STORIES OF ARCTIC WONDER:
EXPLORING TRANSFORMATIVE ENVIRONMENTAL EDUCATION

by

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We are Nature.

long have we been absent, but now we return.

(Whitman, 1883, p. 93)
Abstract

This paper explores the experience of ten Canadian youth participants from the 2009 Arctic expedition with *Students on Ice*, an environmental education organization with a mandate of transformation. Through semi-structured interviews, I sought to understand participants’ experience, whether it had been transformative, the nature of that transformation, and its enablers. Findings suggest that environmental education can be transformative toward an ecologically-oriented worldview when designed as a transformative process (1-disorienting dilemma, 2-liminality, 3-reintegration), supported by (socioecologically situated and place conscious) experiential education and cohort learning. In this case, the most notable shifts were toward ‘seeing humans as part of nature’ and ‘conceptualizing nature as having intrinsic value’ (Leiserowitz & Fernandez, 2008). Areas of interest, for further investigation and transformative environmental education (TEE) practitioners, include the self-actualization potential of TEE; the challenges of participant reintegration following a TEE experience; and the importance of supporting participants in understanding, communicating and sustaining their transformation.

Key words: environmental education, transformative learning, worldview, personal transformation, ecological orientation, experiential education, cohort learning
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To the earth, I kneel in endless reverence.
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Preface

One morning I woke up before anyone else and went out on the deck of the ship. I sat at the bow and watched the Arctic rise to meet us. Everything about that moment was new and full of meaning: the smell of the world, the feel of the breeze, the sound of the sea birds, the taste of the salty ocean air. Everywhere I looked was a new piece of a world that my lifestyle affects but that I had never seen. Sean (age 14)

We saw a polar bear on a flow of sea ice eating a seal, and this might sound weird, but it was so beautiful, because that’s where it was supposed to be—not in a zoo, but in its natural habitat, where we were the ones out of place. It made me realize the natural world has such beauty and majesty. Lucy (age 15)

I didn’t really like myself before Students on Ice—well, I didn’t really know who I was. The trip allowed my shell to open up and so I could get to know what was inside me. And now I feel really comfortable in my own skin. Alex (age 17)

I came home from the expedition acutely aware of my every decision and its impact, positive or negative, on the world around me. I felt empowered and enthused about spreading that awareness so others would begin to live their lives in a more conscious, intentional, engaged way to improve our relationship with the earth. Tiff (age 16)
Stories wield enormous power. As humans, we live through our collective stories, narratives that guide who we are and how to be in the world. As we learn more about the current ecological crises and their anthropogenic nature, it becomes increasingly clear that the stories that (many) humans are living out are core to the problem. I believe that changing these stories may change, in turn, how we live. It is important to explore experiences that might shift that worldview and contribute to a new story that we can live out together, we can move toward a better future.

In referring to stories that need changing, I refer to those of the globalized Eurowestern market-oriented cultural heritage. Humans are not unilaterally complicit in our current ecological crisis. In referring to humans and to our worldview that needs shifting, I am referring to humans who hold the worldview that seems to be creating such problems. There are myriad cultures around the world, which according to Davis, are each unique responses to “what does it mean to be human and alive?” (Davis, 2009). Many of them involve a more sustainable relationship with the natural world (Davis, 2009).

As Albert Einstein said, “No problem can be solved from the same level of consciousness that created it. We shall require a substantially new manner of thinking if human kind is to survive.”¹ I am interested in a transformation that re-situates Eurowestern humans within an expanded awareness of the cycles and timescales of the planet. I feel that the current Eurowestern worldview, anchored in the importance of humans above all other beings, must shift toward a more ecologically-oriented worldview so that all beings may flourish (Worldwatch Institute, 2010).

¹ This quote is cited frequently and in various forms, e.g., http://jpetrie.myweb.uga.edu/einstein.html
Chapter 1. The Journey

The earth’s ecological health is currently experiencing a decline according to almost all measures (Worldwatch Institute, 2010). Evidence shows that this decline is largely a result of the impact that Eurowestern human civilization is having on the planet (Worldwatch Institute, 2010). Addressing this anthropogenic impact will require a transformation, one that shifts how Eurowestern cultures relate to the natural world toward a more ecological orientation (e.g., Leiserowitz & Fernandez, 2008; O’Sullivan, 2003; O’Sullivan & Taylor, 2004). Moving these Eurowestern cultures into an era of reconnection to, and balance with, the rest of nature must involve widespread social change (Berry, 1988; O’Sullivan & Taylor, 2004). Though there are innumerable avenues, “social transformation is not possible without personal transformation,” and therefore understanding and facilitating individual transformation is an essential piece (Thompson, 2009, p. 23).

Toward this end, Students on Ice leads educational youth expeditions to both poles. I participated in the 2007 Antarctic expedition as a chaperone, and reconnected with the organization to interview youth participants of the 2009 Arctic expedition for this research. On the 2007 expedition, I found the natural environment to be awe-inspiring and the experience to be emotionally stirring. Near the end of our two and a half weeks together, the expedition team reflected on the experience while sitting together on fast sea ice. The students echoed each other in saying they felt that they had changed but could not quite articulate how. They shared a sense of ambassadorship for the Antarctic and were grateful for the opportunity to experience it as they had. They were energized and empowered and felt compelled to share the experience upon their return home. It seemed to me that a transformation had taken place in the participants: they felt
differently about their role in the world, and the role of humans more generally. I believe this type of shift is a necessary part of rethinking our relationship with the rest of the natural world and responding to the present ecological crisis. My expedition experience with Students on Ice was personally transformative, which inspired me to understand how I had been transformed. I became fascinated with what characterized the Students on Ice expedition experience for participants, as it seemed to have had impacts that were important to understand and encourage more broadly. This research explores the richness of the experience of Students on Ice participants through interviews with ten student participants of the 2009 Arctic expedition. I first sought their description of their experience, and then sought to interpret their stories. This interpretation was done with an interest in transformation, and more precisely, in whether participants were transformed, how they were different, and what contributed to the transformation.

**Students on Ice**

My thesis journey started when I participated in the 2007 Antarctic Students on Ice (SOI) expedition. After three months of travelling from Kingston, Ontario, Canada to Buenos Aires, Argentina, mostly over land, I spent the two weeks following Christmas 2007 aboard the *M/V Ushuaia* exploring the Antarctic Peninsula. I was one of eight chaperones for the 64 youth participants from all over the world. Though the numbers vary with each trip, the rest of the expedition team typically consists of 20-30 education team members and five SOI staff, for a total of about 105 people. The education team members who facilitate the wide-ranging education program are world-class experts ranging from glaciologists to political historians, from whale scientists to musicians. To make the expeditions economically accessible, SOI works with
dozens of funding partners to create scholarship opportunities for the youth. Expeditions are structured around workshops, lectures, landings, and reflection.

SOI celebrated its tenth anniversary in 2010, having taken more than 1,500 youth to the Arctic and Antarctic with the mandate of transformation through place-conscious experiential education. Their guiding principles, educational philosophy, and expedition themes connect all lectures, workshops, and expedition activities with their ambitious mandate. This helps ensure that the experience of expedition participants actualize the organization’s ambitious vision.

Executive Director and Expedition Leader Geoff Green founded SOI after witnessing the transformative experience that polar expeditions provided to adult participants and realizing the powerful change possible if youth were given the same opportunity. Geoff and Lisa Glithero, Chair of the Education Advisory Committee, developed the five guiding principles for the SOI education program: experience, understanding, transformation, action, and change. From these follows their educational philosophy:

We believe in providing students with unique educational experiences that will challenge the way in which they perceive the world. Our aim is not to simply provide students with a "trip" to a unique destination but rather to give students an opportunity to have an aesthetic experience in some of the most wild and awe-inspiring ecosystems in the world. We do not want students to just pass through a place with camera in hand, but rather to listen to the land; to 'feel' these natural places and in turn, explore how we as humans feel when immersed in such places. Ultimately, our goal is for students to experience a

\(^2\) Gruenewald’s (2003) term for education that is socioecologically situated within five dimensions of place: (a) perceptual, (b) the sociological, (c) the ideological, (d) the political, and (e) the ecological.
transformative connection with Nature—connection that changes the way they understand and act in this world. (Students on Ice, n.d.a, ¶1) [emphasis added]

The Education Program (see Appendix A for overview) is based on lectures and workshops given by the members of the education team. There are also specific themes that are intentionally reinforced throughout the expedition, both explicitly in content and implicitly in how other content is framed. The main themes of the expeditions are:

1. We are at a critical point in the Earth's history. New perspectives gained through an intense educational experience in the Arctic can develop and enrich identity, relationships, and commitment to wellbeing at home, in community and in society.

2. Youth have a key role to play in contributing to social innovation and socio-ecological issues within all societies. (Students on Ice, n.d.b, ¶5)

This work of reconnecting youth to the natural world and empowering them to act on its behalf is urgent and timely. This required action is especially apparent in Polar Regions. The poles act as early warning systems for the rest of the planet’s ecosystems because of the often-disproportionate impact of environmental stressors, such as temperature increase and pollutant accumulation (Lenton et al., 2008). As Wilson stated, in support of SOI:

The Polar Regions have risen to the top of environmental concerns. Endowed, especially in the high arctic, with unique and newly endangered life forms, holding a large fraction of Earth’s fresh water, and subject to exceptionally rapid climate change, these remote parts of the world have a great importance for the generations immediately ahead. I'm glad that Students on Ice is leading in the kind of environmental education most needed. (Students on Ice, n.d.c, ¶1)
Transformation

In the context of this research, transformation refers to a shift in an individual’s worldview; that is, a shift in the reference points for how one sees the world and one’s place in it; a shift in the very structures upon which one operates (Aerts et al., 2007). This study seeks to contribute to that research by exploring the experience of transformative environmental education.

Theoretical Framework

My research follows a qualitative research tradition. It seeks to describe the experience of the ten participants with whom I spoke and then interprets whether and how they experienced transformation. It does not attempt to make the results representative or generalizable. This research was conducted using the methodological approach of hermeneutic phenomenology, which is based upon the tenet that research necessarily involves the researcher and her set of experiences and biases. Therefore, I have not attempted to extract myself from the research, my findings, or my conclusions. I have instead sought to be transparent about my role as the researcher, so that my research ensured credibility and trustworthiness (see Chapter 3 for more). I documented my perspective before conducting participant interviews to clearly state what I brought to the research process.

My Perspective

Growing up, my parents and maternal grandparents demonstrated that all life has inherent value, complexity, ingenuity, dignity, and mystery. They acknowledged all beings with wonder and led me to discover them in the same way. I value that education very highly, and it is a foundational reason for my own ecological orientation. Following my 2007 SOI Antarctic Expedition, I experienced a renewed awareness of my ecological consciousness. This was in part
because of the environment of Antarctica. Its landscapes are dramatic and seem permanent, starkly contrasting rugged black rock with everlasting white snow and ice. This stunning and seemingly untouchable landscape easily evokes awe. Yet the continent is crumbling as a direct consequence of human frivolities. Upon experiencing the Antarctic, I felt I had borne witness to a deep grief for the human offenses to the dignity and majesty of the natural world. Although I experienced this grief, I also felt that it was much larger than me and existed regardless of whether I experienced it.

**Research Focus**

SOI expeditions are anchored firmly in a perspective of offering place-conscious experiential education as a means for transformative education (Students on Ice, n.d.a). My research interest was in understanding the participant experience of SOI expeditions through a lens of worldview transformation.

My research questions are:

1. What was the experience of the 2009 *Students on Ice* Arctic expedition as articulated by ten Canadian participants, with an interest in transformation?
   a. What themes indicate transformation?
   b. What themes illuminate the nature of transformation?
   c. What themes emerge as enablers of transformation?
Chapter 2. Resources from the Literature

This study explores the experience of an environmental education (EE) Arctic expedition with Students on Ice (SOI). There are several fields of study and scholarship that can inform and enrich this exploration. In this chapter I have drawn resources from those fields as they help illuminate my research questions and themes. I begin this exploration with the frameworks of EE and Transformative Learning (TL). My interest is in transformation toward a more ecologically-oriented worldview. As discussed in Chapter 1, this paper explores transformation at the individual level. It is well-recognized that since individuals are socially and culturally situated, social change can be spurred by individual transformation (Takahashi, 2004). In light of the current anthropogenic global ecological crisis, transformation toward a more ecologically-oriented worldview is urgent (Berry, 1988; Leiserowitz & Fernandez, 2008).

The “Editor’s Perspective” in the inaugural issue of the Journal of Transformative Education identified the most ancient roots of human transformation as the quest for spiritual and holistic engagement with the natural world (McWhinney & Markos, 2003, p. 34). Though contemporary pursuits of individual human transformation are endlessly diverse, such a process can also still improve human connection with the natural world (McWhinney & Markos, 2003; O’Sullivan, 1989, 2003; O’Sullivan, Morrell, & O’Connor, 2002; O’Sullivan & Taylor, 2004).

This chapter will identify the areas of existing scholarship that have contributed to the development of this study. I have drawn from literature that I feel intersects with and illuminates

3 Conceptually, this study belongs to the fields of transformative education, environmental education and experiential education. The fields of outdoor education, adventure education, place-based education, challenge education, and sociology of new social movements, among others, certainly offer insights into this topic, but I have not explored them.
dimensions of my research goals. It is important to note that the full breadth of each of field of research is therefore lacking. My research goals led me to begin with the fields of environmental education and transformative learning.

**Environmental Education**

Environmental education (EE) promotes an understanding of the physical systems of the planet and how humans can live in balance as part of, not apart from, those systems (Orr, 1992). Whether at the macro planetary level or the microscopic level, EE builds ecological literacy through an understanding of the systems of life (Meadows, 1989; Orr, 1992). EE’s overarching goal is to promote an alignment of human intentions with how the planet works as a physical system (Orr, 1992). In fact, EE may be nothing more than “the preparation of people for their lives as members of the biosphere” (Meadows, 1989, p. 3).

EE can take many forms including education in school curricula, education through camps or outdoor centres, or education through unstructured play or time in the outdoors. EE can be delivered as a focus itself (e.g., a class on ecological limits) or it can be integrated across topics (e.g., ecologically-oriented economics). EE learning can be divided into two classifications: (a) instrumental and (b) transformative (Mezirow, 2003; Wals, Geerling-Eijff, Hubeek, van der Kroon, & Vader, 2008). Instrumental learning seeks to encourage specific pro-environmental behaviours. Community-Based Social Marketing, for example, does this by employing a series of prompts and tools to encourage specific behaviours (McKenzie-Mohr, Schultz, Kotler, & Lee, 2011). In contrast, transformative learning (TL) seeks to actively engage participants in developing a meaningful shared vision for a better future, to motivate them from within to take action toward sustainability (Wals et al., 2008).
The SOI mission is aligned with TL. Instead of simply encouraging the instrumental adoption of pro-environmental behaviours, it aims to provide the emancipatory conditions for individual transformation toward a more ecologically-oriented worldview. Shifts of this nature are the subject of TL.

**Transformative Learning**

TL was first named while assessing the experience of women in re-entry programs in community colleges (Mezirow, 1975). Upon re-entry, the women studied seemed to re-evaluate their basic assumptions about how the world worked and what their role was in it. This led them to become more focused on what they truly cared about and more likely to take action (Mezirow, 1975). Mezirow (2000) proposed a normative model of TL that has been cited widely. This cognitive model suggests a structure of mental actions characterizing an individual’s transformative learning. The ten phases he set forth are:

1. A disorienting dilemma
2. A self-examination with feelings of guilt or shame
3. A critical assessment of epistemic, sociocultural, or psychic assumptions
4. Recognition that one’s discontent and the process of transformation are shared and that others have negotiated a similar change
5. Exploration of options for new roles, relationships, and actions
6. Planning a course of action
7. Acquisition of knowledge and skills for implementing one’s plan
8. Provision trying of new roles
9. Building of competence and self-confidence in new roles and relationships
10. A reintegration into one’s life on the basis of conditions dictated by one’s perspective (Mezirow & Associates, 2000)
In more recent years, the field of transformative education\(^4\) has been applied to engaging citizens toward an ecological orientation (O’Sullivan & Taylor, 2004). O’Sullivan and Taylor’s work aligns closely with the interests of my investigation. It approaches TL from an ecological perspective, as an avenue for transformation toward a more ecologically-oriented worldview. They seek to identify how our education system fails to nurture a more ecologically-oriented worldview (O’Sullivan & Taylor, 2004). Their view of TL recognizes the intricate interconnectedness of all things, acknowledging that humans, along with the rest of the natural world, are situated within the very same ecological, geological, and cosmological fabric spanning space and time. Therefore, “transformation is not only about how we view our human counterparts; it explores how we, as humans, relate with the [natural] world” (Taylor, 2008, p. 10). This kind of transformation consists of a shift in worldview that re-orient our basic assumptions about the world by being more open and increasingly informed through critical thinking:

Transformative learning is learning that transforms problematic frames of reference—sets of fixed assumptions and expectations (habits of mind, meaning perspectives, mindsets)—to make them more inclusive, discriminating, open, reflective, and emotionally able to change. Such frames of reference are better than others because they are more likely to generate beliefs and opinions that will prove more true or justified to guide action. (Mezirow, 2003, p. 58)

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\(^4\) Transformative learning and transformative education are occasionally used interchangeably. The distinguishing factor is the formal structure education provides, whereas learning can be formal, informal, or non-formal (McWhinney & Markos, 2003, p. 21).
Internal debates within TL.

There is some debate in the literature as to the most effective way to conceptualize TL (see Cranton & Roy, 2003; Dirkx, Mezirow, & Cranton, 2006; Taylor, 1998, 2008). Critics (e.g., Kovan & Dirkx, 2003; Taylor, 2008) claim it is reductionist and overly linear and believe it ignores the roles of emotion, imagination, spirituality and the broader socio-cultural context. My research acknowledges but does not directly engage in those debates: rather, it references the TL framework to illuminate relevant aspects of participant experience. The relevant aspects include what leads to transformation, and what transformation consists of.

Another point of tension is the assumption that TL focuses on the learning of adults, not youth. Transformative learning theory emerged from the field of adult education. Most articles in the Journal of Transformative Education continue to deal with adults, either explicitly stated or assumed (e.g., Cranton, 2006; Mezirow & Associates, 2000). Some believe that youth do not yet have the firmly set worldviews required for their learning experiences to be transformative (Moore, 2005). If one’s worldview continues to be fluid and forming, then the learning is formative, not transformative. In contrast, learners for whom TL is possible are:

…mature, socially responsible individuals who participate in sustained informal or formal activities that lead them to acquire new knowledge, skills, or values; elaborate on existing knowledge, skills, or values; revise their basic beliefs and assumptions; or change the way they see some aspect of themselves or the world around them. (Cranton, 2006, p. 2)

Despite the common assumption that this definition only applies to adult learners, research has found that TL also applies to adolescents in a study of their transformative formal education experiences (Goulah, 2007). Goulah’s study found that TL led to an embodiment of
such concepts as cosmology, spirituality, and ecological interconnectedness. The author underlined the importance of his conclusion that TL is relevant not only to adult learning, but also to youth (Goulah, 2007). TL has since been used further with youth as a lens to understand the impacts of education programs, accepting that TL is a framework relevant to that age group (D'Amato & Krasny, 2011; Rowley, 2010).

