

Canoe Tripping as a Context for Connecting with Nature: A Case Study

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Abstract

Nine teenage participants and two adult guides were followed throughout a 10 day white water canoe trip to investigate the relationship between their impressions of connection with nature and the canoe trip experience, and their interactions with nature and the canoe trip experience. Themes providing a description of these relationships were identified and three major findings emerged. The first was that multiple themes mediating participants' connectedness with nature did so both towards connection and disconnection. The second was that participants' state of comfort was related to an impression of connection with nature while their state of discomfort was related to an impression of disconnection from nature. The third was that the relationship between participants' connectedness and interactions with nature differed depending on the context (e.g., nature versus civilization). Possible directions for future research include investigating changes in participants' conception of nature and the relationship between comfort and connection with nature.

Key Words: outdoor education, environmental education, adventure education, experiential education, outdoor environmental education, connectedness with nature, learning in nature

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Chapter One

Planning the Route: An Introduction

How this adventure began: An autobiographical introduction to situate the reader

Eight years old, standing in the living room of my parents' house, my dad gave me two pamphlets; each describing a different sleep-away summer camp. He wanted me to decide which to attend. In the end he said, "one has structure and one does not," making my choice obvious. I remember feeling bored with the structure I had in school every day and eager not to have anything similar over my summer holidays. That's how I got into canoe tripping.

That summer, my dad drove all 51 pounds of me up to northern Ontario leaving my mother to worry at home. How could she let her baby go on a canoe trip for six days with people she had never met? My dad insisted. Excitedly, we arrived seven hours later. A hike awaited us at the close of the journey because the camp had no road access. As we walked the 2 km's of uneven trail into Camp Deep Waters¹, my dad made sure that I carried my load perhaps figuring that the successful completion of the trail would contribute to the strength and confidence I needed for the canoe trip. I survived the trek. In fact, I survived all of it, including the six days of paddling, portaging and sleeping in a (sometimes wet) tent. On that first canoe trip I remember feeling scared and homesick but mostly excited, happy... and free. When it was over, I dreamt of going back all winter-long.

After my second summer at Camp Deep Waters, my closest friend decided not to return. Since I was too timid to return without her, I made a promise to myself to return later in life. When I finally did at 17 years old, I worked as a junior leader having gained the experience I needed through two high school outdoor education programs. Coming back was

¹ Pseudonyms are used throughout this thesis in order to preserve participants' anonymity.

probably the greatest experience of my life so far. I continued to work at Camp Deep Waters for six summers.

During the winters corresponding with those six summers, I focused on an academic path towards medical school certain that since everybody was so sure that I would make a good doctor, they must be right. After two more summers of leading canoe trips, although not at Camp Deep Waters, I was accepted into medical school. Still, I was not sure that I wanted to be a doctor. As I worked through my first “block” of courses, I also applied to teachers college. Having received good marks proving to myself that there was nothing to prove, I was back home by Christmas-time and was enrolled in teachers’ college the following September.

While at teacher’s college, I felt that I had found the right path but as I taught my first class of high school students and stood in front of them while they sat, spoke while they were silent, and wore clothes to differentiate myself, I was surprised to find that I felt uncomfortable. After all, according to a study by Leavy, McSorley and Boté (2007)

the majority of preservice teachers [who participated in their study] interpreted teaching and learning from the behaviorist/empiricist perspective [and] described the teacher’s role as a transmitter of skills ..., knowledge as an externally determined product ..., and the learner as a mere recipient of knowledge. (p. 1225)

My discomfort with this seemingly dominant interpretation forced me to reflect on my own beliefs, which resulted in several realizations. The first was that to teach comfortably in this way, which I felt was expected of me, required me to see myself differently than how I usually had when assuming a leadership role; that I had to see myself as an oracle of

information, rather than as a team-member with expertise to be applied with the help of others in achieving a common goal. Flowing from this first realization came three others: that while working as a canoe trip leader, I had been teaching for years; that I had already developed an approach to teaching; and that it differed from the teaching approach I had experienced while being a student, and was experiencing as a student-teacher, in the traditional education system in Ontario because it relied more heavily on sharing both teaching and learning with the (other) learners. In other words, I conceptualized the relationship between teaching and learning similarly to how Lloyd (2012) articulates: Rather than conceive of it linearly, I conceived of it circularly. Having made these realizations, I became excited about the differences I saw in myself and wondered how to best apply them.

