological):**
        a. Are cultural meanings of consumption considered in your classes? If yes, how so?
        b. Do the reasons provided for consumption ever consider how an individual's choices may be restricted by other more powerful people or organizations? If yes, how so?
        c. In your classroom, do the reasons provided for consumption include how people talk about consumption within social groups? If yes, how so?
        d. When considering the social purpose of consumption in your classes, does this typically include issues of race, gender, social class? If yes, how so?
    3. **(Psychological):**
        a. Within your classes, do you consider how consumption may help create a certain identity? If yes, how so?
        b. Do you consider the connection between human emotions and consumption within your classes? If yes, how so?
        c. Within your classroom, is status competition or keeping up with the Joneses, considered as a reason for consumption? If yes, how so?
        d. Is consumer choice considered in your classes, or how consumers can make choices about what they buy? If yes, how so?
        e. Is consumption as a form of activism considered as a reason for consumption in your classes? If yes, how so?
    4. **(Economics):**
        a. When teaching about consumption, are processes of production also considered? If yes, how so?
        b. Is green consumerism considered. If yes, how so?
        c. Are global consumption patterns or considerations discussed when teaching about consumption?

Now, I'm going to ask a few questions about how policies may or may not have affected your definition of sustainable consumption for either you personally or within your classroom, where a policy could be a document written by the university or a governing body. It could also be an email or statement from an executive that has the same effect as a policy or it could be an international declaration.

e. Do you feel that your definition of sustainable consumption within the classroom or personally is affected by international, national, or institutional policies or declarations?

f. Did international, national, or institutional policies or declarations affect your decision about the type of content to include when teaching about sustainable consumption?

Now, I'm going to ask some questions about methods you may use to teach about sustainable consumption.

6) When teaching about sustainable consumption:
    a. Do you typically use lectures or other methods?
    b. When teaching about sustainable consumption do you use methods such as group work, role-plays, or community activities? If so, how does this usually look in the classroom?
    c. When teaching about sustainable consumption, do you ever provide students with problem scenarios that they must figure out how to solve? If so, how does this usually look in the classroom?
    d. When teaching about sustainable consumption, are students encouraged to think about why people consume or the effects of consumption?
    e. Within your classes, how are students expected to apply or display the knowledge learned? (i.e. through assignments or through broader action, either themselves or within the community?)
        i. (If broader action) What type of action? Is taking action part of their assessment for the course?
    f. How do you think you came to teach about sustainable consumption in these/this way(s)?
    g. Have/Has your method(s) for teaching ever changed based on interactions with students or colleagues?
    h. Did you face any barriers when selecting teaching methods for teaching about sustainable consumption? If so, how were those barriers overcome?
    a. Do you feel that policies, such as international, national, or institutional policies or declarations affect the type of teaching method you utilize? **Where again a policy could be a document written by the university or a governing body. It could also be an email or statement from an executive that has the same effect as a policy. It could also be an international declaration.**
    b. Did international, national, or institutional policies or declarations affect your decision to teach about sustainable consumption?

Closing Questions:

7) Would you be willing to share any course materials related to lessons you teach about sustainable consumption (e.g., syllabus, PowerPoint presentation, or other notes)?
8) Is there other information or ideas on this topic you'd like to share?
9) Would you like to be provided with a summary of the results from this study?

Thanks for your time and your responses. They are very helpful in providing insight for my research. I also appreciate all you do in teaching about sustainable consumption.

Informed Consent Form for Interview Questions

Project Title: The Policy Connection between Conceptualizations and Teaching Methods of Sustainable Consumption on Campus: A Mixed Methods Approach

Researcher: Kristen Hargis, Graduate Student, Educational Foundations, University of Saskatchewan, (306) 966-2319, kbh719@mail.usask.ca

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

Purpose(s) and Objective(s) of the Research:
This study seeks to:

- Understand how faculty conceptualize sustainable consumption and how they came to conceptualize sustainable consumption in that way
- Understand how faculty teach about sustainable consumption and how they came to teach about sustainable consumption in the that way
- Understand how international, national, or institutional policies may affect conceptualizations and teaching methods

Procedures:

- This study will utilize telephone interviews
- Where permission is granted, these interviews will be recorded to ensure accuracy of interpretation
- The interviews will last up to one hour
- Please feel free to ask any questions about the procedures in this study or your role

Funded by: Social Sciences and Humanities Research Council

Potential Risks:

- Participants may feel uncomfortable discussing some questions
- Risk(s) will be addressed by:
    - A statement will be read to participants at the beginning of the interview informing them that they can choose to not answer any questions with which they are uncomfortable