**The Intersection of EE and TL**

Recently there has been a series of studies exploring the intersection between EE and TL. Similar to my research, some have focused on understanding participant experience of formal EE programs (Cleland, 2011; D'Amato & Krasny, 2011; Freund, 1997; Hiemstra, 2009; Imbur, 2009; Rowley, 2010; Young, 2010). Various authors have used a TL framework to better understand the outcomes of the EE experiences that they were investigating. Of particular note, Rowley (2010) found that the proposed set of enablers of TL were reflected in her students’ EE experience: experiential learning, challenge, critical reflection, dialogue, a safe learning environment, and time (Taylor, 2008). D’Amato and Krasny (2011) gathered reflections from EE participants on what the most significant enablers were of transformation through their outdoor education course. They found the results could be grouped into four themes: living in pristine nature, experiencing a different lifestyle, being part of the course community, and dealing with intensity and challenge (D'Amato & Krasny, 2011). *Students on Ice* actively incorporates all of the above elements into its programming, suggesting that SOI may offer potentially transformative experiences.

Lange (2004) wrote an in-depth and beautifully descriptive study of the deep, emotional and transformative experiences of adults in a continuing education EE program., presenting transformative experience through participant narratives. She found that participants felt
realigned with their inner selves and beliefs, and motivated to taken citizen action on behalf of those beliefs. Her emphasis on the emotional, interpersonal, and reflective dimensions of such experiences encouraged me to be aware of those dimensions. Since they are not highlighted in the cognitively-focused realm of TL, Lange’s work was an important influence.

All of the above studies draw upon both EE and TL, in various ways. Though their processes and their findings informed my research, I did not build on any of these studies directly.
Chapter 3. Methodology

“To be a person is to have a story. More than that, it is to be a story”

(Kenyon & Randall, 2008, p. 1)

This research was conducted within the framework of hermeneutic phenomenology as understood by Gadamer (1975). Hermeneutic phenomenology refers to the meaning-making processes that interpret a phenomenon. Though phenomenology is most often known as a philosophical tradition, it is also an established research approach and can be traced through the twentieth century from teacher to pupil, from Hegel to Heidegger to Gadamer. Gadamer’s perspective is distinct from those of his predecessors. His work marks a shift from seeking to purely describe experience to acknowledging that that is not possible because experience is always understood through meaning-making. He sees meaning as something constantly evolving and fluid: “Meaning, to Gadamer, is not stable; it shimmers” (Sammel, 2003, p. 158). He believes that the researcher cannot be ‘bracketed’ or separated from the research. However, the researcher can be involved in co-creating shared meaning through dialogue (Gadamer, 1975).

Unlike how meaning is viewed in transcendental phenomenology, where meaning is fixed (Husserl, 1970), Gadamer’s view is that, “there is never the possibility to arrive at a final, conclusive meaning. Therefore, meaning is always temporal, situational, [fluid], and shared through interactions, implying it is limitless with possibilities, and open to interpretation and reinterpretation” (Sammel, 2003, p. 158).

Within the framework of hermeneutic phenomenology, this research used the methodology of content analysis, a qualitative interpretive methodology that identifies patterns in
text (Cohen, Manion, & Morrison, 2007), to make meaning from interview narratives, journal entries and interview transcripts.

Narrative is the primary structure through which humans make meaning (Bruner, 1986). Narrative research can risk commodifying participant experience by assuming that it can be “captured” (Hendry, 2007, p. 491). Perhaps interviews to reveal these narratives can never be completely open and honest since we are constantly defending ourselves (Hollway & Jefferson, 2000). Yet from another perspective, the meaning made through narrative can be engaged with and co-created through interviews (Ezzy, 2010; Gadamer, 1975). I interviewed participants for the opportunity to co-create with them shared meaning about the significance of their Students on Ice Arctic expedition (Creswell, 1998). That meaning will continue to be co-created as you, the reader, engage with it.

**Study Participants**

The study participants are alumni of the August 2009 International Polar Year SOI Arctic expedition. Participation in my study was voluntary and anonymity was ensured (names have been changed). I chose to work with ten participants – an appropriate number for a qualitative study with semi-structured interviews (Cohen et al., 2007). SOI was interested in the goals of my research and helped with the logistics of participant selection. The SOI Participant Coordinator sent an initial contact email on my behalf, inviting the 51 Canadian alumni from the 2009 Arctic expedition to participate in the research (see Appendix B). Twelve alumni responded expressing an interest in participating, from whom I selected nine. Only one of the 20 First Nations alumni responded, but I did not have the resources to interview him in person. I wanted to speak with a

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5 For route and daily reports see www.studentsonice.com/arctic2009
diversity of participants, and SOI was able to confirm one First Nations participant with whom I could meet. This gave a total of ten study participants.

The participants ranged in age from fourteen to nineteen; six were female and four were male; they lived in six provinces and territories; and they came from a variety of cultural and socioeconomic backgrounds and geographic regions. Since I was not seeking a representative sample, considering any demographic variables, or measuring the diversity among participants, any personal background they shared simply served to enrich the data collected. Participation was voluntary, and participants could withdraw at any time. Many participants indicated the interview experience was one of rich reflection for them; they appreciated the chance to revisit their expedition experience and what it meant to them.

**Table 1. Description of Participants**

<table>
<thead>
<tr>
<th>Participant (in order interviewed)</th>
<th>Age (when interviewed)</th>
<th>From</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lucy</td>
<td>14</td>
<td>Urban Western Canada</td>
</tr>
<tr>
<td>Ryan</td>
<td>15</td>
<td>Peri-urban Western Canada</td>
</tr>
<tr>
<td>Carter</td>
<td>18</td>
<td>Urban Western Canada</td>
</tr>
<tr>
<td>Alex</td>
<td>17</td>
<td>Rural Northern Canada</td>
</tr>
<tr>
<td>Tiff</td>
<td>16</td>
<td>Urban Western Canada</td>
</tr>
<tr>
<td>Melissa</td>
<td>17</td>
<td>Rural Central Canada</td>
</tr>
<tr>
<td>Annie</td>
<td>16</td>
<td>Rural Central Canada</td>
</tr>
<tr>
<td>Sean</td>
<td>14</td>
<td>Urban Central Canada</td>
</tr>
<tr>
<td>Carla</td>
<td>17</td>
<td>Urban Central Canada</td>
</tr>
<tr>
<td>Beth</td>
<td>18</td>
<td>Urban Western Canada</td>
</tr>
</tbody>
</table>

**Data Collection**

I travelled across Canada and back, mostly by train, over the course of February 2010 (see map in Figure 2). This journey was funded in part by SOI (see thesis funding, Appendix D). I conducted 40- to 80-minute interviews with each of my ten participants.
Figure 1. Map of journey to interview participants across Canada

Interview structure.

My interviews were one-on-one, in-person, and guided by, but not limited to, a pre-set list of open-ended questions. Most of the questions were intended to invite discussion instead of a short response. I began each interview with a short introduction about my research and myself. I told each participant that our conversation would be casual and focused on what they valued about their expedition experience (see interview guide, Appendix C).

The first few questions were short and straightforward. They were designed to let participants get comfortable (Ezzy, 2010); for example: “What grade are you in?” “What are some of your favourite things to do?” The majority of each interview consisted of conversations that began with a general open-ended question and then became more specific, using the language of the participant’s response as a reference point for questions to encourage them to
reflect further and explain their responses more fully (as suggested by Cohen et al., 2007; Ezzy, 2010; van Manen, 1990, pp. 67-68). As an example, “What was your expedition experience like, overall?” might be followed by “What about that experience was so amazing/[descriptive words they used]?” or “Why did you feel so connected to that place/[emotion they referred to]?” These questions were carefully worded not to be leading. My reactions were also deliberate: simply to acknowledge responses, not to encourage or discourage their direction (Cohen et al., 2007; Ezzy, 2010). Once that portion of the interview was complete, the final questions were more direct; for example, “Did the expedition change how you think about your relationship with the natural world?” Responses to these final questions were considered accordingly, acknowledging that I, not the participant, had raised each topic.

The structure of each interview was flexible and co-created with each participant (Ezzy, 2010). This meant that no two were alike: certain topics arose in some interviews and not in others (van Manen, 1990). However, each one was conducted within the same set of questions, aligning them with the research goal to identify what participants felt had been significant about their expedition experience.

**Interview style.**

Interviews are often seen as a kind of conquest in which the interviewer imposes his or her research questions on the participants to extract and capture the truth behind the area of research (Ezzy, 2010). I strove to conduct interviews as “communion”, in Ezzy’s words, not conquest. This approach supports the idea that meaning is not something static that can be captured. It is instead something temporally and spatially-situated that is co-produced through interaction and dialogue (Gadamer, 1975). In this case, the co-producing interplay was between the study participants and myself.
I was conscious of the importance of silence. I would often sit quietly when a participant finished responding. This was both to allow them time to reflect and respond further and to reinforce that their responses, not my questions, were the valuable part of the conversation. This also implicitly encouraged them to reflect and elaborate further (Patton, 2002). The focus of my interview style was to create an atmosphere where participants could experience a range of emotions and feel open to sharing them (Ezzy, 2010). Attending to the interviewee and responding accordingly to maintain an open and comfortable atmosphere is a very intuitive process and one that improves through practice (Patton, 2002). I became more comfortable and confident in my interviewing style as my itinerary progressed.

Data sources.

The sources of data for this study were the transcribed interviews with SOI participants and public journal posts that those participants wrote during the expedition. The added value of in-person communication can be subtle, but is significant. The combination of eye contact, movement, hesitation, facial expressions, body position, and overall energy of the participant provide a much more developed picture of their responses (Cohen et al., 2007). I chose to conduct my interviews in person for this reason. Though I did not attempt to transcribe any of these visual details, they gave me more confidence in my understanding of the participant responses (Ezzy, 2010).

The interviews were digitally recorded and later transcribed. This allowed me to review the interviews thoroughly and interact with them as texts for the purposes of interpretation (Lieblich, Tuval-Mashiach, & Zilber, 1998). During the expedition, students, staff, and education team members could write journal posts that were posted online daily via satellite. They continue
to be publicly available on the SOI website. After the interviews, I downloaded the journal posts that my study participants wrote during the expedition.

**Data Analysis**

I read and re-read participant interview transcripts and used manual content analysis to identify significant patterns and group them into themes. This is a method widely used for interpreting participant experience (Chawla, 1998, 2001; van Manen, 1990, p. 68). Most of this process was done by hand, interacting with a printout of the data sources.

The first time I read the transcripts through thoroughly, I did not make any notes. I then left them alone for a week to allow myself time to process the conversations. In the second reading I highlighted comments of interest to my research, noting in the margin the topic areas. These included the comments that were relevant to my research goals: *Were participants transformed? If so, what was the nature of their transformation? What led to that transformation?*

In the third reading I classified each highlighted quote by theme. In this reading, I also re-evaluated which comments were highlighted. My choices of what to include and exclude were guided by: (a) my research focus, (b) what was significant to participants, as marked by emphasis or repetition (by one or more participants), and (c) what was reflected in the areas of relevant scholarship upon which I am drawing. This process served to improve the depth and credibility of my findings.

The fourth reading consisted of going through the pages four separate times, once for each theme, to make note of which quote fell into which theme. I then copied the highlighted quotes out by hand and transcribed them (see all significant quotes in Appendix E). I then
synthesized and distilled the quotes to the most significant findings. Finally, I returned to related scholarship to evaluate my findings and situate them in the literature.

**Origin of Themes**

The open-ended nature of the interview questions led to conversations that varied greatly among participants. Much of the joy I discovered in the process lay in those differences. They provided an important expression of the diversity among the interviewees, as well as among their experiences. Conversations with participants typically went as follows. I began by asking participants questions about themselves, in order to build rapport. Secondly, I asked a series of questions to have participants identify what about the expedition experience was significant to them:

- When you think back to your expedition experience, how would you describe it, overall?
- What is your strongest memory?
- What is it about the experience of [your strongest memory] that was so [adjective they used]?
- Tell me something you learned?
- Do you feel different because of the expedition? [If they reply ‘yes’ but don’t elaborate:] How?
- When you think back to your most emotional time on the expedition…here are you and what are you doing?
- What do you know now that you did not know before?
- What do you care about now that you did not care about before?
• What did you used to care about that you don’t care about any more?

• When you returned from the expedition, did you find it difficult to articulate your experience?

• Did it become easier over time?

• [If so.] Why do you think that is?

• In ten years, when you look back at the expedition, how will it have affected your life until then?

Common emergent themes revealed some reflections on the expedition that I had expected, and others that I had not. For example, I had been quite focused on the transformation literature, but I had not even considered the cohort learning dynamic. The four themes emerged prominently from participant comments and resonated with me personally as well.

My responses to participant comments avoided revealing my personal expectations. This was to reduce the possibility that participant responses might be swayed if they felt encouraged in a given direction. For example, I chose neutral responses such as, “Very interesting, thank you for sharing,” or “Thank you, that helps me understand your experience much better.” I avoided responses that implied a positive value judgement, such as, “Amazing!”, or a negative value judgement, such as, “Oh, that’s strange.” When participants identified that they felt changed or that they saw the world differently following the expedition, subsequent questions encouraged them to elaborate. They included the following set:

• Tell me about a time on the expedition when you felt confronted with the realization that things were not how you thought they were.
• Tell me about a time when you felt how you thought the world worked shifting because of something you learned, felt or experienced.

• When you returned from the expedition to where you used to be who you once were, did your family and friends understand and support who you had now become?

Participants were quick to describe their experiences in terms of positive emotions. After the first interview, I began asking two questions to elicit more detail about difficult emotions:

• You have described the expedition experience as [insert a few positive adjectives they used]—what about more difficult emotions? Was there ever a time you felt depressed, overwhelmed, sad, disappointed?

• What is your best advice to people who do feel overwhelmed by the disaster data, or like it’s too late?

The last set of questions was the only one to solicit a specific area of change or transformation. They were prompted by a personal interest in whether participants’ relationship with the natural world was consciously changed at all by the expedition. These questions always followed the previously discussed ones, so as not to affect their response to general questions about whether and how they felt changed.

• Did it change how you think about the natural world?

• Did it change how you think about yourself in the natural world?

• Did it change about how you think about the relationship humans have with the natural world?

• How do you define nature?
• Does that include humans?
• Why should we protect the natural world?

In final closing, to allow for anything else they had been thinking about to surface, I asked:
• What is your favourite question about your expedition experience that you’ve been asked?
• Is there anything else I should have asked?
• Is there anything you would like to add?

Limitations

This research was limited in some ways beyond my control. It was limited temporally by the start date and length of my research stage. Both factors in turn limited the scope to exclude pre-expedition interviews, longitudinal monitoring, or observations of the participants from parents or SOI staff. As a result, my findings were restricted to participant journal entries and interviews.

The interview format was limiting, allowing me only to experience a snapshot of each participant and her or his experience. One interview in particular demonstrated this limitation. During our conversation one participant, Ryan, did not seem to have been inspired or affected by the expedition. However, on the first anniversary of the expedition, he posted a photo album on a popular social networking site with touching, reminiscent captions. The album spurred many conversations with other participants, demonstrating how much he truly had valued the experience. I noted the stark contrast between his enthusiasm online and his reserved nature
during our conversation. Though potentially powerful, interviews must be acknowledged as a glimpse of co-created meaning specific to that time, place, and context (Ezzy, 2010).

**Delimitations**

I delimited this study geographically to ten Canadian youth participants of the 2009 SOI Arctic expedition. This ensured that I could speak to each one in person within the time available. I could honour the data from each conversation in a way that would not have been possible with more participants. I delimited my data sources to participant journals and interviews. Some have presented the weaknesses of this sort of self-reporting data collection (see criticism in Gough, 1999), while others maintain there is no better alternative for human research (see rebuttal to Gough in Chawla, 2001). I am aware of these debates but do not explore them any further in this paper.

Though there are many standardized tools to measure some of the elements that I explored, I did not make use of any. My research focused broadly on descriptions of participant experience, instead of quantifying a specific piece of their experience with a standard method. This results in data that are less generalizable. However, since the findings emerged inductively they are therefore reflective of and situated in their context. As a result, they convey a narrower but deeper understanding of the phenomenon being studied (Cohen et al., 2007).

I delimited my inquiry to the experience of participants as they articulated it in journal entries and in conversation during our brief time together. I did not seek to evaluate the influence of time elapsed since the expedition. To remove the potential longitudinal influence, I spoke to participants from the same expedition (August 2009) six months after they returned (February 2010). I did not consider the influence of demographic variables on the participants’ experience either (e.g., gender, age, ethnicity, socioeconomic background, prior experience in the
wilderness, etc.). Such variables inevitably arose, given that my participant conversations were of such a personal nature. I share them in my findings, where they seem significant, however; I did not do any comparative analysis among participants or draw any conclusions as to the impact of those variables.

Choosing to pursue geographic diversity among participants while maintaining in-person contact led me to travel 10,000 kilometres by train to conduct the interviews. This became an important element of my research process. The pace of train travel gave me time to process each interview and prepare for the next one. The absence of an Internet connection and the frequent absence of cell phone reception led me to spend my time reading and thinking about my research against the backdrop of the striking Canadian landscape. This opportunity to ponder and ruminate allowed me to be more attentive to the process, which I believe enriched its outcomes.

**Credibility and Trustworthiness**

In doing this interpretive qualitative research, credibility was maintained at each stage: participant selection, data collection, and data analysis (Cohen et al., 2007, p. 144). Each stage was designed by identifying established methods from similar research and adapting them to my research, as described in earlier sections.

I stated my own biases before beginning data collection by writing about my motivations and expectations (see My Perspective in Chapter 1). Though I believe that the researcher is an inextricable part of the research (Gadamer, 1975), explicitly stating my perspective at the outset acknowledges my position to the reader, providing a more complete picture of the study (van Manen, 1990). In addition, it helped me to become more aware of where I stood, so that I could then be more open to the stories each participant shared.
Trustworthiness in qualitative research can be understood through four criteria: truth value, applicability, consistency, neutrality (Lincoln & Guba, 1985, p. 290). I pursued each in the following ways. To ensure truth value I designed the participant selection process, communication with interviewees, and the interviews themselves to create a safe, accepting space in which they understood that participation was voluntary and I was most keen to hear them describe their experience. To pursue applicability I aimed for a diversity of Canadian participants in age and background and looked for themes that emerged from all participants. To check for consistency I include data from participant journal entries while aboard the expedition and encouraged participants to follow up with me should they have anything further to add to our discussion. Finally, to maintain neutrality as much as possible, I emphasized that I wanted to understand their experience and respond to all comments with neutral acknowledgement in place of agreement or disagreement.

Credibility of qualitative research can be understood through Lincoln and Guba’s checklist (Lincoln & Guba, 1985), which I have addressed as follows:

- Prolonged engagement: My expedition with SOI was in 2007, I stayed in touch and then interviewed participants from the 2009 expedition I have been engaged with the organization for the past five years.

- Persistent observation: I observed and interacted with participants on the 2007 expedition and at SOI events before formally interviewing ten from 2009.

- Peer debriefing: I received crosschecking input from my supervisor and others on the categorization of the data.
• Negative case analysis & Progressive subjectivity: I returned to the literature in relevant fields to inform the interpretation of my findings.

• Member checks: I sent interview transcripts to participants, though I did not receive any changes in response.
Chapter 4. Stories and Themes

My interviews with ten student participants from the 2009 Students on Ice (SOI) Arctic expedition, while giving deep richness of data, only represents a small window into their experience. I present the following findings, acknowledging that there is always more to be heard and more to be told. Here are selected pieces of the participants’ stories, with my interpretation and analysis of their comments intertwined.