Later that year, as I was sitting in science class learning about environmental education (EE), I thought about how one of my favourite parts of leading canoe trips is passing on my love and connection with nature (even though I did not know the words to describe it just yet). A rush of personal truths about feeling connected with nature while canoe tripping consumed me: Sharing experiences of the moon-rise, the northern lights, the triumph of paddling white water, the frustration of waking up at five o'clock two mornings in a row finding the wind still too strong to make headway and waiting huddled in the freezing cold around a fire for the wind to ease. I remembered not seeing other people for two weeks, finally seeing another person, asking them who won the world cup game only to find out they did not know. I remembered feeling that we had been somewhere few others had and would ever be. I also remembered feeling tired, aching and exercised; the relief of the cool lake on a hot day, the cool breeze on a hot day and the warm fire on a cold day. I remembered sharing an emotional hug, and the discoveries of interesting stones, and weird

bugs. Finally, I remembered singing the songs that brought many of these experiences into a single moment, and paddling back to camp, to the lake that signified home, under a bridge that my friends were standing on, as they cheered for my safe return. I realized there, in science class, that to me, connection with nature is the key and the bridge and the spark that could make the difference in EE and that it could be found while canoe tripping. This is both my purpose and my bias.

When I arrived home from University that evening, I was impassioned. I went through my old diaries and found this poem that my camper wrote years before:

A gurgling stream sounds in my ears,
 Soothing my soul for many past years.
 The stream widens, grows, increases in size;
 Now a river, flowing, seen through one's eyes.
 Water bubbles, shifts, tumbles from cliffs,
 So many things; all of God's gifts.
 Rivers flow into lakes, now resting still.
 I lean from my boat drinking my fill.
 The water that flows down my throat brings me to life;
 Now one with nature through peace and strife.
 I am the stream, happy and strong,
 Innocent, sheltered from right and from wrong.
 Flowing angrily I am the river
 Powerful, daunting making one quiver.
 I am the lake, tired and deep,
 Resting still as if waiting for sleep.
 Nature is in me, wherever I roam.
 Nature is in me, it is my home.
 — Jamie Wilkie

As I looked up from reading the poem, sitting on the floor of my old bedroom, holding an old diary, I thought, “my passion has been staring me in the face all this time”. Soon thereafter, I went to my science professor, Giuliano Reis, and explained my interest in researching canoe tripping as a context for EE. He encouraged me to apply to the Masters of Arts in Education program at the University of Ottawa.

Literature Review

At the Crossroads

An examination of canoe tripping as a context for EE, my work is rooted both in EE and outdoor education; after all, canoe tripping is considered a vehicle for outdoor education (Prouty, Panicucci & Collinson, 2007). However, canoe tripping also satisfies the definition of adventure education by creating outdoor opportunities to have “direct, active, and engaging learning experiences that involve the whole person and have real consequences” (Prouty et al., 2007, p. 12). Meanwhile, some would argue that adventure education and experiential education overlap as they both stress “the use of direct experience, discovery learning and reflection to form new skills, attitudes, or ways of thinking about a particular subject” (Prouty et al., 2007, p. 23). Thus the investigation of canoe tripping as a context for connecting with nature is considered to be situated at the intersection of environmental, experiential, and adventure education in the context of this study (Lindberg, 2009). Mackenzie and Henderson (1997) have recommended an alternative to using multiple labels in this way. They have recommended the creation of an “overview label suitable for all labels” (p. 15). The term *residential environmental education* (Stern, Powell & Ardoin, 2008, p. 31) has already been used however the denomination *outdoor environmental education* (American Institutes for Research, 2005, p. 2) is used in this document because I believe it provides a more suitable descriptor of the nature of my work.