Potential Benefits:

- Contribution to an emerging field of research as few studies have been done examining how faculty conceptualize and teach about sustainable consumption
- Interested participants will be provided with a summary of the final results

Confidentiality:

- Your interviews are anonymous and confidential
- In the final report, no identifying information will be included

- Storage of data:
    - The data will be stored on a password-protected computer. Any printed documents will be stored in a locked file cabinet
    - The data will be kept for up to five years and will be destroyed when no longer required
- Your choice to participate 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 with which you are comfortable or knowledgeable.
- You may withdraw from the research project for any reason at any time without explanation or penalty of any sort.
- Should you wish to withdraw, your data will be destroyed
- Your right to withdraw will apply up until the results have been disseminated. After this date, it may not be possible to withdraw your data.

Follow Up:

- To obtain results from this study, please indicate your interest in the interview or by email and these results will be emailed to you.

Questions or Concerns:

- If you have any questions, please contact the researcher, using the information at the top of page 1
- 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.

Consent:

I read and explained this Consent Form to the participant before receiving the participant's consent, and the participant had knowledge of its contents and appeared to understand it." In addition, consent may be audio or videotaped.

_____	_____	_____
Name of Participant	*Researcher's Signature*	*Date*

Initial Invitation for Participants Recruited through SEPN's National Survey

You are being contacted because you indicated interest in participating in a follow up study conducted by the Sustainability and Education Policy Network (SEPN). Within your classes, **do you teach about sustainable consumption**? Then I would like to talk to you! This research **will support my master's thesis,** which investigates how Canadian faculty members conceptualize and teach about consumption and whether or not this approach is connected with policies.

This study involves telephone interviews that are up to one hour in length and is being conducted in collaboration with SEPN, which is hosted by 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.

What will the interviews tell me?

a) How sustainable consumption is conceptualized, and how it came to be conceptualized in that way
b) How sustainable consumption is taught, and how it came to be taught that way
c) Whether or not there is a connection between conceptualizations and/or teaching methods with institutional, national, or international policies?

Please read over the attached informed consent form and let me know if you are still interested in participating. Very little research exists showing how consumption is conceptualized and taught within post-secondary institutions. Please join me in this exciting conversation!

Please contact Kristen Hargis at Kbh719@usask.ca with any questions regarding this research or SEPN's national survey.

Kind Regards,

Kristen Hargis

Initial Invitation for Participants Known to Teach about Sustainable Consumption

You are being contacted because of the **contribution you have already made in your work regarding sustainable development and consumption.** Within your classes, do you teach about consumption? Then I would like to talk to you! If you do not teach about consumption within your classes, **please forward this email to any colleagues you may know who might qualify for this study.** This research will support my master's thesis, which investigates how Canadian faculty members conceptualize and teach about consumption and whether or not this approach is connected with policies.

This project is being conducted in collaboration with the Sustainability and Education Policy Network (SEPN) hosted by 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. **Participation in this study involves two steps:**

1. Completing SEPN's online national survey, which examines the relationship between sustainability practice and policy at your institution (20-40 minutes)(Click here to access the survey: https://usaskssrl.qualtrics.com/SE/?SID=SV_50BaaK6uvpz7y8B)

2. A telephone interview about your approaches to teaching about consumption (up to 1 hour)

Very little research exists showing how consumption is conceptualized and taught within post-secondary institutions. Please join me in this exciting conversation!

Please contact Kristen Hargis at Kbh719@usask.ca with any questions regarding this research or SEPN's national survey.

Kind Regards,

Kristen Hargis

Follow up Invitation for Participants Known to Teach about Sustainable Consumption

I just wanted to check in to see if you would be interested in participating in **a research project that would support my master's thesis**. This is a project that I am very passionate about, and I need participants! This research investigates how **Canadian faculty members conceptualize and teach about sustainable consumption.** It is being conducted in collaboration with the Sustainability and Education Policy Network (SEPN). SEPN is a research-based partnership between Canadian and international researchers and leading Canadian and North American policy and educational organizations.

Participation in this study involves two steps:

1. Completing SEPN's online national survey, which examines the relationship between sustainability practice and policy at your institution (about 20 minutes)(Click here to access the survey: Take SEPN's National Survey)

2. A telephone interview about your approaches to teaching about consumption (up to 1 hour)

If you do not teach about sustainable consumption within your classes, **please forward this email to any colleagues you may know who might qualify for this study.**

Please contact Kristen Hargis at Kbh719@usask.ca with any questions regarding this research or SEPN's national survey.

Kind Regards,

Kristen Hargis