The interviews were guided by open-ended questions that often led to conversation. As a result, some topics discussed varied from participant to participant. However, all conversations were seeking to understand the participant’s expedition experience. For the most part, the interviews did not explore predetermined themes; instead, four themes and their subthemes emerged from the interviews as best describing the participants’ expedition experience. I will discuss each of the four themes in turn, first providing resources from the literature and then research findings.

Themes

During my data analysis (see Chapter 4), four themes arose that form the structure for the understanding, analysis and evaluation of the findings. They are also reflected in the literature and my research goals. These are:

1. Transformative process: Structure of experience that can enable and indicate transformation has taken place;

2. Experiential education: As an element that deepened learning and facilitated worldview transformation;
3. **Cohort learning:** As an element that deepened learning and facilitated worldview transformation; and

4. **Worldview transformation:** As the outcome that some participants experienced and the direction toward which the transformation characterized by other themes was moving.

These themes emerged inductively from my findings as they were repeated and emphasized by participants. Each has a rich and complex history; however, I will only discuss the pieces relevant to the intersection of EE and TL as it is explored in this research.

**Transformative process.**

The first theme my data clustered around were elements of the process of individual transformative. The particular kind of transformation in which I am interested is eloquently described by O’Sullivan and Morrell. It involves the following:

…experiencing a *deep, structural shift* in the basic premises of thought, feelings, and actions. It is a shift of consciousness that dramatically and irreversibly *alters our way of being in the world*. Such a shift involves our understanding of ourselves and our self-locations; our relationships with other humans and with the natural world; our understanding of relations of power in interlocking structures of class, race and gender; our body-awareness, our visions of alternative approaches to living; and our sense of possibilities for social justice and peace and personal joy. (O’Sullivan et al., 2002, p. 18) [emphasis added]

For the purposes of this study, I will propose an integrated working construct for transformation drawing from a ten-phase model for TL (Mezirow & Associates, 2000), a model
for change (Lewin, 1946), and literature modelling individual human transformation through rites of passage (Turner, 1969; van Gennep, 1960).

In TL, transformation begins with, or is catalyzed by, a “disorienting dilemma.” The first stage of this working construct for transformation aligns with the first of ten phases proposed by Mezirow (2000). It consists of an experience that does not fit with one’s current worldview. This dilemma is so significantly discrepant that we are led to critically assess our basic assumptions about the world (Mezirow & Associates, 2000). In parallel, this is “separation” (van Gennep, 1960), “becoming unhinged” (Turner, 1969), or “unfreezing” (Lewin, 1946). Releasing our grip on existing convictions is a necessary precursor to having them shift.

The second stage is uncomfortable and causes one to lose one’s reference points and bearings. This transition is also called the “liminal phase” (van Gennep, 1960) or the “field of change” (Lewin, 1946). One may experience feelings of guilt or shame (Phase 2, Mezirow & Associates, 2000). During the liminal phase, we are on the threshold, neither here nor there, no longer who we once were but not yet who we will be. We are “betwixt and between” (Turner, 1969).

This period is often referred to as a wasteland, a dark forest, a desert or a wood. At this time there is a sense of purposelessness, and much confusion and fear. It may be a state of mourning, of grieving unfulfilled dreams where one is overwhelmed by a palpable sense of meaninglessness. (Eaton & Hornborg, 2010, p. 68)

The third and final stage is one of exploration, learning, and finding new orientations that better suit us (Phases 3 to 9, Mezirow & Associates, 2000). This leads to a reintegration of one’s new perspective (Phase 10, Mezirow & Associates, 2000), “reincorporation” (van Gennep, 1960), or “re-freezing” (Lewin, 1946), and marks the end of the transformation. It is important to
note that these stages do not always operate on a conscious level and are not necessarily linear. Also, TL is not a directionless transformation, but one that moves participants toward a more authentic expression of themselves. This process can be called self-actualization, which is Maslow’s highest order of need (Maslow, 1968). It is also akin to becoming who one is called to be (Boyd, 1991; Boyd & Myers, 1988; Kovan & Dirkx, 2003).

The integrated model for transformation outlined above can be seen in many EE programs, especially those of an experiential nature (Bell, 2003). A key difference between the rites of passage that van Gennep and Turner modelled and experiential EE programs lies in the lack of a community understanding of the roles and process. In traditional rites of passage, the individual’s initial role, transformation, and new role are all understood and reinforced by the individual’s community. In EE programs, the lack of a community-supported reincorporation provides a challenge to sustaining the individual’s transformation. The individual is left to search for his or her own new role and then cultivate community understanding (see Bell, 2003, Figure 1). Despite this challenge, since experiential education revolves around taking people away from their day-to-day environs and routines, it is a pedagogy well-suited to facilitating liminality and therefore also potentially transformation (Drake & Linney, 1995). Beginning the journey toward transformation, on the part of participants, is hearing the call and responding, and in this case, joining a Students on Ice expedition.
Figure 2. A model of transformative EE as a rite of passage (A) compared with model of traditional rites of passage (B) (modified from Bell, 2003, p. 45)

Experiential education.

The second emergent theme was the importance of the platform of experiential education upon which Students on Ice expeditions are founded. Experiential education is a philosophy and pedagogy that promotes education through direct, multi-sensory, engaged experience followed by reflection. This pedagogy can deepen and enrich participant learning (Dewey, 1963) and is
touted by many researchers as an effective pedagogy in pursuing the goals of EE (Glithero, 2004; Gruenewald, 2003; McKenzie, 2008). It has also been identified as a priority by EE student participants themselves (Jensen, Kofoed, Uhrenhold, & Vognsen, 1995). SOI, like many EE organizations, has set experiential education as a foundational pillar of its educational philosophy (Students on Ice, n.d.a, ¶1).

Experiential education and EE overlap in their shared focus on reconnecting participants with the natural world. Both can do so by deeply engaging them in socioecologically-situated experiences that aren’t divorced from the place in space, time, and context of the experience (Glithero, 2004; Gruenewald, 2003; McKenzie, 2008). Place-conscious education has a magical quality that has the potential to bring learning alive to learners and engage their hearts as well as their heads (Gruenewald, 2003). The benefits also extend beyond traditional learning outcomes. Simple presence develops the capacity for a connection to the land that knowledge alone does not (Gruenewald, 2003; Haluza-DeLay, 2006). Such place-conscious experiences can instil “a largely embodied and emotional connection to earth and community—‘to love the earth is to learn to care for it’” (McKenzie, 2008, p. 363). One study suggested, “If you have never seen the beauty of different environments, why would you otherwise want to preserve them?” (Wright & Wyatt, 2008, p. 35). Simple conscious presence in a place can foster familiarity, understanding, personal connection, and as a result, may foster caring (Haluza-DeLay, 2006). As Aquinas proposed, we know things better through love than through knowledge (Aquinas, 1274/2007).

Experiential education can also be an effective platform for transformation (Cushing, 1998; Haluza-DeLay, 2006; Hiemstra, 2009) given that “the direct experience of wild places has a transformational quality” (Thomashow, 1996, p. 15). Experiential education can provide a “disorienting dilemma” by removing participants from their familiar day-to-day context and
placing them in a new one (Cushing, 1998). In the case of SOI expeditions, participants are removed from their home human communities and immersed in the non-human and human communities of the poles. This immersion aims in part to re-orient how those immersed see themselves in relationship to the natural world – as being part of it, not apart from it (Students on Ice, n.d.a). Such a transformation can be likened to the deep ecological notion of human life as simply one piece of many equal pieces of the planetary ecosystem (Naess, 1989).

Experiential EE programs like SOI, that practice place-conscious education, “assume… that effective EE must address fundamental issues with the way we dwell on the earth” (Cushing, 1998, p. 1). To do so, they endeavour to not just facilitate an experience in the natural world, but also one situated in the natural world. Cushing identified a set of techniques to facilitate such experiences by engaging participants in ways of knowing outside of the scientific method, including: storytelling, time for participants to “simply be with a place,” avoiding a “conventional, transmissive” teaching style, and the incorporation of First Nations experience (1998, p. 2). SOI expeditions make intentional use of these techniques in expedition programming. They are conscious of doing so in the pursuit of their mandate of participant transformation.

As discussed above, experiential education has been shown to be an effective pedagogy for EE and for transformation. My study explores this pedagogical proposal further through participant reflections.

Cohort learning.

The third emergent theme was learning through cohort experience. The following definition succinctly captures the meaning of “cohort” as it is used in the current research: “a group of people who stay together from beginning to end of a program and who grow through
the process while developing community and support, experiencing essentially the same stimulus material and challenges of the work environment” (Fenning, 2004, p. 5). Of course simply establishing a cohort structure does not guarantee positive learning outcomes (McPhail, Robinson, & Scott, 2008). The community and support that are necessary for effective cohort learning emerge from the interactions between the cohort’s members. In experiential EE programming where individuals are brought together in a new place for an extended period of time, the group dynamic has been found to be a key element that can contribute to learning and positive program outcomes (Fenning, 2004; Goldenberg & Soule, 2011; Lawrence, 2002; McPhail et al., 2008; Seed, 2008). Participants in the National Outdoor Leadership School reported the group dynamic was significant in “developing relationships, building community, and creating opportunities for teamwork within the group…. gaining and reinforcing values, … warmer relationships with others” (Goldenberg & Soule, 2011, pp. 395-396).

Lawrence has identified the following conditions for a cohort to become a nurturing learning environment:

- Communities develop over time and with intention… members of the community must come to know each other and develop a respect for one another’s strengths, weaknesses, similarities, and differences. When commitment is high and contributions from all members are valued, communities have the potential to co-create knowledge, make effective decisions, and effect change. (Lawrence, 2002, p. 84)

- Cohort learning can also result in highly motivated learners who have a positive attitude toward the subject, and who discover they have the ability to make learning meaningful for themselves and for others (Fenning, 2004, pp. 5-6). In addition to enhancing learning, the sense of community and support within the cohort helps prepare the ground for transformation. A
cohort can facilitate the transformation process by providing a safe space (Cranton, 2006). A cohort can also provide an environment that is “supportive of change” and promotes “ongoing inquiry and critical reflection” (Fenning, 2004, p. 6). More precisely, in language that is used to describe transformative experiences, “the emergence of community … eases the pain of separation, which enhances learning” (McWhinney & Markos, 2003, p. 26).

In summary, experiential education has powerful techniques to promote learning goals. Experiential education is an effective mechanism to build a cohort, and an appropriate cohort dynamic in turn supports the developments of the primary program goals such as learning and personal growth (Seed, 2008). In its programs, SOI establishes a structure for a cohort to develop and nurtures the cohort process by promoting the values of respect, shared learning, and support. However, it is the student participants who must rise to the challenge of building such a community themselves. This has successfully occurred, to varying degrees, on every SOI expedition to date (Glithero, 2010, personal communication).

**Worldview transformation.**

Worldview shift is often an objective of EE and can be a program outcome (O’Sullivan et al., 2002; Young, 2010). Our worldview is a set of reference points that provide a symbolic framework into which we can fit and make sense of everything we know about ourselves and the world (Aerts et al., 2007). It is the lens through which humans experience and interpret reality and their role in it (Miller & West, 1993). There are several authors who have worked to develop categorization or frameworks to elucidate and understand worldviews, acknowledging that any attempt will be incomplete and limited, but useful nonetheless (Koltko-Rivera, 2004; Silverman, 2010; Wilber, 1999). Aerts et al. (2007) offer seven questions whose answers can be integrated to form a cohesive outline of what makes up a worldview.
1. What is the nature of our world? How is it structured, and how does it function?
2. Why is our world the way it is, and not different? Why are we the way we are, and not different? What kind of global explanatory principles can we put forward?
3. Why do we feel the way we feel in this world, and how do we assess global reality, and the role of our species in it?
4. How are we to act and to create in this world? How, and in what different ways, can we influence the world and transform it? What are the general principles by which we should organise our actions?
5. What future is open to us and our species in this world? By what criteria are we to select these possible futures?
6. How are we to construct our image of the world in such a way that we can come up with the answers to 1, 2, and 3?
7. What are some of the partial answers that we can propose to these questions?

These questions provide the basis for a shared understanding of worldviews. Becoming aware of our deepest orientations is an important pursuit given that they are powerful levers for personal and social change (O’Sullivan & Taylor, 2004). Meadows (1999) identified a list of twelve leverage points for effecting change within systems. Those at the top of her list are often easier, but have correspondingly less impact than those further down. Shifting the worldview—the parameters out of which the system arises—is second from the bottom. This illustrates that although it can be difficult to facilitate a shift in worldview, such a change may have a significant impact.

**Defining the worldview shift.**

In describing the worldview shift required, the starting point is the present Eurowestern worldview. The Yale University School of Forestry & Environmental Studies hosted a conference to explore the ecological crisis as a crisis of consciousness and which resulted in a proceedings document, *Toward a New Consciousness* (Leiserowitz & Fernandez, 2008). The powerful report proposes the following list of problematic characteristics of that current Eurowestern anthropocentric worldview:
• Anthropocentrism and alienation from nature

• The loss of cosmological context

• Materialism

• Reductionism

• Binary and dichotomous thinking

• Radical individualism

• Economism

• Cornucopianism and technological optimism

• Post-modernism and deconstruction

Meadows (1999) gave a few examples of dangerous underlying assumptions: that evolution stopped with *Homo sapiens sapiens*, that money measures something real and has meaning in itself, and that one can “own” land. To move from problem definition toward a solutions orientation, Leiserowitz & Fernandez (2008) go on to propose that the required shift toward a more ecologically-oriented worldview is made up of a set of transitions (see Table 1).

**Table 2. Transitioning Toward a More Ecologically-oriented Worldview**

<table>
<thead>
<tr>
<th>Shifting from</th>
<th>Transitioning to</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeing humanity as something apart from nature, transcending and dominating it</td>
<td>Seeing ourselves as part of nature, offspring of its evolutionary process, close kin to wild things, and wholly dependent on its vitality and the finite services it provides</td>
</tr>
<tr>
<td>Seeing nature in strictly utilitarian terms, humanity’s resource to exploit as it sees fit for economic and other purposes</td>
<td>Seeing the natural world as having both intrinsic value independent of people and rights that create the duty of ecological stewardship; from discounting the future, focusing severely on the near term, to empowering future generations economically, politically and environmentally and recognizing duties to yet unborn human and natural communities well into the future</td>
</tr>
<tr>
<td>Materialism, consumerism,</td>
<td>Personal and family relationships, leisure play, experiencing</td>
</tr>
</tbody>
</table>
getting, the primacy of possessions, and limitless hedonism

Hyper-individualism, narcissism, and social isolation

Parochialism, sexism, prejudice and ethnocentrism

Gross economic, social and political inequality

nature, spirituality, giving, and living within limits

Powerful community bonds reaching from the local to the cosmopolitan and to profound appreciation of interdependence both within and among countries

Tolerance, cultural diversity, and respect for human rights

Equity, social justice, and human solidarity

(Created from Leiserowitz & Fernandez, 2008, pp. 7-8)

**Shifting worldviews.**

The scholarship exploring shifting the basic precepts upon which market-oriented Eurowestern cultures operate overlaps in framework with the field of TL. The critical rethinking of foundational assumptions is a pursuit shared by TL: “Critical and autonomous thinking must take precedence over the uncritical assimilation of knowledge. Transformative learning is a route to the development of critical thinking” (Mezirow, 1997, p. 1). TL is a metacognitive process that involves self-awareness of one’s way of thinking. It consists of critically reassessing one’s “taken-for-granted assumptions” or “meaning perspective” (Mezirow, 2003, p. 1). TL therefore provides a framework well-suited to shifting worldviews. In the case of EE, one goal is to shift participant worldviews toward being more ecologically-oriented (Gabora, 1998; Lange, 2004; O’Sullivan & Taylor, 2004; Sterling, 2010) (Gabora, 1998; Lange, 2004; O’Sullivan & Taylor, 2004; Sterling, 2010).

In conclusion, the literature from various fields of study illuminates the objectives of this research. TL and rites of passage research provide a working construct for transformation in this study’s context; experiential education and cohort learning research suggests enabling elements
for transformation; and worldview transformation research paints a picture of what the nature of transformation could look like. This scholarship provides a useful language for data analysis.

**Theme 1: Transformative Process**

In exploring participant experiences, I sought to illuminate whether participants had undergone a transformation and, if so, of what nature. As an initial indication, all ten participants used superlatives in their descriptions of their SOI expedition experience: “indescribable,” “incredible,” “life-changing,” “powerful,” “amazing,” “moving,” “motivational,” “eye-opening,” “awesome,” “electric euphoria,” “inspiring,” “enriching,” “grounding,” “overwhelming,” “absolutely mesmerizing,” “surreal,” “empowering,” and “numinous.” One participant conceded that words did not quite do it justice. She said, of one point during the expedition, “I was so caught up in the moment… that I was completely at a loss for words and almost a loss for thought” (Melissa). This spoke to the high value participants placed on the expedition and the potential that its impact was significant.

To analyse participant comments for indications of transformation, I looked for evidence of the integrated working construct of transformation (see Chapter 2): becoming unhinged, liminality, and reintegration (Turner, 1969). The comments of several participants supported that they had a liminal experience. Evidence also emerged for self-actualization, a dimension of transformation articulated in the literature (Boyd & Myers, 1988; Kovan & Dirkx, 2003; Mezirow & Associates, 2000). I will outline evidence for each below.

**Becoming unhinged.**

Participants’ comments aligned with the expedition as a “disorienting dilemma” (Mezirow & Associates, 2000) that led to them “becoming unhinged” (Lewin, 1946) and finding themselves “betwixt and between” (Turner, 1967). These comments describe the expedition
experience as something unlike what they had experienced before. Eight participants’ comments indicated they had been unhinged. The physical relocation to the ship alone was an effective way to unhinge participants. They spoke of the expedition “putting everyone out of their element” (Carla), leaving participants feeling “completely disconnected [from home], but completely connected [to the expedition team]?” (Annie), and “opening everyone up” (Alex). It was therefore a complete separation from their familiar contexts, providing an opportunity for a liminal experience (Turner, 1969; van Gennep, 1960). Later in this chapter, participant reflections on the challenge of reintegration reveal the experience of liminality. Additionally, the discussion of the experiential education and the cohort experience further reveal that both elements were instrumental in facilitating liminality.

Five participants mentioned being confronted with the newfound absurdity of concepts that they had never questioned. This aligns with the TL phases, which are part of the second part of the working construct for transformation, involving a reconsideration of assumption (Mezirow & Associates, 2000). For example, Sean spoke of seeing an Inuit hunter cutting up a seal on the beach and ritually sharing it with the community:

…it was rightfully his…and he was giving it away. He could have eaten it,… he could have dried it, kept it and stored it, but he gave it away. And it was so hard to understand why he would do that, while it’s natural for [the Inuit], it’s first instinct, it’s almost a horrifying thought of trying to keep it for yourself. And I can’t imagine that. I can’t imagine that ever happening in North American society.