In addition to being rooted in multiple fields of study, the present study is also considered to be an investigation into education in Ontario. However, the Ontario Ministry of Education distinguishes between environmental and outdoor education. This is apparent in its list of credits which includes environmental education credits (such as “Environmental

Geography”, “Environmental Resource Management” and “Environmental Science”) and outdoor education credits. A consequence of this division is that high school programs conduct environmental and outdoor education courses separately. For example, I earned a credit for grade 10 outdoor education at Nepean High School in Ottawa by venturing into the wilderness on a canoe trip among other trips, with hardly any mention of environmental principles. Yet the combination of environmental and outdoor education is supported by the Ministry of Education in the new policy for EE:

Outdoor education is likewise seen as a distinct and critical component of environmental education, concerned with providing experiential learning in the environment to foster a connection to local places, develop a greater understanding of ecosystems, and provide a unique context for learning.

(Ontario Ministry of Education, 2007, p. 6)

This suggests that the combination of outdoor and environmental education (and their composite fields, considered here as outdoor environmental education,) is desirable and the way they will likely be approached in the near future in Ontario education. Indeed, some programs that do so already exist in Ontario. Examples include “Trailhead” and the “Bronte Creek Project”, both associated with the Halton District School Board. During these semester-long programs, students go to an educational center where they learn both inside and outside the classroom daily. Additionally, they go on one canoe trip for four to five days in Algonquin Park or Temagami. Credits earned include grade 10, 11 or 12 Outdoor Education, and grade 12 Environmental Geography. (They also include grade 10 or 11 English, grade 10 Career Studies or Civics, and grade 10 or 12 Interdisciplinary Studies).

Research also supports this interdisciplinary approach. For example, a study by Dettmann-Easler and Pease (1999) compared different outdoor environmental programs with in-class EE programs and found that “residential programs²—even very different residential programs—are still more effective in fostering positive attitude changes toward wildlife than a single, in-class program” (p. 38). Still, they recommended that students’ learning at residential programs be reinforced in the classroom “to improve its impact and duration” (p. 38). Specifically, they recommended setting clear goals and objectives, creating pre and post-visit activities at school that reinforce the EE outcomes acquired during the residential programs, and coordinating residential staff and teachers to integrate the classroom and residential experiences more closely. This support from research speaks not only to the merging of outdoor and environmental education and their composite fields, but also to the overlapping of terms as previously discussed (outdoor environmental education).

Meanwhile, a study by Hanna (1995) compared the EE outcomes of programs identified as belonging to an outdoor adventure program and an EE program and found that the outdoor adventure program participants had a greater increase in pro-environmental attitudes than the EE program participants but less ecological knowledge. Also, both groups exhibited a “relatively weak link between wilderness-related intentions and related, self-reported post-program behaviour” (p. 29). Consequently, Hanna (1995) recommended that adventure program leaders take more of an educative role for EE. Specifically, her suggestions included providing “explanations of the history and philosophy of wilderness [,]

² They define residential programs as meeting the following criteria: “(a) students take part in a program with their class, (b) classes spend at least one night at [an outdoor education] facility, and (c) EE programming take place” (p. 34).

discussions of current environmental issues relevant to that environment [by] discussing participants' future intentions in and for wilderness and [by] looking at ways for them to achieve their personal goals in these areas" (p. 31). Thus Hanna's (1995) study also supported an interdisciplinary approach to outdoor and environmental education and their composite fields, or outdoor environmental education.

Stern, Powell and Ardoin (2008) who studied a program already considered to be interdisciplinary made similar recommendations. The outcomes they examined included participants' (a) connections with nature, (b) environmental stewardship, (c) interest in learning and discovery, and (d) awareness of the Great Smoky Mountains National Park and biodiversity. Findings demonstrated that there was short-term success in all measured outcomes but that, increases in students' interest in learning and discovery and connection with nature, faded over time. Consequently, they recommend longer programs, greater teacher-involvement, and more pre-visit preparation and post-visit follow-up.