He was struck by the incongruence of this experience with a basic element of the Eurowestern worldview: ownership (Meadows, 1999). In the integrated working construct for transformation, an element of the middle liminal phase is to explore alternatives (Mezirow &

> One ideal we learned was the world survives on sharing and survives on a community and survives on an intertwined network of people helping each other and succeeding as a group. That was really demonstrated by the Inuit. And you come back to us and we’re hoarding our money and…we have a wall around everything that’s ours… while [in Inuit communities] it’s all open, because there is a basis of trust. So just the fact—not the fact, the ideal—that the world survives on a community. (Sean)

Including these comments from Sean, five participants spoke of experiences that spurred a re-evaluation of basic assumptions about how the world works. For example, Carter said the biggest shift in how he sees the world was toward “living with the environment as opposed to using it for our own means,” which was an assumption he had previously operated upon (Carter). Other assumptions were of a more personal nature. Carla said she was confronted with the realization that “the world isn’t just about school and work… there is so much more in the world to do and be” (Carla). This is evidence for Mezirow’s phase of transformation involving a reconsideration of assumptions (Meadows, 1999; Mezirow & Associates, 2000). All ten participants spoke of realizing the extent to which humans impact the natural world, the responsibility humans have to mediate that impact, and the urgency of spreading that message.

The comments of six participants suggest that, for them, the expedition was a liminal experience. This indicates there was opportunity for transformation: that they became unhinged, found themselves betwixt and between, and began to question some of their underlying assumptions. The third phase of the model for transformation involves the reintegration of one’s
newfound ways of seeing and being in the world. I will now explore evidence for the occurrence of this phase.

**Reintegration.**

The post-expedition experiences of reintegration—understanding, integrating and nurturing how participants were changed by the expedition—was something to which many participants spoke. Following an intense experience, especially one in which an individual was transformed, these sentiments can be common (Bell, 2003). Eight participants spoke of having a difficult time understanding the impact of the expedition and putting it into words. Four participants indicated that it was challenging to return to their communities, strongly indicating having experienced liminality. This was in part because they felt as though their experience was not understood. Melissa gave an example of what two participants referred to as the post-expedition depression or blues:

I was sitting in class and I have great teachers, and I get along with my teachers really well, and they are smart people, but I just—and it’s horrible to think—but I just kept thinking ‘I could be learning from someone who’s out there and actually discovered this and researches this, and instead I’m learning it from you who read it out of a textbook’. That’s a horrible thing to think! Horrible, because I love these teachers, but that’s how I was thinking. Because I had just got back from this incredible, incredible learning experience and I was sitting like, ‘uhh you don’t even know this stuff, it’s not like you’ve actually been there’. It was horrible. I felt so bad after I thought the things I was thinking. It was just the post-expedition ‘I just want to be back’ kind of thing. (Melissa)

Literature describes the refreezing, reintegration, or post-liminal phase of transformation to be grounding and to anchor the transformation (Lewin, 1946; Turner, 1969; van Gennep,
1960). The SOI expedition provides an opportunity for a liminal experience, but it is not a traditional rite of passage. The notable difference with transformations facilitated by rites of passage is that they are ritualized, with defined pre-liminal and post-liminal roles. This provides the individual who undergoes the transformation with a set of expectations and definitions for who they have become (Turner, 1969). Perhaps more importantly, the ritual provides the surrounding community with an understanding of the transformation undergone by the individual. They are then able to affirm the individual’s new role by reflecting it in how that individual is received. This nurturing support is not available in the same way when those pre and post-liminal definitions are not available. This provides a challenge to EE programs wishing to sustain participant transformation (Bell, 2003). SOI participants, for example, must themselves seek to understanding their individual transformation, communicating who they have now become, and seeking support for their transformation. Melissa: “Coming back to real life was, you know, it was hard. And putting it into words was even harder.” Lucy expressed the same challenge, “[Putting the experience into words] still a process, it’s still hard to put into words.” Some participants felt confronted with not being understood which was frustrating:

It was coming home, […] that first week was just, you know, work wasn’t really great, and friends, [it was] like, ‘You have no idea what I’m talking about. You asked me one question and skipped on to your favourite pair of shoes’, you know. Little stuff like that, and it just made me mad. Like, why do you not care? Why aren’t you, not asking me more questions, but, why aren’t you like, “oh, so what are we going to do about it?” No, they were talking about shoes. Stuff like that just made me mad. And that’s how my first week was. I was just down. And I’m not usually a down person, and that first week, I was a down person. (Melissa)

Literature suggests that reintegration is a common occurrence and common challenge in EE experiences that facilitate liminality (Bell, 2003). Participants spoke of challenges with processing the experience, putting it into words, and returning home. This indicates that
participants did experience a reintegration phase, the third phase of the model for transformation, which in turn indicates a transformation took place.

**Self-actualization.**

Self-actualization is the process of becoming more who you are. It involves “a fuller knowledge of, and acceptance of, the [one’s] own intrinsic nature, as an unceasing trend toward unity, integration or synergy within [oneself]” (Maslow, 1968, p. 25). This also aligns with authors who conceptualize of TL as individuation (Boyd & Myers, 1988; Jung, 1971) or as becoming who we are called to be (Kovan & Dirkx, 2003). TL theory emphasizes that individual transformation is not directionless; it instead moves toward a more authentic expression of who one is (Mezirow & Associates, 2000). Self-discovery can be brought about through intense activity of an experiential nature, such as SOI expeditions (Csikszentmihalyi & Csikszentmihalyi, 1988, p. 5). Alex’s comment provides a clear example:

It put a really big sense of individuality into me. It was at that totally awesome time when you’re just figuring out you. So the trip just molded me in such a way, it felt like a sculptor, it just made me into something really awesome and afterwards I felt [like I was]…going from just another person to this individual, that’s different from other people, that I enjoy being. (Alex)

Alex communicated that he was not alone in this experience: “Each [person on the trip] had their own set of issues and during the trip each of them overcame them in some way and became one with themselves” (Alex). This is also a strong indication of liminality. Eight participants mentioned a sense of purpose, happiness, or feeling “alive”: “I just feel happier in general and more confident…spiritually and emotionally and physically… and everything I feel
just got ten times more alive” (Alex). Feeling “alive” is the type of meaningful engagement one can expect from experiential education (Haluza-DeLay, 2006).

Eight participants left the expedition feeling motivated and empowered to work toward the kind of change they believe in. Such motivation aligns with the action-orientation predicted by TL theory. Mezirow states that TL “may generate beliefs and opinions that will prove more true or justified to guide action,” which will lead participants toward “making an action decision based on the resulting insight” (Mezirow & Associates, 2000, pp. 7-8). One participant had her sights on shifting her community: “[The expedition] inspired me to make the change...If you change the way your community thinks then you can really make a huge impact” (Tiff). Beth emphasized that the change she has made since returning has not been by telling others what to do, but by inspiring them through the example she became: “The way that I share [the SOI message] with people is not necessarily conscious, it’s more by my actions, and by who I am” (Beth). This kind of action is a direct result of self-actualization. As Tiff said in closing: “probably the most important thing we learned out of the whole experience was how to create change and how we take what we care about personally and help to change the world through what we love” (Tiff).

Seven participants in this study reported experiences that I interpreted as self-actualization as a result of the expedition; all of those seven identified it as part of becoming empowered to make change. These findings support what many authors have argued: that transformative experiences can lead an individual toward a fuller expression of her or his true self and, in doing so, motivate her or him to action (e.g., Mezirow & Associates, 2000). Using the model for transformation and self-actualization as the framework for evaluation, the above
quotes are evidence that six of ten participants found the experience transformative, while the other four identified feeling changed, though they were not transformative.

Theme 2: Experiential Education

The socioecological context of the Arctic as a classroom for place-conscious and experiential education seemed to be a key enabler of participant change and transformation. Experiential education facilitates both elements of the model for transformation: liminality and self-actualization. The key enabling elements are wonder, being there, and connection to place, dimensions of experiential learning and awareness that facilitate transformation toward more conscientious ways of being in the world (Glithero, 2004; Gruenewald, 2003; Haluza-DeLay, 2006).

Wonder.

“Wisdom begins in wonder.” Socrates

Lucy wrote during the expedition: “I have been struck, not by lightening but by wonder, curiosity and amazement I have just witnessed some amazing things and am still attempting to process it all” (Lucy, journal). All ten participants described feelings of awe and wonder. Beth explained: “So much of the Arctic land [looks] untouched by humans and I think that’s what brings so much magic to it” (Beth). For Melissa the moment that encapsulates the wonder was the first morning they saw sea ice:

I looked out my porthole window and it was just white ice for miles. Like, that’s all you could see was flat ice, and I jumped out of bed and threw on a coat and ran up on deck and I just, I was in tears, and it was so, so powerful, it just showed how much power that
place had compared to us, and that, that moment was just huge. Cape Mercy. It was just incredible. (Melissa)

Eight participants spoke of the adolescent male polar bear they came across one day. Lucy described it as a moment that summed up how the entire expedition made her feel:

So it’s one of those really amazing moments where you’re not looking at a polar bear in a zoo, you’re looking at a real polar bear in its real environment, eating a seal, which is just what he does. It’s like… it’s majestic, it’s beautiful… it’s how it should be. (Lucy)

Feelings of wonder open us up to change, deep change, especially toward being more inclusive of what we feel the awe for, in this case the natural world (Haluza-DeLay, 2006).

**Being there.**

The nature of an experiential education expedition is that participants are more deeply engaged that traditional classroom learning: the learning is more valued and has a deeper impact. All ten participants spoke of the experiential element of the expedition as very important. Lucy explains: “[the expedition] was more than looking, it was going and doing it; we got to be a part of it” (Lucy). As reflected in the theory, this kind of pedagogy seemed to have a positive impact on how participants valued, understood, and retained what they were learning (Glithero, 2004; Gruenewald, 2003; Haluza-DeLay, 2006). Melissa said she “realized from the expedition that place has a lot of influence on how you learn and your perspective on things…especially the way you retain and perceive things” (Melissa). As a result of the influence of place, participant learning was not detached from the context of the expedition, it was socioecologically situated (Glithero, 2004; McKenzie, 2008). The expedition developed a connection to the people and the place about which participants were learning. Carla described how she “saw the changing of the planet with [her] own eyes, and not a lot of people get to see that” (Carla); Carter called it “living
evidence of what I’ve read” (Carter); and Lucy realized, “Walking through the rivers [of glacial melt] that didn’t used to be there [made me realize] this is from humans; this is from us” (Lucy). The learning became more “more meaningful” and “more real” (Lucy).

This experiential education translated into a thirst for experiential learning. Ryan argued that, “more exploratory, hands-on learning or ‘edu-tainment’ is needed in schools” (Ryan). Beth has taken that task into her own hands: she said, “Now I’m thinking of every experience as something where you can learn” (Beth). Dewey suggests that that this very outcome, learning that generates an appetite for more learning, ought to be a guiding intention for all educational experiences: “Everything depends upon the quality of the experience which is had... It is his (sic) [the educator’s] business to arrange for the kind of experiences which, while they do not repel the student, but rather engage his (sic) activities are, nevertheless, more than immediately enjoyable since they promote having desirable future experiences... the central problem of an education based on experience is to select the kind of present experiences that live fruitfully and creatively in subsequent experiences” (Dewey, 1938, pp. 16-17). All ten participants emphasized the value of the learning experience could not be translated into traditional classroom learning. This claim is supported by the literature, which demonstrates that the depth and richness of experiential education is unique (Glithero, 2004; Gruenewald, 2003; Haluza-DeLay, 2006). Tiff explained further: “People would say, ‘Couldn’t you just learn all of this from a textbook?’ and really you can’t. Books teach the facts but not the inspiration or the experience. Without that [the expedition] wouldn’t have made as strong an impact” (Tiff). Lucy gave the example of learning about the Inuit culture: “How they eat, live, dress… textbooks just don’t do it justice” (Lucy).
The experiential learning foundation shifted how participants understood “knowing.” “You think you know things until you see them. Then you still don’t know them, but you just realize that you don’t know them” (Lucy). Lucy’s experiential realization aligns with the classification of transformative learning, as opposed to instrumental learning of information alone (Mezirow, 2003; Wals et al., 2008). Her comments support that SOI offered an opportunity for TL.

The simple presence and context of the experiential education provided a setting for the liminal phase of transformation: it provided a place for participants to be betwixt and between. Furthermore, the expedition developed a depth and breadth of learning that is often unique to experiential education, which increased the value and impact of participants’ learning.

Connection to place.

All ten participants indicated that the experience connected them to the place and the learning on a personal level: “Now learning about the Arctic, it’s more than taking notes, now it’s more, ‘this is exciting! This is something that I actually know about, this is something I’ve seen” (Lucy). Ryan and Carter demonstrate that this personal connection was sustained following the expedition: “Now that I’ve gone there, I know it, and it’s sort of my preferential place to read the news from” (Ryan); “The most valuable part was just being there, seeing what the Arctic was like. I just feel I can relate to it more… Whenever I think about the Arctic, I think about my experience as opposed to some BBC documentary” (Carter).

Eight participants spoke of feeling more connected to the natural world as a result of the expedition. This was in part because the learning opportunity provided by SOI was more than intellectual; it was tactile, sensory, kinaesthetic, and emotional. Alex describes this kind of learning eloquently:
I’d say that your brain isn’t the only thing that can learn, it isn’t the only thing with the capacity to remember or to gain knowledge and I’m pretty sure that your heart and your emotions—they have the ability to learn and grow and flourish just like your brain does. So, if you neglect the experience to nourish your heart not just your brain, then it’s basically like not learning in school: If you don’t go to school you don’t have that much opportunity in life, you can’t do some things you could have done if you did go to school. And it’s the same thing, if you don’t nourish your heart and emotions then you eliminate some things that you can do in life, that you can feel in life. When you go out and touch the spring water, or go camping, then you don’t really need to be doing anything specific, all you need to do is just sit there and all you need to do is just feel…it’s a good type of learning. I don’t think enough people actually do it. (Alex)

All ten participants gave examples of experiences that connected them to the socioecological “place” of the expedition. Though she found it challenging to be away from home for the first time, Annie quickly got used to it: “You got over [not being able to check your email] because you were in such an incredible place and you were so connected, and you were so disconnected [from everything else] in a way that was really good” (Annie). This was a compassionate connection, one of care (Haluza-DeLay, 2006). Tiff likened the feeling of connection to feeling “familiar” with the natural world: “You were really forced to look at what’s around you… The Arctic environment is so different and varied. No piece of tundra was the exact same and that sort of breeds caring and familiarity” (Tiff). Sean emphasized how meaningful the learning became, giving the example of coming out of the lecture room in the ship’s hull:
…and you walk up the stairs, and sunlight’s blaring in your face, or it’s overcast, and you’re seeing these things happening before your eyes, or you’re sitting on a polar ice cap, and you’re reading measurements off an instrument… that is affecting something that’s under your feet, while, in Ottawa, where the data was collected and really analyzed, and now sitting here at Lakefield, thinking about that and learning about that, there would be no personal connection to it. I think because I was able to go there, there’s a personal connection between me and nature, because I was in it, because I was surrounded by it, because it was all around me, and without that, I don’t think it would have been—I would have realized how much it actually meant. (Sean)

This connection led to insights about the causal role (some) humans play in the ecological crisis. Five participants identified changes in how they thought about anthropogenic environmental impacts:

- “The thought of rivers that didn’t used to be there…that’s from humans. That’s from us.” (Lucy)

- “It’s very clear that the impact of humans on the earth has been much greater than any other organism.” (Carter)

- “What the heck are we doing to the earth? …we should be protecting it and caring for it.” (Alex)

- “I developed more of an appreciation—before I was interested in the environment, now I actually care about it, as you would a family member. Humans really need to take charge and notice what they’re doing to the environment.” (Tiff)
• “Some of the animals, they don’t know what humans are. They’re essentially untouched by human interference but they’re being touched so much through changes.” (Annie)

The use of silence and reflection as a teaching tool can facilitate connection to place (Cushing, 1998; Haluza-DeLay, 2006). Nearly all participants spoke of those moments as important. Beth identified silent reflection time as key in developing her connection to nature. She found the lesson to be transferable: “…you don’t have to be in the Arctic to have that experience. I mean, people can do that here. We don’t though—we don’t connect with our environment enough” (Beth). The connection participants developed seemed to lead to a care and a desire to protect (McKenzie, 2008; Wright & Wyatt, 2008). Alex and Carla describe this further:

It does build a connection between you and nature and with connection it’s kind of like a friendship, the more you see somebody the more connection and the more feelings you get from the person. If you build that connection with nature over time you’ll grow more emotional towards it. You’ll be way more inclined to do something if something’s going wrong. (Alex)

You have a connection with the place you were in, especially when it was so beautiful and so powerful to your soul. You must know what it’s like to be in the most amazing place where the valley’s walls just go straight up and you can’t even see and you feel like you can’t see the sky— and to have a connection with a place and to know how powerful it is and seeing it changing, just makes you want to do something about it. (Carla)

Eight participants noted that the critical connection to the natural world needs to be valued and encouraged. “People are losing that connection they used to have to nature, now it’s
less and less and it’s like that part of us is leaving, or else becoming less valued.” (Melissa).

Participants themselves came to value that connection much more over the course of the expedition. Beth realized that in her life her connections to “places and people are the only two things that really matter” (Beth). Five participants identified their take-home message from the expedition to be the importance of building a connection to nature and seeing humans as part of the natural world:

We felt like people are disconnected from the natural world lately and that is wrong and is something we all need to work on… So, the biggest thing, I would say, is just to reconnect with nature, and become a part of nature. We are a part of nature, so, let’s get back to that again, where we are not set aside from nature, we’re all a part of nature, and just, reconnect with that and find that connection. (Melissa)

Participant comments provided strong evidence that the experiential element of the expedition was highly valued and increased the depth and impact of their learning. There is strong support for wonder, being there, and connection to place as transformative elements of experiential education. These elements are the vectors through which experiential education facilitates our model for transformation.

**Theme 3: Cohort Learning**

The literature supports the claim that the cohort dynamic is an influential component in participant experience. The elements of shared experience and cohort support were both identified by participants as factors in their experience that enabled transformation by supporting becoming unhinged, the liminal phase, and self-actualization. Experiences of the loss of the SOI community served as an indicator of transformation by highlighting the challenge of reintegration once participants had undergone a transformation aboard the ship. This theme was
not anticipated but instead emerged from participant comments as one of the most important elements of the expedition experience.

**Shared experience.**

Every participant I spoke with referred to the expedition team as a key component of their experience and their learning on the expedition. Nine participants described how their learning was deepened and enriched because the expedition experience was shared. From the beginning, Beth explains that, “one could feel the electricity in the air and the excitement in the group as we, one by one, climbed the ladder of the ship and began this adventure together” (Beth). This energized group dynamic set an important tone for the expedition:

The people on the boat who came with us—everyone just seemed really alive and healthy and just awesome… Our group had a particular abundant amount of energy; everyone was just radiating energy… It's like we were a giant team of experts going off into the Arctic with all this purpose, and it felt right. (Alex)

As past studies have found, the cohort feelings of shared experience, safe space, and teamwork led to a very rich learning environment (Fenning, 2004; Goldenberg & Soule, 2011; Lawrence, 2002; McPhail et al., 2008; Seed, 2008).

**Cohort support.**

Through strong bonds that united the expedition team, a safe space was created that facilitated transformation. Seven participants felt that, in this way, the supportive cohort community was invaluable. “I made the most amazing friends that I still keep in touch with. You bond over the beauty and the knowledge you gain” (Carla). The words “family” and “familiar” were often used by participants to describe not just their connection to place, but also the way
they felt toward their fellow members of the expedition team. Carla commented that everyone added something of value to the group:

I think the [expedition] showed me that every person has a story if you talk to them, if you take the time to spend some time with people… you can learn from everybody if you just slow down, and just sit and spend some quality time just talking…being genuinely interested. Everybody has something. Just something cool. (Carla)

The process of building new relationships encouraged self-discovery: “Having to get to know so many different people was a growing experience as well, because you learn things about yourself through the eyes of other people” (Tiff). Tiff explained that being in a new but safe space made everyone “very open to growing in new directions and learning new things” (Tiff). Echoing Turner’s (1969) elements of becoming unhinged, which opens the door to liminality and transformation, Alex and Carla described their experience:

I have to say that it first started off by, not violently breaking down barriers, but it whittled away at the barriers that everybody already had put up to shelter them from the horrible world because on the trip reassured them that this is going to be safe, this is going to be awesome, so just let it all go. So it opened everybody up, and once they were all opened up it allowed for the emotions—and there was hardly a bad energy ever on that trip—it allowed all the happiness and greatness and uplifting that happened on the trip when we were opened up, to soak and sponge in and pushing out whatever was in us, so when we all closed back down again when we went into our normal lives, where it’s not as safe and awesome, it was still inside of us now. (Alex)

Everybody’s put out of their element, and you find comfort in other people and you have so much in common, but you don’t know them, and you just, I don’t know… You just
become so close with them, because you’re with them for two weeks, but you feel like
you’ve known them forever because you’ve shared such an amazing experience. (Carla)

In the same way SOI does, working as a team is often used as a pedagogical strategy to
foster a united community (Seed, 2008). When this strategy is effective, the community acts as
an ongoing support structure through which participants nurture each other’s expedition
experience, learning, and transformation (Fenning, 2004). “We talk to our Students on Ice friends
sometimes more than our friends here at home” (Annie). “I’ve never had anyone to share
excitement with about this stuff—science and the environment—when I came back realized I
have this network of 105 people to talk to. If my idea gets shut down at school, they will support
me….” (Melissa).

Some participants find solace in the ongoing connections when facing the challenge of
spreading a shared understanding among their home communities: “It’s not easy to rally people
who haven’t shared the same experience with you… They just don’t understand your experience,
so you feel a bit lonely with your thoughts” (Carla); “Nobody here gets what’s going on, so I
love talking to my SOI friends” (Annie).

The expedition team cohort was successful in offering safe space and support for the
liminal phase and self-actualization on-board the ship, as well as some support for the
reintegration phase when participants returned home (Cranton, 2006; McWhinney & Markos,
2003).

Loss of SOI community.

The literature shows it can be a challenge to return to the place where you used to be who
you once were, after experiencing a transformation and becoming who you now are (Eaton &
Hornborg, 2010; Turner, 1969). Seven participants spoke of the loss of the expedition
community as a large part of the emotional journey of SOI, experienced along with the expedition journey as well as the return home. For them, the challenge of reintegration following the expedition was exacerbated by the loss.

Everybody was really emotional when we left [the expedition]. For the first couple of weeks [after returning], I’d say, I was depressed. It’s just such a huge thing to take in. And you’re thrown back into your life, and everybody else doesn’t care. They’re like, “How was it?” and you’re like, “Amazing,” and you try to tell the stories and they just don’t get it. Nobody really understands […] And just being thrown back into everyday life and your friends don’t really understand. (Carla)

This sentiment reflect the important bonds developed among the expedition team. Participants feel as though they can’t sufficiently describe it to others who were didn’t share the experience, including people they might know well (Haluza-DeLay, 2006; Seed, 2008). The most difficult part of the expedition for most of the participants was leaving this community they had come to support and care for deeply, and by whom they felt supported and cared for: “Of course the end of the expedition hurt, you’re leaving people you care about” (Melissa); “The worst part was definitely saying goodbye to everybody, because we had become such a close knit family and to have to say goodbye was really sad for me” (Annie); “Students on Ice was the best time of our lives… but we’re sobbing our eyes out when we look at stuff” (Annie); “The most emotional time was leaving. The transition home hurts: it’s not being with the people, not being [in the Arctic], knowing you won’t see most of them again” (Carla).
Carla spoke of a resistance to even think about the expedition because of how much it hurt:

I haven’t thought about it in so long, just because I don’t like to, because it’s kind of painful. We got a package from SOI with a CD of songs [Canadian musician] Ian Tamblyn wrote and performed on the expedition. And whenever he sang a song, there was something inside of me that was just so overcome with emotion, and that’s why I don’t want to listen to it, because it will bring back… I don’t know what it’ll bring back, but I haven’t listened to it yet. And I’ve had it for two months. I just don’t want to. I do want to, but I don’t. (Carla)

The cohort dynamic was a powerful factor in deepening participant learning, supporting the liminal phase of transformation and self-actualization. The challenge of reintegration after leaving the cohort was a strong indication of how different some participants were upon returning home (Bell, 2003).

The cohort dynamic was a key factor in participant experience and in facilitating change and/or transformation. It added depth and meaning to participants’ learning and gave a safe space and support for individual transformation. Though the loss of community was the most difficult part of the expedition, all ten participants also described the strong sense of community as an invaluable part of the experience. Beth left feeling that team learning should be applied everywhere:

You learn the most from the world by living experiences with people, and exchanging, and connecting with a place… I thought, this is how any issue should be addressed…this is how we’re going to be able address things and change them. (Beth)
Theme 4: Worldview Transformation

The mission of SOI expeditions is to transform the worldview of its participants toward an ecological-orientation. This involves transforming the “water in which we swim,” our reference points for being in the world, the framework of understanding through which we interpret the world. There is evidence that the worldview of some participants was shifted in some way. For example, Melissa said that the impact of SOI was in “changing my entire perspective, and the entire way I see the world and the actions I take” (Melissa).

The interest of this paper is in describing participant experience as they value it, through a lens of transformation toward an ecologically-oriented worldview. The model for transformation that emerged from participants’ comments and resources from the literature identifies experiential education and cohort learning as key enablers of such an experience. The first three themes in this chapter have explored the model and both enablers. This theme explores the nature of the transformation or change at the level of worldview as reflected in participant comments. The following analysis of results uses the framework for transitioning to an ecological worldview (below) (Leiserowitz & Fernandez, 2008).

Humans as part of nature.

Shift 1: “From seeing humanity as something apart from nature, transcending and dominating it, to seeing ourselves as part of nature, offspring of its evolutionary process, close kin to wild things, and wholly dependent on its vitality and the finite services it provides” (Leiserowitz & Fernandez, 2008, p. 7)

When asked for their definition of nature, all eight participants who were asked spoke of seeing humans as a part of nature, not apart from it, as a result of the expedition experience. This aligns with the first shift proposed by Leiserowitz and Fernandez (2008). Participants raised both ontological and moral implications as a result. This topic is one which I solicited their comments
directly, by asking how they define nature and the human relationship with nature. It is interesting to note the way in which participants describe a similar conclusion reached by such different paths. This suggests that the realization was discovered through direct personal experience instead of by having being told so by an educator.

I think humans walk into every situation, and it’s not me or you, it’s humans as a species, walk into every situation, as we are better than everything else. [...] And, you know, maybe we aren’t always the most powerful ones, [...] we aren’t always better than everything around us. We should look up at nature like, this is what created us, this is where we come from. We’re a part of this. [...] I think [the expedition] just really pushed us back a step and said, ‘hey, you’re not at the top of the world.’” (Melissa)

The difference is I now see [the natural world] as a living thing made up not only of plants and animals but humans as well. Just realizing how easy it was for the Inuit to co-exist with the environment around them—which is absolutely amazing, it was stunning, it was beyond belief—you come to realize that man [sic] was at one point, and still is, one with nature. Just by living in a big concrete jungle doesn’t separate us from that. Coming back from surreal beauty, you come back here and realize that this part of the earth isn’t any less amazing. (Sean)

We are still part of nature. (Carter)

It feels like I’m in a giant web of something really big, something huge, or something with just giant purpose. I kind of feel like it connects me to something far greater than anything I’ve ever seen before. (Alex)

You have to learn to work with [nature] not against it: those who work with it, [live as though they were] part of nature. (Annie)
Learning from the Inuit way of life led participants to reflect on what it means for humans live as a part of nature. Sean explained, “an ideal we learned was that the world survives on sharing and survives on community and survives on an intertwined network of people helping each other and succeeding as a group and with nature, and that was really demonstrated by the Inuit” (Sean). Two participants describe moral implications for the human relationship with the rest of nature:

I can affect what happens in remote places—even if we don’t think so, we do…We don’t have the right to change the world for the worst, it’s not our place to do that. (Carla)

We’re so tiny; we’re so small. And look at this world around us. It’s huge. How can we have such a huge impact on this place, when it’s so much bigger than us? Do we have that right to have such a negative impact? (Beth)

The expedition experience led participants to realize that humans are a part of the natural world. This foundational shift has a significant impact on the way we, as humans, might understand our role within the rest of the natural world.

**Conceptualization of nature.**

Shift 2: “From seeing nature in strictly utilitarian terms, humanity’s resource to exploit as it sees fit for economic and other purposes, to seeing the natural world as having both intrinsic value independent of people and rights that create the duty of ecological stewardship; from discounting the future, focusing severely on the near term, to empowering future generations economically, politically and environmentally and recognizing duties to yet unborn human and natural communities well into the future” (Leiserowitz & Fernandez, 2008, p. 7)

All ten participants expressed a non-utilitarian view of the natural world. This aligns with the second shift proposed by Leiserowitz and Fernandez (2008). Their comments represented a shift away from seeing the natural world as a mechanistic set of natural resources
for human use toward seeing it as a living system of intrinsic, aesthetic, and spiritual value of which humans are a part.

The biggest thing [the expedition] changed was my relationship with nature. Before I typically think about life interacting with human and how to work together to create knowledge and create a new environment around us. But then going to the Arctic, the focus was much more on living with the environment as opposed to using it for our own means and that’s perhaps the biggest shift that came into me. (Carter) [emphasis added]

Lucy explained that they saw the “polar bear as it should be; it was beautiful, majestic” (Lucy), and her take-home message from the expedition was: “I want people to know the beauty of the natural world” (Lucy).

Participants were asked how they defined nature, and most had thoughtful answers that were rooted in to the expedition experience:

A web of all living beings; a system that we rely on so much we don’t even realize it. (Sean)

Nature is finding that connection; because, nature is a place, but it’s not really a place. It’s more of a mindset. (Annie)

It’s like the Gaia Hypothesis suggests—there’s a spirit there. (Carla)

The natural world is what sustains us, which is the more scientific point of view, I also think on a more ethics, spiritual level for me, how could you not protect the natural world? (Beth)

Comments also represented a shift away from seeing humans as the end of evolution or the pinnacle of existence and toward seeing the natural world as having a power and majesty all its own:
Humans walk into every situation, as if we are better than everything else… and [the expedition] really made you feel like, okay, we are not more powerful than this ice… Look up at nature like, this is what created us, this is where we come from. We’re a part of this. We’re not better than this; we’re not superior to this. I think that ice and that entire day just really pushed us back a step and said, ‘hey, you’re not at the top of the world’. (Melissa)

When you really look at it, like I said, we’re tiny. And why have we exploded into this disproportionate amount of this huge presence that unbalances the whole system around us. I think that when they talk about that reconnection with nature and just how important it is, I think it’s because it’s so much greater than us. And the physical environment and nature, and everything that goes on in it, has a spirit of its own, and has magic of its own, and it’s a place that’s been there for so—it’s so much older than us—and it’s going to be there way longer than we are. And we’re just a little spark in it, and we have to remember our place in it. (Beth)

These participant comments about new conceptualizations of the natural world collectively begin to paint the outline of a shift away from an anthropocentric worldview and toward an ecocentric one.

**Toward an ecological-orientation.**

Shift 3: “From hyper-individualism, narcissism, and social isolation to powerful community bonds reaching from the local to the cosmopolitan and to profound appreciation of interdependence both within and among countries”

Shift 5: From materialism, consumerism, getting, the primacy of possessions, and limitless hedonism to personal and family relationships, leisure play, experiencing nature, spirituality, giving, and living within limits (Leiserowitz & Fernandez, 2008, p. 8)
The fourth and sixth shift proposed by Leiserowitz and Fernandez (2008) is reflected in earlier sections. This includes Sean’s being confronted with the concepts of property and ownership, Beth and Alex’s emphases on the spiritual experience that the expedition offered, all ten participants’ comments on the value of relationships among the cohort community, and all ten participants’ insistence on the importance of having an experiential relationship with the natural world.

**Shift 4: From parochialism, sexism, prejudice and ethnocentrism to tolerance, cultural diversity, and respect for human rights**

**Shift 6: From gross economic, social and political inequality to equity, social justice, and human solidarity (Leiserowitz & Fernandez, 2008, p. 8)**

The fifth and seventh shifts proposed by Leiserowitz and Fernandez (2008) are echoed in participant comments identifying the injustice in Inuit communities bearing the burden of environmental impacts caused by the choices of other human communities. Carter and Beth both described Inuit communities as “a developing community within a developed nation” (Carter). They emphasized the need to work with those communities and mitigate the impacts of the Eurowestern lifestyle, especially climate change. Beth, Lucy, Melissa, and Carla discussed their increased appreciation for diversity of nationalities, cultures, and perspectives. For example, Beth felt all issues should be grappled with, taught, and addressed with a team as diverse as the SOI expedition team. “We need to bring wisdom and traditional knowledge—I learned that from the expedition” (Beth). Participants communicated that the expedition reinforced a systems perspective through its integrated education and diverse education team: “All together, everything is great here; the food, the company, the sights, the experience. It all becomes intertwined” (Lucy, journal); “We [usually] learn things separately but really they’re all meshed together in real life and help you understand the bigger picture” (Carla).
It was that kind of eye-opening new perspective experience… It definitely changed my perspective on the world, changed my views, made me think a lot about world issues, about the science behind things, about what’s going on with climate change—it’s not like I’ve thought about it and moved on because I’m now going to orient my studies that way… Whether you’re studying ecosystems, you know, you learn all about wildlife, and food chains, and vegetation, or the bigger physical landscape where you do geology, or you do geography, or you study the people, and the land’s interactions with people. All of that is so intertwined.” (Beth)

Systems thinking of this nature is understood to be a foundational principle of an ecological worldview and an aim of environmental education (Capra, 1996; Meadows, 1989).

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<th>Comment</th>
<th>Lucy</th>
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<th>Alex</th>
<th>Tiff</th>
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Table 3. **Key themes identified by participant comments**
Chapter 5. Significance

This project flowed from a deep reverence for the natural world. The research explored an experience that, for some, could evoke such reverence through personal transformation due to an experience in the natural world. Faced with the Anthropocene, a planetary manifestation of the Eurowestern human separation from nature, such personal transformations are increasingly important (Leiserowitz & Fernandez, 2008). They offer a way to shift the currently destructive relationship Eurowestern human civilization has with the natural world toward an ecological orientation.

Addressing Research Questions

With the motivation of exploring transformative environmental education, this research was guided by the following questions:

1. As articulated by ten Canadian participants on the 2009 Students on Ice Arctic expedition, was the experience transformative? If so,
   a. What indicates transformation?
   b. What illuminates the nature of any transformation?
   c. What emerges as enablers of transformation?

These questions informed the design and proceedings of the ten in-person interviews, which encouraged the participants to reflect upon and share their expedition experience. The rich data from the interviews was preceded and followed by a literature review. Before the interviews I sought to understand existing frameworks for interpreting transformative educational experiences. I drew from literature on environmental education (EE), transformative learning (TL), qualitative research methodologies, and interviewing strategies. After the interviews and preliminary data analysis, I returned to the literature to draw further resources guided by participant responses. Worldview transformation became the overarching theme, and within it,
transformative processes, experiential education, and cohort learning emerged as elements that support such transformation. This second review of literature offered a deeper understanding of the findings and a framework with which to respond to the three research questions. I will now address each in turn.

1. What was the experience of the 2009 Students on Ice Arctic expedition as articulated by ten Canadian participants, through a lens of transformation? What themes emerge indicating transformation?

   Though unsolicited, many participants spoke to personal transformation when articulating and reflecting upon their expedition experience. Their comments reinforced the three-phase working construct for transformation described in Chapter 2 that had been derived from the literature. Phase I was the disorienting dilemma that leads one to become unhinged. For many participants this phase was the expedition itself, which took them out of their day-to-day routines, places, and awareness and plunged them into something staggeringly new. Through the experiential education programming, participants were immersed in an explicitly place-conscious way of learning about and experiencing the Arctic. Many participants felt this fostered a deep connection to the Arctic and to the natural world in general. The disorienting dilemma was an important enabler of community bonds and a strong cohort dynamic. This dramatic psychological, social, and physical shift was powerful as a catalyst for transformation. The disorienting dilemma creates space to move from who one used to be, from expectations and assumptions one held for oneself, others, and the world, towards something new. Disorientation can launch a participant into liminality (phase II) and then lead to self-reflection, personal growth, self-actualization, and personal transformation.

   Phase II is the liminal stage in which one is betwixt and between. For most participants this took place both during and after the expedition. The hallmark of liminality of a feeling of
between-ness, of being on the *limen* or threshold from one state to another, full of possibility rather than actuality (Turner, 1977). It involves a separation from who the participant once was which allows for them to become different. In this way, the experience is transformative, not simply formative. In parallel language, the new experience is accommodated, thereby changing the worldview, instead of simply assimilated into the existing worldview (Piaget, 1962). This was indicated in part by the description of becoming unhinged and descriptions experiencing having been transformed only through contrast upon their return to their home community. It was also indicated by the big questions with which participants grappled with big questions. They were are foundational reflections, questioning the assumptions many humans live unaware of even having made. Participants spoke to the safe space created through shared experience and cohort support as an enabler for this kind of questioning. Questions percolated in them long after the expedition about property and the concept of ownership, human rights and environmental justice, and the human role in the natural world, among other things.

Phase III is the reintegration of one’s renewed identity following the transformative experience. It often involves a physical return to the place where one *used to be* who one once *was*. The questions participants spoke of grappling with seemed to have really confronted them as a result of the contrast between their expedition experience and their return home. This contrast indicated to them that they had changed, though they had trouble articulating precisely how. Perspectives and new convictions seemed to crystallize after the expedition as a direct result of the experience. One factor in this phase is time for processing. Since the expedition was just over two weeks long, the process of internalizing its impact required more time: “It’s something that I’m still processing, and I think I will continue to process for a long time,” (Beth). Of particular interest, all eight participants whom I asked directly described the third phase as
feeling like a loss of community; two of the eight named it the post-expedition blues. Though none felt a loss of their home community upon leaving for the expedition, loss of the SOI community was a shared struggle. Future research could examine this phase further, in particular with an interest in mitigating loss of the cohort community and sustaining participant transformation.

2. What themes illuminate the nature of any transformation?

   Participant comments illuminated a transformation toward an ecologically-oriented worldview, based on a framework of what such a shift could mean (Leiserowitz & Fernandez, 2008). All six shifts transitions (see Table 1 for details) were strongly reflected in participant comments, reflections, or questions they posed. The six areas are:

   1. Seeing humanity as something apart from nature, transcending and dominating it
   2. Seeing nature in strictly utilitarian terms, humanity’s resource to exploit as it sees fit for economic and other purposes
   3. Materialism, consumerism, getting, the primacy of possessions, and limitless hedonism
   4. Hyper-individualism, narcissism, and social isolation
   5. Parochialism, sexism, prejudice and ethnocentrism
   6. Gross economic, social and political inequality

   It is also interesting to note content illuminating the nature of transformation was not the focus of participants’ articulation when asked to describe their experience. It arose after they first described the physical, social, and informational elements of the expedition. Questions about assumptions or reflections on the above realms arose later in our conversation. As the literature suggests, our worldview is like the water in which we swim and is therefore difficult to become aware of, even when one is questioning its very constitution (Aerts et al., 2007).

3. What themes emerge as enablers of transformation?
The two strongest enablers of transformation that emerged from participant comments were experiential education and cohort learning. The literature suggests that both can deepen learning and facilitate transformation. The experiential education element was essential to the transformation articulated by many participants. Experiential education led to a deep connection to the Arctic and to the natural world at large. It also developed diverse ways of knowing and valuing the natural world. Participants spoke of coming to know the Arctic and felt a deep connection to place. The cohort learning dynamic was powerful in deepening participants’ learning capacity, by building a strong sense of community and shared experience. The safe space that resulted helped facilitated introspection and self-actualization among many participants. It is important to note that though it was a key enabler, the cohort experience wasn’t alone transformative. In summary, this research’s findings suggest that environmental education programs can be transformative toward an ecologically-oriented worldview when designed as a transformative process (1-disorienting dilemma, 2-liminality, 3-reintegration) supported by experiential education and cohort learning (see Figure 3).
Implications

Based on this research and the discussion above, I can suggest implications for SOI and similar programs. All of the areas of literature that I draw from (TL, EE, transformative processes, experiential education, and cohort learning) identify time as important. They all suggest that the length of time an experience lasts and the impact it can have on participants are correlated. Time is required to absorb, reflect on, and integrate new experiences. It is key to the development of relationships, learning and transformation. Despite the fact that SOI has limitations on the length of expeditions, further resources put into the pre- and post-expedition experience might help advance the organization’s mission of participant transformation. Post-expedition efforts might help address the loss of community reflected in participant comments (i.e., the “post-expedition blues”) and in the literature. Such support could help facilitate reintegration and help sustain participant transformation.

Cohort learning literature suggests that having participants share knowledge can deepen their learning. SOI could explore more ways to integrate participants as co-facilitators of learning in the education program. Strategies include collaborative learning (participants work in teams to explore a topic) and peer-to-peer learning (participants first learn themselves and then teach their peers).

This paper poses several questions for possible future research: What does it mean to investigate personal transformation through self-reporting? How could one characterize and explore the spectrum of personal transformation, ranging from participant comments to participant actions; from posing a foundational question to living differently; from feeling
different to a worldview shift? What helps sustain personal transformation or worldview shift?

How could the challenges of reintegration be mitigated?

Reflections on this paper

The academic study of ideas of reverence, personal transformation, and worldview shift demands a concrete language and articulation that cannot fully embody related lived experiences. I have let the voices of this study’s participants convey their experience as much as possible; however, the words that compose this paper are still a metaphor for the experience itself. My supervisor, professor Heather Eaton, uses the following exercise with her theology classes to demonstrate the important difference between the language and the experience.

On the first day of class she hands out sheet music to a piece of classical music. She asks the students to sit quietly, look through it and write down what the experience of doing so was like. Then she plays the music, as the students sit and listen, and asks them to write down what that experience as like. When the floor then opens for discussion, two things emerge. The first is that all students can agree that the notes on the sheet music pages are more static and less meaningful than hearing the music itself. The second is that the sheet music is completely void of meaning to those who can’t read music, where it holds meanings as a metaphor to those who can read it and are perhaps familiar with the piece. Heather will then liken the notes on the page to the language and articulation of ideas being discussed in class. And she will liken the music itself to the direct experience of those ideas themselves.

The difference between the notes and the music is an eloquent metaphor for the difference between this paper and the experience it seeks to explore. In other words, the map is not the territory. In other words still, as Magritte painted, “ceci n’est pas une pipe.” If all language is metaphor to make meaning of experience, I have aimed to be as true to the experience as
possible; however, these concepts can be truly understood only through experience itself, not through any paper. Continuing to explore, grapple with, and collectively live out these ideas will, I believe, help the shift toward a better future for all beings.

“Another world is not only possible, she’s on her way. On a quiet day, I can hear her breathing.”

(Arundhati Roy, 2002, ¶60, line 4)
References


Appendices
Appendix A.

Students on Ice Education Program Overview

Educational Philosophy
We believe in providing students with unique educational experiences that will challenge the way in which they perceive the world. Our aim is not to simply provide students with a "trip" to a unique destination but rather to give students an opportunity to have an aesthetic experience in some of the most wild and awe-inspiring ecosystems in the world. We do not want students to just pass through a place with camera in hand, but rather to listen to the land; to 'feel' these natural places and in turn, explore how we as humans feel when immersed in such places. Ultimately, our goal is for students to experience a transformative connection with Nature—a connection that changes the way they understand and act in this world.

EXPERIENCE | UNDERSTANDING | TRANSFORMATION | ACTION | CHANGE

Educational Approach
Our approach to education weaves together elements of experiential, expeditionary, and problem-based learning. In starting with a very 'hands-on' approach, active participation and critical thinking are important elements in the SOI learning process. Through posing questions, experimenting and constructing meaning, the learning becomes personal, relational and exploratory in nature. Our expeditions become symbolic learning journeys from the initial development of ideas, to addressing problems and possible solutions, to final reflections. We recognize that the journey will be unique for each student, as will the manner in which each student effects positive change in his/her individual lives following the expedition.

Educational Format
On expedition, several different learning formats are used depending on the topic being explored, our location, weather conditions, and the skills and experiences of the education team members in which we have assembled. These learning formats include: lectures, workshops and hands-on activities that will be shore, zodiac, and ship-based in setting. We also incorporate small group discussion and reflection opportunities into our days through "pod teams". The following are some general examples of the lectures, workshops, hands-on activities and pod time topics that take place on our expeditions.

Lectures
- Geological, political, and cultural history of the region
- Terrestrial ecology
- Marine Biology-from micro-organisms to cetaceans
- Seabirds
- Ice and glaciology
• Oceanography

• History of Exploration in the region

• Environmental issues facing the region

Workshops and Hands-On Activities (on-ship, on-shore)
  • Wildlife identification and observation
  
  • Working with education team members on ongoing scientific research
    (i.e., seabird surveys, measuring pollution levels in ice-core samples, plankton tows focusing on marine diversity)
  
  • Nature interpretation through various activities
    (i.e., photography, art, journal writing, music)
  
  • Technology and Nature (i.e., cetacean vocalization, GIS mapping)
  
  • Youth forums on leadership and steps towards sustainable living
  
  • Hiking and shore walks
  
  • Ecological footprint, Expedition footprint

Pod Teams (small groups of 10-12 students and chaperone/educator)
  • Peer teaching seminars
  
  • Reflection on expedition experiences through journaling, dialogue
  
  • Mentored discussions aligning educators with students' interests.

A combination of the above learning formats are used on each day throughout our expeditions.

Educational Theme: Environmental Leadership

Woven into all Students on Ice expeditions is our overarching theme: Environmental Leadership. The world is a global ecosystem in which all natural and human systems are interconnected.
Humans are part of nature and bound by the laws of the natural world. However, in today's mechanistic, consumer-oriented world our lifestyles have led to a disconnection with nature. We are often unaware or apathetic to where our most basic needs come from—food, clothing, shelter. Our over consumptive practices have led to resource depletion, atmospheric pollution, diminishing biodiversity, and most commonly discussed in the media, climate change. As a global society, we need to move towards living more sustainably. Today's youth have the opportunity to lead the way.

From an environment perspective, we focus our expeditions' lectures, discussions, and activities on current environmental issues facing the regions we are traveling through. Climate change is a particular focus on all our expeditions.

From a leadership perspective, we will explore how youth are effective agents of change and how their efforts contribute to positive societal action. Youth have an opportunity to establish sustainable livelihoods and make informed ecological-based choices early in their lives. The choices they make have a ripple effect and the action youth takes does make a difference. In developing the leadership component of our expedition's theme we facilitate ongoing group discussions on ways to get involved in youth-based environmental initiatives upon returning home.

Our theme of "Environmental Leadership" weaves itself through our education program in conjunction with our ongoing exploration of the history, culture, general science, and politics of our place of travel.
Appendix B.

Initial Contact Email
December 15, 2009

Dear 2009 Arctic Alumnus,

I hope this letter finds you well and that you are having a lovely holiday season! I am writing to ask if you would be interested in participating in research on the SOI experience.

For her master's thesis research through Royal Roads University, Lilith Wyatt (2007 Antarctic chaperone) is exploring your student experiences from this past August on the 2009 SOI Arctic expedition. She will be travelling around Canada in January and February to conduct interviews with 2009 Arctic alumni. The interview will last about one hour and will be conversation based. Lilith is interested to learn more about the significance of your Arctic experience in your life.

Over the next few days, please take some time to discuss this with your parents/guardians. If you are interested in participating in this research project please email or phone Lilith directly by **Wednesday, December 23rd**. Lilith can be reached at [email protected] or by phone at [phone number]. You are under no obligation to participate in this project. Rather this is presented to all Canadian 2009 Arctic Expedition alumni as an opportunity to personally pursue, if interested.

The SOI team sees this as a meaningful experience for those who are keen to further reflect on their SOI experience and perhaps shed light as to how they may use this experience in the future.

For those who choose to participate in this research project, Lilith will send you the consent form and the interview questions so you can think about them beforehand. All she needs from you is an hour for the interview, and she will encourage you to bring your expedition journal or sketchbook with you if you have one.

SOI supports this research because we want to better understand the participant experience so we can keep improving our programs!

If you have any questions, you can reach me at the office by email or phone. Our toll-free phone number is 1-866-336-6423. Note that after December 24th, I will be out of the office for our Antarctic Expedition! Once again, Lilith can be reached at [email protected] or by phone at [phone number].

The decision to participate is entirely up to you and your parents or guardians.

Thanks so much for your time!

In the expedition spirit,

Niki Trudeau
Participant Coordinator

Protect the Poles. Protect the Planet.
Appendix C.

Interview Guide

Intro Spiel

• This will be recorded

• Who I am, my background with SOI, the purpose of this research

• I will be asking about your of the expedition, informal conversation

• Do you have any questions?

Introductory Questions (approx. 5 min.)

• What’s your name?

• How old are you?

• What grade are you in?

• Where have you lived most of your life?

• What are some of your favourite things to do?

• What does an average day look like for you?

• Have you ever been part of anything like the Students on Ice Arctic expedition before?

Experiential Questions (approx. 55 min.)

(may lead to deeper probing depending on the response given, order fluid, some may be skipped)

• When you think back to your expedition experience, how would you describe it, overall?

• What is your strongest memory?

• What is it about the experience of [your strongest memory] that was so [adjective they used]?
• Tell me something you learned?

• Do you feel different because of the expedition?

• [If so,] How?

• When you think back to your most emotional time on the expedition… Where are you and what are you doing?

• Did it change how you think about the natural world?

• Did it change how you think about yourself in the natural world?

• Did it change about how you think about the relationship humans have with the natural world?

• What do you know now that you did not know before?

• What do you care about now that you did not care about before?

• What did you used to care about that you don’t care about any more?

• When you returned from the expedition, did you find it difficult to articulate your experience?

• Did it become easier over time?

• [If so,] Why do you think that is?

• In 10 years, when you look back at the expedition, how will it have affected your life until then?

• How do you define nature?

• Does that include humans?
• Why should we protect the natural world?

• When you returned from the expedition to where you used to be who you once were, did your family and friends understand and support who you had now become?

• Tell me about a time on the expedition when you felt confronted with the realization that things were not how you thought they were.

• Tell me about a time when you felt how you thought the world worked shifting because of something you learned, felt or experienced.

• You have described the expedition experience as [insert a few positive adjectives they used]—what about difficult emotions? Was there ever a time you felt depressed, overwhelmed, sad, disappointed?

• What is your best advice to people who do feel overwhelmed by the disaster data, or like it’s too late?

• What is your favourite question about your expedition experience that you’ve been asked?

• Is there anything else I should have asked?

• Is there anything you would like to add?
# Appendix D.

## Research Funding

### Expenses

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### Sources of Funding

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Appendix E.

Selected Participant Quotes

Theme 1: Transformative Processes

Participants used many superlatives in their descriptions of the SOI expedition and their experience being there: “Indescribable”, “incredible”, “life-changing”, powerful”, “amazing”, “moving”, “motivational”, “eye-opening”, “awesome”, “electric euphoria”, “inspiring”, “enriching”, “grounding”, “overwhelming”, “absolutely mesmerizing”, “surreal”, “empowering”, “life-changing”, and my personal favourite, “numinous”. Alex describes it by asking: “Have you ever experienced that special feeling when everything just fits in and when there’s nothing in the world that could ruin that moment? Well all throughout this trip has been like that for me. Everywhere we go our little bubble of good karma and happiness comes with. I believe this is truly the gold and diamonds of the world sparkling down on us.” (Alex, expedition journal)

Self-identified Impact

Participants spoke directly to the impact that the expedition had on them. Some were in abstract terms: “It’s touched so many aspects of everything you do, but you don’t really know it…and it snowballs, so it affects a lot more people than just me; family, friends, coworkers. It was probably more life-changing than I’ll probably ever know” (Lucy). Again, some felt they were at a loss to articulate the expedition’s impact:

I was taking hundreds of pictures and I finally had to stop and just soak in all of the scenery. I was so caught up in the moment and what I was seeing that I was completely at a loss for words and almost a loss of thought. Time seemed to stand still in that moment and I felt a way that I had never felt before. (Melissa)
Many students referred to a sense of purpose: “I felt like we were a giant team going off into the Arctic on this mission, and it just felt like it had all this purpose, and it just felt right” (Alex); “Students on Ice definitely gave me a sense of purpose and a sense of responsibility” (Tiff).

Happiness and feeling “alive” were mentioned by all participants: “I just feel happier in general and more confident. It’s almost like I made a step from where I was, spiritually and emotionally and physically… Let’s say everybody has a spiritual radar and they can pick up on feelings of—like if you’re at a concert and your hair is standing on end, or you’re snowboarding and you just feel great. Well after the expedition I felt like the radar just got 10 times bigger and everything I feel just got 10 times more alive” (Alex). “I have never felt so alive” (Melissa). “Throughout this expedition I have learned to look at things from a different perspective and to live each moment to the fullest in life!” (Annie, journal)

One of the three sentiments Ryan felt most on the expedition was hope. We “can’t say it’s too late. Get everybody convinced that they’re part of the solution to the problem. It may be too late but there’s no use making it worse.” (Ryan)

For some it shifted their priorities for the future: “It changed the direction in which my life is going. When I went up north I sort of realized this is really what I want to be doing. It gave me a reality check” (Tiff). “[Before this trip] I failed to realize the problems that lay outside my community… I now care about being involved in Arctic communities” (Carter).

What I was hoping to get out of the expedition is a better idea of what I wanted to do with my life. And that’s all I was really thinking about. It really it didn’t occur to me how much the expedition would change me. And I came out the total opposite direction, having no idea what I wanted to do, because I just wanted to do everything, but I think
that was the beauty of it all. It just changed my whole perspective on how to look at things and how to act in the world. (Melissa)

“It doesn’t change who you are because you’re always going to be the person that you are, it just changes your entire perspective. Perspective on life, perspective on science, perspective on the environment, perspective on nature, perspective on the actions that you take.” (Melissa). Sean said he came back feeling different—understanding things differently and looking at things from a different point of view because he’d seen them differently on the trip (Sean).

It oriented participants toward making change: “I now know that one person’s difference is important” (Lucy). “It inspired me to make the change…If you change the way your community thinks then you can really make a huge impact” (Tiff). “One thing I really care about more is the sense that a lot of the things we have on earth are going to go unless we take some action” (Sean). “I’ve become a lot more globally-minded” (Tiff) and she started the Global Awareness Club to engage her school community.

It was kind of like, something that I’m still processing, and I think I will continue to process for a long time, but that the way that I share it with people is not necessarily conscious, it’s more by my actions, and by who I am, and my personality, and that people can feel that and read from that. And if they’re interested, I’d love to talk about it, but it’s not like I go up to people, and say “hey, I was in the Arctic, I did this.” If it comes up, then like, yeah, but it’s more in my own little discreet ways of just how I live my life and how the experiences I learned that make me live my life differently, that I think people see and maybe it affects them. (Beth)
Human environmental impact was something whose dimensions all participants spoke of coming to better understand. “We think about global warming impacts as always in the future. Then you go to the Arctic and you realize it’s happening now to the Inuit communities. The trip humanized the tragedy of global warming” (Sean). Even during the expedition Annie wrote, “When we go home we will think a lot more about the environment and our impact” (Annie, journal). Lucy felt the message she wanted to share from the expedition was to be more aware of what humans are doing to the environment, how you can help, and know the beauty of the natural world (Lucy).

**Inuit Culture**

The shift in thinking about humans was deeply influenced by the Inuit, which was a surprise to some: “I went in with a mind for the nature part of it… but I was unaware of the [Inuit] culture in a sense.” (Melissa). Ryan, Carter Beth were especially fascinated by their culture and what made it sustainable for so many millennia. Sean summarized that an ideal we learned was that “the world survives on sharing and survives on community and survives on an intertwined network of people each other and succeeding as a group, and that was really demonstrated by the Inuit” (Sean).

**Natural World**

In general, the two areas that changed most for participants were how they conceptualized ‘the environment’, that they saw humans as part of nature:

[Before the trip] I would to visualize ‘the environment’ like a forest—so that just seems, visually, very strong, that you wouldn’t think that anyone could conquer—which is very naïve obviously. [pause] Going up to the Arctic made me realize how varied ecosystem
all are, but also how delicate they all are. [pause] It made me realize that the earth is very delicate and there’s a very fine balance. … And basically that we need to be responsible and aware of what’s going on in the world. [pause] It was very shocking actually [to be in that environment]… I realized that humans…we aren’t all bad, but everything we do is actually harming the natural earth.  (Tiff)

I was already keen on respecting the green [laughs]. My mom is First Nations. The expedition had a huge impact on top of that. I had a base foundation for being caring and gentle toward all living beings. It was like the trip built a castle on that foundation.

(Alex)

The difference is I now see [the natural world] as a living thing made up not only of plants and animals but humans as well. Just realizing how easy was for the Inuit to co-exist with the environment around them—which is absolutely amazing, it was stunning, it was beyond belief—you come to realize that man [sic] was at one point, and still is, one with nature. Just by living in a big concrete jungle doesn’t separate us from that. Coming back from surreal beauty, you come back here and realize that this part of the earth isn’t any less amazing.  (Sean)

I’ll remember Students on Ice as “an experience that brought me to think about humanity as a whole and how that includes the environment around us.” (Sean)

**Connectedness to Nature**

Most participants spoke of feeling more connected to the natural world as a result of the expedition: “[My relationship to nature] is probably the biggest thing the trip changed” (Carter). “If [a strong connection to nature] wasn’t there before the trip it definitely was after. If it was there before the trip, it was almost like the trip was a sculptor and just moulded it into a
masterpiece” (Alex). “I don’t see how you could go on *Students on Ice* and not feel more connected to nature, because it makes you realize how important it is” (Tiff). “The expedition made me feel a lot of things, some of them are hard to express in words, but you feel like you understand a little more about the natural world, you feel like you are connected, you feel like you’re learning, and you also feel like you don’t know anything because you’ve only scratched the surface” (Lucy).

Sean, Ryan, and Melissa felt the expedition shifted how they saw threats to the environment more than their connection to it: “It has more of an effect on the connection between me and my effect on nature. We’re all connected and although we’re just one dot on the map, surrounding us is all this land that we’re affecting, that we’re destroying, that is important to us, yet we don’t care about that” (Sean). “I could come back and have a more convincing case for why we should reduce our energy consumption…, why [people] should care, and why they should do stuff” (Ryan). “My connection [to nature] has always been great but…when I came back from my expedition it was like this beauty that I’ve always felt and always been a part of in my personal opinion, it was like, it could be gone” (Melissa). At the same time, Lucy, Melissa, and Beth both stated emphatically that the biggest thing that they came home, for themselves and others, with was to reconnect with nature (Lucy, Melissa, & Beth).

**Difficult Emotions**

As discussed in many other categories the emotional experience that participants were quick to share was an inspiring and uplifting one. When I asked them what their most emotional experiences were some described difficult emotions and when I asked specifically if they had experienced any difficult emotions they could all relate.
The most common response was sadness or a sense of loss from leaving the expedition team. I will discuss this more in Theme 3: Cohort Learning. Many had to do with frustration at the lack of caring for and action on behalf on the environment. Alex kept thinking “what the heck are we doing to the earth… we should be protecting and caring for it” and said the human impact on the land and the animals that they saw “kind of caught your heart”. Many mentioned that impact they saw on the Inuit communities was unfair and frustrating.

Some sentiments had to do with personal guilt for not doing enough on environmental issues (Carter, Alex, Sean): “The only one time I felt sad was comparing myself to what other youth have done in regards to these issues, I felt that I hadn’t done enough. I felt I had wasted time…that’s perhaps the saddest moment I felt” (Carter); “It kind of feels like you did a wrong or something’s missing, something, a part of you disappears and is missing” (Alex); “I felt disappointed because I had realized what was happening in the Arctic, and disappointed in myself, in a sense, for letting this happen to the world” (Sean).

Tiff suggested that Students on Ice did a good job of mitigating the difficult emotions: “It’s discouraging, frustrating that people just don’t care. But Students on Ice would tell us something very upsetting but then focus on making change, something positive, which was very hopeful.” (Tiff). Ryan’s response to what the emotions he felt most on the expedition were also suggests there was a balance:

The three emotions I felt most were 1) excitement and engagement because of what I was seeing and learning, 2) constant frustration, that the government and some people aren’t doing anything, and 3) hope because there are lots of people who still care instead of giving up. (Ryan)
Some participants described that it was very challenging to return to their communities (Lucy, Melissa, Annie, Carla).

The first week back, I was like ‘you ask me one question [about the expedition] and skipped on to your favourite pair of shoes’… it made me mad. Why do you not care? …I was just down, and I’m usually not a down person. By the second week back I was like, ‘think of it as something that’s going to push you forward not drag you back’.

(Melissa)

Melissa described what several participants called the post-expedition blues:

It was like sitting in class and it’s awful because I have great teachers, and I get along with my teachers really well, and they are smart people, but I just—and it’s horrible to think—but I just kept thinking ‘I could be learning from someone who’s out there and actually discovered this and researches this, and instead I’m learning it from you who read it out of a textbook’. That’s a horrible thing to think! Horrible, because I love these teachers, but that’s how I was thinking. Because I had just got back from this incredible, incredible learning experience and I was sitting like, ‘uhh you don’t even know this stuff, it’s not like you’ve actually been there’. It was horrible I felt so bad after I thought the things I was thinking. It was just the post-expedition ‘I just want to be back’ kind of thing. (Melissa)

“Kids at school just don’t get it. Like looking at photos of the Inuit in our textbook they laugh and say ‘what are they wearing!? ’—I get so disappointed” (Lucy).

**Individuation**

Several participants also described deep internal changes:
It put a really big sense of individuality into me. It was at that totally awesome time when you’re—I was 16 at the time—it was at that prime age when you’re just figuring out you. So the trip just molded me in such a way, it felt like a sculptor, it just made me into something really awesome and afterwards I felt…going from just another person to this individual that’s different from other people that I enjoy being. (Alex)

It was a real growing experience. It was very freeing and it was an interesting coming-of-age type of experience. I was 15 when I was on the expedition and 16 now so I am at a point in my life where I have to start thinking about what I want to be doing and what’s important to me because that sort of dictates what choices you’re going to make as an adult. So I think SOI definitely guided me toward—learning what was important to me. (Tiff)

“I learned so much about myself, because you just learn—every day was an entirely new experience.” (Annie)

**Empowered**

Most participants left the expedition feeling empowered to work toward the kind of change they believe in:

I started my expedition journal with Margaret Mead’s quote: “Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has”. But I really believe that now. At the beginning of the trip it was just something cool that sounded neat, but now it’s true: *Students on Ice* is helping to change the world. (Lucy)

You evolve and change as a person depending what happens to you and what you decide to do. And *Students on Ice* made me realize that in order to create change and create
positive experiences and good experiences that I needed to...make that my mission...I'm definitely more adventurous now in the experience I choose or the activities I try and create. (Tiff)

Morally I learned a lot about change and changing people, changing the way people think, in a good way. I felt obligated to come back and express how I was feeling, and make others be a part of that in the sense that they would understand why these things are so important. (Melissa)

Probably the most important thing we learned out of the whole experience was how to create change and how we take what we care about personally and help to change the world through what we love (Tiff).

I’ve always been active in leadership roles, but I learned about being a self-starter and being someone who thinks of new ideas and is part of initiatives. I was 100% empowered by the expedition. 100%. Because we are the future. You are the future and if you don’t have any new ideas, that’s what the future is going to be, no new ideas. (Melissa)

**Processing**

Processing, understanding, integrating and nurturing how they were changed by the expedition was something to which many participants spoke: “When I got back the first couple weeks I was just quiet and thoughtful—processing...It’s still hard to put into words, I’m still processing” (Lucy); “I’ve thought long and hard about my experiences… and passing on the knowledge and carrying out what the whole expedition was about” (Tiff)

Even today I’m still trying to define what the expedition did to me and what it meant to me, so you definitely come further and further along with that, but I think it’s something that takes time to define because as you do new things in your life you sort of realize,
‘Oh, I’m doing this partly because I learned this on SOI’ or ‘I’m doing this internship because of SOI’. So I think you kind of always have to re-evaluate what the expedition meant to you. (Tiff)

When I left everything was kind of raw and it was hard to work with and it was just there and I was okay with it, but it was just there and kind of hard to analyze. Cause you know, you weren’t really in the analytical mind after saying goodbye to all your friends and such. So after things had kind of settled down and cooled down and that big mass of emotion had cooled down and you could touch it without burning yourself, you have a chance to kind of look at it from a third perspective and so I think that all of us, not just me are still looking at it, still researching what happened to us there. Looking into ourselves at this giant mass of emotions that we took from the trip. (Alex)

They agreed “it takes a long time to put into words the way I was feeling. Yeah, it takes a long time” (Melissa) and that they are still grappling with it.

**Theme 2: An Experiential Education**

All participants described the impact of the place the expedition took place and the fact that it was place-conscious and experiential as an important part of the experience. It fostered wonder, learning with all five senses, different kinds of knowing, a deeper level of participant engagement, a connection to the place and native Inuit people, integration of a systems perspective, emotional intelligence, and self-reflection.

**Wonder**

Awe/wonder is the starting place of … (Einstein quote?). Lucy wrote on the expedition: “I have been struck, not by lightening but by wonder, curiosity and amazement I have just
witnessed some amazing things and am still attempting to process it all” (Lucy, journal). The participants all grasped for words to be able to describe the moments where they were overcome by a “tingly happy feeling” (Carla) or when they realized that “the Arctic is a whole other world” (Annie).

Sometimes participants were in awe of the imposing size of the landscape and others it was the aesthetics of the landscape: “I was amazed by the size of the cliffs” (Melissa); “I was absolutely mesmerized by the way the mountains had just appeared out of the water” (Melissa); “my jaw dropped as we toured past a beautiful waterfall” (Melissa); “so much of the Arctic land is untouched by humans and I think that’s what brings so much magic to it” (Beth).

Annie made a list of words to try and describe her experience in her journal during the trip, which she shared with me: “amazing, inspiring, adrenaline, physically demanding, sweat-filled, exhausting” (Annie). For Melissa the moment that encapsulates the wonder was the first morning they saw sea ice:

I looked out my porthole window and it was just white ice for miles. Like, that’s all you could see was flat ice, and I jumped out of bed and threw on a coat and ran up on deck and I just, I was in tears, and it was so, so powerful, it just showed how much power that place had compared to us, and that, that moment was just huge. Cape Mercy. It was just incredible. (Melissa)

Seven of the participants spoke of the adolescent male polar bear they came across one day:

We went down wind from the polar bear and we snuck up on him. He was feeding on a freshly killed seal. I was taking hundreds of pictures and I finally had to stop and just soak in all of the scenery. I was so caught up in the moment and what I was seeing that I
was completely at a loss for words and almost a loss of thought. Time seemed to stand still in that moment and I felt a way that I had never felt before. (Melissa)

Lucy described it as one of the moments on the trip that best summed up how the entire expedition made her feel:

So it’s one of those really amazing moments where you’re not looking at a polar bear in a zoo, you’re looking at a real polar bear in its real environment, eating a seal, which is just what he does. It’s like… it’s majestic, it’s beautiful… it’s how it should be. (Lucy)

The experiences of wonder were all underlying the rest of the expedition acting as a foundation of excitement and curiosity.

**Learning with All Five Senses**

The nature of a place-based expedition is that participants “get to learn about [something] and then go out and observe it and see first-hand how it works” (Melissa). Lucy explains: “it was more than looking, it was going and doing it; we got to be a part of it” (Lucy). Melissa “realized from the expedition that place has a lot of influence on how you learn and your perspective on things…especially the way you retain and perceive things” (Melissa). This influence led to very real learning, like for Carla who told that she “saw the changing of the planet with [her] own eyes, and not a lot of people get to see that” (Carla). It was “living evidence of what I’ve read” (Carter). “Walking through the rivers [of glacial melt] that didn’t used to be there [made me realize] this is from humans; this is from us.” (Lucy) “It makes it more meaningful. It makes it real” (Lucy).

“People would say, ‘Couldn’t you just learn all of this from a textbook?’ and really you can’t. Books teach the facts but not the inspiration or the experience. Without that it wouldn’t
have made as strong an impact” (Tiff). Lucy noticed especially in learning about the Inuit culture: “How they eat, live, dress… textbooks just don’t do it justice” (Lucy).

Participants’ horizons of expanded: “We did crazy stuff that I would have never expected. I look back now and it seems so natural to be up there” (Annie). This translated into the direction they then wanted to go in life:

…just the feeling when I got there. I just, I had to sit down. It was just a really powerful feeling, and it was kind of at that moment when I realized, you know, I don’t want to sit in an office, I want to do stuff with this, like, I want to be a part of this, I want to be a part of saving stuff like this, and… That moment. That moment when we got there, to the Arctic Circle, and we kind of all held hands around the monument, and just, kind of just had a silent moment. That was really, really vivid in my mind from the Arctic expedition, for sure. (Melissa)

Why wouldn’t you do more with your life? It made me, the more I think about it now, it showed me that I don’t want to live the conventional ‘go to school, get a degree, get married, have kids, pay taxes’ life. I don’t want to live like that, I really don’t. I don’t know what the other choice is, but there has to be one, because I’m not living like that [laughs]. It’s boring. (Carla)

Being faced with the real thing made me realize that I actually am very interested in these ecosystems and every little organism that makes up the cycle. Um, and I think it’s something again where if I had of read it in a book it wouldn’t be, it would be necessarily as striking, but because I was there and I experienced it first hand, it really—it really made a very strong impact and something very lasting (Tiff).
The experience was layered by many sensory qualities. Many participants described the water in its many forms: when we forded those streams together “the water was so cold that it took your breath away” (Melissa); the icebergs and glaciers were “harsh, rough, rugged, and soft, beautiful, quiet, serene” (Melissa); “it was the best water I’ve ever tasted in my life” (Annie).

This richness translated into a thirst for experiential learning: “More exploratory, hands-on learning or edu-tainment is needed in schools” (Ryan); “Now I’m thinking of every experience a something where you can learn.” (Beth)

**Knowing**

The experiential learning foundation shifted how participants understood knowing. “You think you know things until you see them. Then you still don’t know them, but you just realize that you don’t know them” (Lucy). It also shifted how they related to what they ‘knew’: “Now learning about the Arctic, it’s more than taking notes, now it’s more, ‘this is exciting! This is something that I actually know about, this is something I’ve seen’” (Lucy). “Now that I’ve gone there, I know it, and it’s sort of my preferential place to read the news from” (Ryan). “The most valuable part was just being there, seeing what the Arctic was like. I just feel I can relate to it more… Whenever I think about the Arctic, I think about my experience as opposed to some BBC documentary” (Carter).

Alex summed up this kind of knowing of the environment to be key to making responsible decisions or taking action on its behalf:

Let’s say there’s somebody with power who has hardly gone camping all their life it’s sometimes… I mean we really don’t know much about European culture living in Canada, so if something really wrong is happening in Europe, if a Canadian was in charge, not knowing much about it, the wrong decisions could easily be made. So let’s
say somebody in power does have the ability to do something about something serious to improve the environmental situation, but he [sic] doesn’t know much about it because say he [sic] has never gone camping before or they’ve never felt really cold, fresh spring water in their hands, or have never gone skinny dipping in ice cold Arctic waters, [laughs] I don’t know. If they went and did that, it would, I’m guessing, make a connection, because maybe the reason why they’re not doing much about it is that they don’t have a connection with the earth yet, or they haven’t built one yet… And my message would be to get out there and go camping and see the world, because once you’ve been there it’s totally different from just reading it in a book. Reading it in a book you don’t get the connection. You get the information but not the connection, but if you actually go out there and experience it for yourself, then you get a connection, and then, with that emotional impact, it mixes in with your own emotions and really initiates you to help that cause. (Alex)

A common thread to participants’ learning was that it was more than intellectual, it was tactile, sensory, kinaesthetic, and emotional. Alex, once again, describes this up well:

I’d say that your brain isn’t the only thing that can learn, it isn’t the only thing with the capacity to remember or to gain knowledge and I’m pretty sure that your heart and your emotions—they have the ability to learn and grow and flourish just like your brain does. So, if you neglect the experience to nourish your heart not just your brain, then it’s basically like not learning in school. If you don’t go to school you don’t have that much opportunity in life, you can’t do some things you could have done if you did go to school. And it’s the same thing, if you don’t nourish your heart and emotions then you eliminate some things that you can do in life, that you can feel in life. When you go out and touch
the spring water, or go camping, then you don’t really need to be doing anything specific, all you need to do is just sit there and all you need to do is just feel. You know, it’s the easiest learning I think you’ve ever heard of. You don’t feel, “ugh”, dead, “I have a headache at the end of the day”, you feel really relaxed and really good. So it’s a good type of learning. I don’t think enough people actually do it. (Alex)

**Connection to the Place and Inuit People**

The experience of interacting with the human and natural landscape built a connection between the landscape and the participants. “You got over [not being able to check your email] because you were in such an incredible place and you were so connected, and you were so disconnected in a way that was really good.” (Annie)

“You’re really forced to look at what’s around you… The Arctic environment is so different and varied. No piece of tundra was the exact same and that sort of breeds caring and familiarity” (Tiff). “Reflecting, meditating, journaling, spending time in nature. I know, I could be anywhere in the world and have a grounding time nurturing myself, but so much of the Arctic land is untouched by humans and I think that’s what brings so much magic to it.” (Beth)

Sean gave the example of coming out of the lecture room in the ship’s hull:

…and you walk up the stairs, and sunlight’s blaring in your face, or it’s overcast, and you’re seeing these things happening before your eyes, or you’re sitting on a polar ice cap, and you’re reading measurements off an instrument… that is affecting something that’s under your feet, while, in Ottawa, where the data was collected and really analyzed, and now sitting here at Lakefield, thinking about that and learning about that, there would be no personal connection to it. I think because I was able to go there, there’s a personal connection between me and nature, because I was in it, because I was surrounded by it,
because it was all around me, and without that, I don’t think it would have been—I would have realized how much it actually meant. (Sean)

The connection was based on the emotionally engaging aspects, of beauty, energy, magic that led to caring and desire to protect:

It does build a connection between you and nature and with connection it’s kind of like a friendship, the more you see somebody the more connection and the more feelings you get from the person. If you build that connection with nature over time you’ll grow more emotional towards it. You’ll be way more inclined to do something I something’s going wrong. (Alex)

You have a connection with the place you were in, especially when it was so beautiful and so powerful to your soul. You must know what it’s like to be in the most amazing place where the valleys walls just go straight up and you can’t even see and you feel like you can’t see the sky— and to have a connection with a place and to know how powerful it is and seeing it changing, just makes you want to do something about it. (Carla)

Many participants noted that “people are losing that connection they used to have to nature, now it’s less and less and it’s like that part of us is leaving, or else becoming less valued.” (Melissa). They themselves came to value that connection much more. Beth realized that in her life her connections to “places and people are the only two things that really matter” (Beth).

**Inuit People**

The Inuit people were a new experience of acceptance (Lucy), open-armed joy and appreciation (Ryan), and a culture of very different guiding principles than the culture from which southern Canadian participants came. “After the trip, you were just familiar with the
people living up there” (Lucy). Sean described an Inuit hunter who caught a seal, was butchering it on the beach they were visiting:

…and he was giving it away. He could have eaten it on his own, he could have saved it for his family, he could have dried it, kept it and stored it, but he gave it away. And it was so hard for to understand why he would do that, while it’s natural for them, it’s first instinct, it’s almost horrifying at thought of try and keep it for yourself. (Sean)

Self-reflection

The use of silence and reflection as a teaching tool is used on SOI expeditions and nearly all participants spoke of those moments as important:

We did a minute of silence actually, to just, appreciate our surroundings and be grateful. Just kind of, retreat to our own thoughts. And sometimes silence can be the most intensive emotional thing ever, because you feel all of the emotions and the energy of the people around you without it being said… You could journal, you could lie there, you could meditate, you could write a song. You could do whatever you wanted. And the things that come to you when you’re in that kind of situation…—and you don’t have to be in the Arctic to have that. I mean, people can do that here. We don’t do it—we don’t connect with our environment enough.” (Beth)

Her take home message from the expedition was to “reconnect with your environment, search that spiritual side of yourself.” (Beth) The experiential nature of the expedition gave endless opportunities to participants to engage in the experience on their own and in their own way:

Once I was out on the deck alone. I’ve never sat so still for 45 minutes. Just staring out at the expanse of ice toward the horizon, the sky, the clouds. It’s such an amazing sight that
you can’t get your eyes off of it. It really felt like the doorway between my life so far and the future I was about to begin. (Beth)

**Theme 3: Cohort Learning**

It is always a challenge to return to the place *where you used to be who you once were*, after venturing to a new place with new people and sharing an experience so rich you *become who you now are*. You might feel as though you can never sufficiently describe it to others who didn’t share the experience, even though you might know each other well. A bond is developed between you and the people with whom you share the rich experience that is also hard to sufficiently describe.

**Importance of the People**

Every participant I spoke with referred to the expedition team as a key component of their experience and their learning on the expedition—whether it be formal or informal. “The people were incredibly inspirational” (Melissa). From the beginning Beth describes that, “one could feel the electricity in the air and the excitement in the group as we, one by one, climbed the ladder of the ship and began this adventure *together*” (Beth). The feeling of *shared* interests, shared experience, safe space, learning, and teamwork led to a very rich learning environment.

“I was amazed to see how many similarities that other people had with you and then again what other people thought that was different than what you thought” (Lucy); “I have more friends through *Students on Ice* than I have at home…people with similar interests” (Tiff). Alex look up to the kind of energy and intention the education team had and the purpose it gave the expedition and his own learning:
The people on the boat who came with us—everyone just seemed really alive and healthy and just awesome…That group had a particular abundant amount of energy, like, everyone was just radiating energy. Some days you could just feel it standing in the entire group. It's just like you are in this giant warming pot or something. I don't know, it's hard to describe. It’s almost like a heater. It's weird. It’s that and the amount of experience some of the people had. It's like we were a giant team of, like, experts who are going off into the Arctic, on this mission, and just felt like it had all this purpose, and it felt right about it. (Alex)

The words ‘family’ and ‘familiar’ were often used by participants to describe the way they felt toward the land, the animals, the people encountered, and the expedition team: “When we’re all in the room together I feel like one big happy family” (Melissa, journal). They was a feeling that it was a special occurrence and one held-dear: “They said that we were a really, really close group, they hadn’t seen people bond that quickly. There was just something about our group; that we came together for a reason. I don’t know” (Carla).

Working as a team was a pedagogical intention to foster a unified community. Participants were stated that, “one of the most amazing parts was working as a team.” (Annie). In one instance, to cross streams on the hike to the Arctic Circle, “you had to link arms with everybody and walk across” (Tiff). Carter commented that those experiences left him amazed at, “how a troupe of people would just work together to help each other out” (Carter).

Some participants were very intentional about fostering a close-knit dynamic, like Melissa who said, “I try to sit with different people each lunch hour and get a chance to really get to know everyone” (Melissa). Others, like Carla, were surprised by it: “I was really worried that I
wouldn’t make any friends, …but I made the most amazing friends that I still keep in touch with.
You bond over the beauty and knowledge you gain” (Carla).

Beth predicted in her expedition journal that the friendships would be long-lasting:
“Cependant, le voyage ne fait que commencer. Même si cette expédition tire à sa fin, ce n’est que le début de nombreuses années d’amitiés et de coopération” (Beth, journal). And while the language participants used for the bonding process was that of “making friends”, which could be interpreted as simply being friendly, the bonds made were ones that 9 months later when I spoke to them were still active and very real: “We talk to our Students on Ice friends sometimes more than our friends here at home” (Annie).

Shared Experience

The collective set of individual personal journeys was palpable to a few participants.
“Each [person on the trip] had their own set of issues and during the trip each of them overcame them in some way and became one with themselves” (Alex). This shared suffering and shared self-discovery seemed to create an intersubjective space for the members of the expedition:

Everybody’s put out of their element, and you find comfort in other people and you have so much in common, but you don’t know them, and you just, I don’t know… You just become so close with them, because you’re with them for 2 weeks, but you feel like you’ve known them forever because you’ve shared such an amazing experience. (Carla)

The connection led to compassion and empathy for the tribulations that were shared among the team:

6 “Really, the journey is just beginning. Even if the expedition is coming to an end, it’s only just the start of many years of friendship and working together.”
I cried many times—a lot of it was to do with the people…There was a girl whose mother had just passed away but she woke up every morning to make everyone’s day bright. She wrote a song and a poem to share with everyone, and I cried so hard I woke up with swollen eyes. (Melissa)

Even during the expedition Tiff wrote, “I am loving every minute of this expedition, and I am so glad I get to share it with such amazing people” (Tiff, journal). She and a few others referred to a joke they shared about the expedition feeling like a matchmaking program:

What made it so amazing were the people you were there with. Because at Students on Ice we had this joke that it was like eHarmony but just for people, the Arctic version, because everybody just clicked within the first day or the first 2 days. And it was something where you really realized, not even necessarily during the hike, but after when you realized, this is probably one of the best things that is going to happen to any of us during our lives and we all got to share it together. So it was really partly amazing because you got to just share it with all these people who had such, who had similar interests and who were all from different backgrounds and had different ideas but we were all just sharing this one moment that was going to be so important in the rest of our lives. (Tiff)

There were a few moments that involved emotional sharing mentioned that anchored this intangible feeling of connection: “We also had a very special moment when we were all standing together sharing feelings and thoughts about the hike and our journey to the Arctic” (Melissa, journal).
Supportive Network

Alex described the experience that the feeling of a safe space created for him and, as he saw it, the other participants:

I have to say that it first started off by, not violently breaking down barriers, but it whittled away at the barriers that everybody already had put up to shelter them from the horrible world because on the trip reassured them that this is going to be safe, this is going to be awesome, so just let it all go. So it opened everybody up, and once they were all opened up it allowed for the emotions — and there was hardly a bad energy ever on that trip — it allowed all the happiness and greatness and uplifting that happened on the trip when we were opened up, to soak and sponge in and pushing out whatever was in us, so when we all closed back down again when we went into our normal lives, where it’s not as safe and awesome, it was still inside of us now. (Alex)

We were all going away from our homes for a little more than 2 weeks and you didn’t have any contact with your family except your expedition write-ups on the internet, so you’re very open to growing in new directions and learning new things. So I guess you would think of — you certainly come to think of the people you meet as your very close friends, your family. (Tiff)

For some participants, these interpersonal connections have led to a feeling of support since the expedition:

I’ve never had anyone to share excitement with about this stuff — science and the environment — when I came back realized I have this network of 105 people to talk to. If my idea gets shut down at school, they will support me…. I became more confident at
school and my perspective on people changed a little bit too. There are people out there
with the same interests as you. (Melissa)

Some participants find it challenging to draw support from a network who are so far
away: “It’s not easy to rally people who haven’t shared the same experience with you… They
just don’t understand your experience, so you feel a bit lonely with your thoughts” (Carla);
“Nobody here gets what’s going on, so I love talking to my SOI friends” (Annie). “Having to get
so many different people was a growing experience as well, because you learn things about
yourself through the eyes of other people.” (Tiff)

Learning from the Education Team

Lucy identified that the expedition was the perfect mix of a “group of good kids wanting
to do something, wanting to learn and people willing to teach them” (Lucy). And the educators
were “amazing people from all over the world with a wealth of knowledge” (Ryan); practitioners
and professionals who had gone and done something (Ryan). It was also powerful that these
“world famous scientists” were introduced and known by their first names not as above
participants but as other members of the expedition team. “It makes learning a lot easier to do
and way better” (Lucy).

The knowledge and wisdom the education team shared was highly valued by participants:
“The people I have met here are incredible. They come from across the world and have so many
stories to tell. In return, I serenade” (Carter, journal). The team seemed to shift how they thought
about the topics at hand, not simply teach them information. “People had different perspective on
the environment and that opened me up a bit to new perspectives” (Melissa); “The trip made me
think more consciously about nature, being out in it, surrounded by people that care so much
about it, like the scientists that came with us” (Carla).
Participants also spoke of deeper realizations about the nature of interpersonal relationships:

I think the [expedition] showed me that every person has a story if you talk to them, if you take the time to spend some time with people. Everybody has… you can learn from everybody if you just slow down, and just sit and spend some quality time just talking. Because no one really talks about anything I don’t find. No one that I really know. People are just busy all the time. And they talk to people ‘cause they want something from them, not because they’re genuinely interested. Everybody has something. Just something cool. (Carla)

Many participants left feeling that this team structure for learning should be applied everywhere:

You learn the most from the world by living experiences and taking with people and exchanging, and connecting with a place… I thought, this is how any issue should be addressed. When you bring a group of people together where everyone is there—that’s how we’re going to be able to take steps to address things and change them. (Beth)

**Loss of Community**

The most difficult part of the expedition for most of the participants was leaving this community they had come to support and care for deeply, and by whom they felt supported and cared for: “Of course the end of the expedition hurt, you’re leaving people you care about” (Melissa); “The worst part was definitely saying goodbye to everybody, because we had become such a close knit family and to have to say goodbye was really sad for me” (Annie); “*Students on Ice* was the best time of our lives, and it makes us laugh all the time, but we’re sobbing our eyes out when we look at stuff” (Annie); “The transition home hurts/is sad. It’s not being with the
people, not being there, knowing you won’t see most of them again” (Carla); “The most emotional time was leaving. Because we went to Iqaluit but we left the Inuit people there who stayed up North. And that was probably the most emotional day because I really connected with the Inuit people that came” (Carla).

Carla spoke of a resistance to even think about the expedition because of how much it hurt:

I haven’t thought about it in so long. Just because I don’t like to. ‘Cause it’s kind of painful. Like we got a package from them, and there’s a CD and a DVD. There was this guy called Ian Tamblyn. He’s a professional musician. He’s really good at playing the guitar. He’s kind of a nature musician, an environmentalist. Most places we went, he made a song about it, and then he performed most nights, and it was just—That’s when I realized, whenever he sang a song, there was something inside of me that was just so overcome with emotion, and that’s why I don’t want to listen to it, because it will bring back… I don’t know what it’ll bring back, but I haven’t listened to it yet. And I’ve had it for 2 months. I just don’t want to. I do want to, but I don’t. (Carla)

**Theme 4: Worldview**

**Human Environmental Impact**

Participants some structural shift that led from moments of realization on the expedition or are described referentially to the expedition:

- “The thought of rivers that didn’t used to be there…that’s from humans. That’s from us.” (Lucy)
• “It’s very clear that the impact of humans on the earth has been much greater than any other organism.” (Carter)

• “What the heck are we doing to the earth? … The earth was kind of given to us and we should be protecting it and caring for it.” (Alex)

• “I developed more of an appreciation—before I was interested in the environment, now I actually care about it, as you would a family member. Humans really need to take charge and notice what they’re doing to the environment.” (Tiff)

• “Some of the animals, they don’t know what humans are. They’re essentially untouched by human interference but they’re being touched so much through changes.” (Annie)

• “I can effect what happens in remote places—even if we don’t think so, we do…We don’t have the right to change the world for the worst, it’s not our place to do that.” (Carla)

We’re so tiny; we’re so small. And look at this world around us, it’s huge. The climate, the way it’s constructed….We have—How can we have such a huge impact on this place, when it’s so much bigger than us? Do we have that right to have such a negative impact? (Beth)

Humans and the Natural World

Most participants defined nature with non-mechanistic systems language as something which included humans: “We are still part of nature” (Carter); “It feels like I’m in a giant web of something really big, something huge, or something with just giant purpose. I kind of feel like it connects me to something far greater than anything I’ve ever seen before” (Alex). Some hinted at
excluding human from nature because of the harm some cultures have done to the natural world: “You have to learn to work with [the outdoors] not against it. Those who work with it are part of nature” (Annie).

The most common take home message participants cited was to reconnect with nature:

We felt like people are disconnected from the natural world lately and that is wrong and is something we all need to work on… So, the biggest thing, I would say, is just reconnect with nature, and become a part of nature. We are a part of nature, so, let’s get back to that again, where we are not set aside from nature, we’re all a part of nature, and just, reconnect with that and find that connection. 

(Melissa)

**Acknowledging Natural World/Non-utility View**

There was a permeating non-utilitarian view of the natural world in many of the participant conversations. Lucy explained that they saw the “polar bear as it should be; it was beautiful, majestic” (Lucy). Her take home message from the expedition was: “I want people to know the beauty of the natural world; how beautiful everything is” (Lucy). One of Carter’s goals for the trip was to bathe in the splendour of the Arctic” (Carter, journal). Following the expedition he said that, “seeing how nature works instead of just seeing how humans work, was an aspect I find fascinating” (Carter). As a result he said he believes that, “any living thing has its own right and dignity” (Carter). In term of a shift in consciousness, Carter also stated:

The biggest thing [the expedition] changed was my relationship with nature. Before I typically think out life interacting with human and how to work together to create knowledge and create a new environment around us. But then going to the Arctic, the focus was much more on living with the environment as opposed to using it for our own
means and that’s perhaps the biggest shift that *came into me.* (Carter) [italics added for emphasis]

Participants were asked how they defined nature and most had well-thought out answers that were referential to the expedition:

I think nature is a balance. It’s the entire biosphere and hydrosphere and lithosphere, working together in this balancing apparatus… I used to think that nothing was perfect, then [because of the expedition] I realized that nature, when it’s not tinkered with, when the balance is right, it’s pretty much perfect.

(Alex)

“Everything around us as in flora and fauna and ecosystems and the way everything cycles through. Nature is just the environment and all of the organisms in it, including humans.” (Tiff)

“A web of all living beings. A system that we rely on so much we don’t even realize it. And because we don’t realize it, we destroy it slowly.” (Sean)

Nature is so vast and so huge that it’s just beyond me. It has the ability to surprise. The potential in nature is always there. You have to do something and engage with it to see what that really means. Nature is finding that connection. Because, nature is a place, but it’s not really a place; it’s more of a mindset, I think. [pause] Nature includes humans if they live in a way that allows future generations to live that way, too. (Annie)

“It’s like the Gaia Hypothesis suggests—there’s a spirit there.” (Carla)

Participants went on to describe what they took away from the expedition about the current relationship humans from the western cultural heritage have with the natural world and what it should be.
“The natural world is what sustains us, which is the more scientific point of view, I also think on a more ethics, spiritual level for me, how could you not protect the natural world?”  (Beth)

Humans walk into every situation, and it’s not me or you, it is humans as a species, walk into every situation, as if we are better than everything else. We are better than the materials we are using, we are better than the food we eat, we are better than the animals on this planet, we are better than the land that we walk on. We are always better. And I think going into that it was like, you could hear that ice just crushing the ship and you knew the stories of things that happened in ice, and things that ice can do, and it really made you feel like, okay, we are not more powerful than this ice. So that realization was definitely part of the trip. [pause] Look up at nature like, this is what created us, this is where we come from. We’re a part of this. We’re not better than this; we’re not superior to this. I think that ice and that entire day just really pushed us back a step and said, ‘hey, you’re not at the top of the world’.  (Melissa)

“For once can’t we say, this place is beautiful, this place is powerful, let’s just leave it alone, let’s just not touch it.”  (Melissa)

When you really look at it, like I said, we’re tiny. And why have we exploded into this disproportionate amount of this huge presence that unbalances the whole system around us. I think that when they talk about that reconnection with nature and just how important it is, I think it’s because it’s so much greater than us. And the physical environment and nature, and everything that goes on in it, has a spirit of its own, and has magic of its own, and it’s a place that’s been there for so—it’s so much older than us—and it’s going to be there way longer than we are. And we’re just a little spark in it, and we have to remember
our place in it.

(Beth)

Other participants spoke in a less confident way about the topic. When asked whether he thought the natural world had a dignity of its own, Sean replied, “That’s a good question because I haven’t thought about that. It’s a different way of thinking about... I think it would definitely be important.” (Sean)

Though she still called her expedition experience “life-changing, more than I probably even know”, Lucy questioned how deep her shift was by mentioning that when her roommate “talked about the Arctic helping her to figure out who [she was] and stuff”, she could not to relate to it (Lucy). As discussed in Theme 1, my discussion was one window into Ryan’s perspective, and he stated hesitantly that he could “now make a more convincing case for the need for energy reduction” (Ryan) as an example of how he has changed. “I’m not quite fanatical about the environment”, said Ryan, explaining that he wasn’t the type to fly to Ottawa for a one-day protest, seeming to focus on the hypocrisy in that choice.

**Expanding Lens/Integration of a Systems Perspective**

Participants spoke of noticing every element of the experience became blended together during the expedition experience: “All together, everything is great here; the food, the company, the sights, the experience. It all becomes intertwined” (Lucy, journal); “We learn things separately but really they’re all meshed together in real life and help you understand the bigger picture” (Carla).

At the same time as participants described integration they described an expanding widening perspective: “I realized after Students on Ice that the world isn’t just about school and work” (Carla); “I failed to realize the problems that lay outside my own community” (Carter); “I
can’t live my life in a little bubble just thinking about myself and my one little life. I’ve become a lot more globally-minded” (Tiff). “I think there are other senses that we don’t pick up on. I just know there is more out there that we can’t feel” (Carla).

Before I used to think of myself and the city as almost another planet and when I looked at a picture of the globe, even when I looked at the globe on the Arctic trip, I wouldn’t imagine cities… going to downtown Toronto for example, I can’t picture the globe, look at the globe, look at a certain, look at where Toronto is located on that globe and see that. Because here is this wide picture of puffy white clouds, deep dark blue oceans, of just land that unpolluted, that’s clean, that’s green, but when you go deep into in the detail it’s totally different and the perspective changes and I find it hard to really adapt and accept the fact that it’s all part of it. And you come back here and you realize that it really is, we’re all connected and although we’re just one dot on the map, surrounding us is all this land that we’re affecting, that we’re destroying that is important to us, yet we don’t care about that. (Sean)

Looking out over this ancient layered mountain range that must have taken millions of years That must have taken millions of years, and just knowing that I’ll live, like a maximum 100 years. It’s nothing. Why wouldn’t you do more with your life? It made me—the more I think about it now—it showed me that I don’t want to live the conventional life. (Carla)

In several participant anecdotes, a narrative or realization and shift came through by way of story describing experiences with the natural world. Beth, especially spoke eloquently and at length about what exactly changed in her life and in her way of encountering the world as result of the expedition:
A waterfall pouring out from a glacier on the mountaintop caught my eye. ‘What do I share with this waterfall?’ I thought. As I was caught up in awe and wonder in front of such a sight, it took me a few minutes to begin my reflection. The waterfall is part of something that is greater than it (Mother Nature)—so am I. It is unique and has its own spirit amongst the spirit of the Earth it flows on—[so do I]. (Beth, journal)

It was that kind of eye-opening new perspective experience… It definitely changed my perspective on the world, changed my views, made me think a lot about world issues, about the science behind things, about what’s going on with climate change—it’s not like I’ve thought about it and moved on because I’m now going to orient my studies that way… Whether you’re studying ecosystems, you know, you learn all about wildlife, and food chains, and vegetation, or the bigger physical landscape where you do geology, or you do geography, or you study the people, and the land’s interactions with people. All of that is so intertwined. (Beth)

It’s not that you come back and you change everything you do, but every little step helps changing you, and it helps to change your view and it changes your perspective of it, and it definitely changes your attitude in situations. So yeah, that was big. (Beth)

I think the main issue is that we’ve isolated ourselves in that greater environment that’s bigger than us. Protecting ourselves, building over technology, money, society, our ways of life—to the point where we’ve lost track of what’s so much bigger than us. Of what can destroy us, and what we’re destroying, and the land, and the spirit of the land. And I think that’s what so admirable in indigenous people. For instance, and I’m saying very general, but a lot of indigenous communities have way more of that connection with land, and they have that spiritual side, and they have that recognition, and that gratefulness,
and they work off the land, and they get their food from the land, but they also give back and the don’t destroy as much, and I feel like, for us to be in peace with that greater natural world, we have to opt towards those values and those principles. And we won’t be able to keep moving forward in harmony with our environment, if all we look at is our luxuries, and our views, and our tools that we’ve set in our isolated world. (Beth)

“We need to bring wisdom and traditional knowledge—I learned that from the expedition” (Beth). Sean and Carter both spoke of the Inuit culture as an ideal, that represented a health and balanced relationship between humans and the rest of nature as well as among humans. “The Inuit are an amazing model for a sustainable way of life and a tight knit community” (Carter).

**Action Orientation**

[The expedition] filled me with a sense of purpose and responsibility and I knew that there was so much out there that I could do. [pause] No matter what you’re doing you can always make a difference. You can always take what you love and turn it into a way to help on a higher level. That should be your goal. [And] if little things have an impact, then you could do so much more. If you change the way your community thinks, that could make a huge impact. (Tiff)