A study by Haluza-Delay (2001) which examined a group of 14 to 16 year old boys on a 12-day wilderness trip involving hiking, canoe tripping, caving, and rock climbing provides similar recommendations. Specifically, it also recommended programming to support the impact and duration of the programs' EE outcomes. Although the participants of Haluza-Delay's (2001) study reported feelings of connectedness with the natural world, "few of the teens made a connection between care for the environment that they practiced or discussed on the trip and their lifestyles at home" (Haluza-Delay, 2001, p.45). It was suggested that this disconnection was due to the fact that the participants' conceptualization of nature was too disparate from the environment they experienced in civilization. In fact, "throughout the trip and after, the participants often described nature as 'not civilization'"

(p.45). Therefore, Haluza-Delay (2001) recommended that “wilderness leaders need to be careful in program design and work to facilitate effective transfer of learning to the home context” (p. 48). To meet this end, he recommends “teaching and practicing sensitivity to the natural world [,] learning to look at small wonders [,] help[ing] participants understand specific actions they can take at home to protect the environment [and] develop[ing] programs at home instead of heading out there”(p. 48).

The Transfer of Learning

According to Simons (1999), learning can be transferred by (a) “collecting knowledge about situational conditions” such that learners can “recognize situations and conditions where transfer *could occur*” (p. 581), (b) being aware of misconceptions, (c) having opportunities to test new learning, (d) being aware of the relations between concepts, and (e) decontextualizing learning. Moreover, he recommends “striv[ing] for real and deep understanding” (p. 581) which points to understandings beyond cognition and towards psychological, spiritual and emotional understandings. Although increases in participants’ connectedness with nature faded over time according to the study conducted by Stern, Powell and Ardoin’s (2008) (discussed above), it has been considered the essential glue (Sobel, 2008, p. 12) and the foundation for other EE outcomes (Blanchet-Cohen, 2008) and may thus be considered a “real and deep understanding” (Simons, 1999, p. 581). Therefore, it has the potential to positively affect transfer. Meanwhile, it has been believed to be a factor in the environmental crisis since the 1970’s (Barry, 2010).

Connectedness with Nature

During the 1970’s and 1980’s, several ideologies associating human disconnection from nature and the environmental crisis emerged (Barry, 2010). These ideologies have been

categorized relative to one another along a continuum (Eckersley, 1992; Vincent, 1993; Curry, 2006). On one side of the continuum is *anthropocentrism*, “the belief that nature exists primarily for human use and has no inherent value of its own” (Dunlap, Van Liere, Mertig, & Jones, 2000, p. 431). On the other, is *ecocentrism*, considered the “valuing [of] nature for its own sake” (Thompson & Barton, 1994, p. 149). According to Eckersley (1992), “these two ecological orientations merely represent the opposing poles of a wide spectrum of differing orientations toward nature” (p. 33).

Towards the side of anthropocentrism, Eckersley (1992) places *resource conservation* which accounts for all that is non-human as instrumental and therefore manageable for human-use. Moving towards the ecocentric side, though still considered an anthropocentric orientation, is *human welfare ecology*. Resulting from the recognition of the dangers of pollution and the emergence of diseases resulting from affluent lifestyles, human welfare ecology is a more “generalized form of prudence and enlightened self-interest than resource conservationism” (p. 37). Meanwhile, *preservationism*, the last orientation Eckersley (1992) considers along the side of anthropocentrism, is described as “reverence, in the sense of the aesthetic and spiritual appreciation of wilderness” (p. 39). It goes one step beyond human welfare ecology to consider the affective and spiritual benefits (in addition to the physical ones) that humans gain from nature.

Arriving at the ecocentric side of the continuum is *animal liberation* which champions the prevention of cruelty to animals. While it marks the first orientation to find moral worthiness in non-human entities, it only recognizes sentient life forms and not non-sentient life-forms.

Moving further towards the ecocentric pole of the continuum is *autopoietic intrinsic value theory* which “attributes intrinsic value to all entities that display autopoiesis, which means ‘self-production’” (p. 60). The *Gaia hypothesis* can be considered one such theory. It describes the earth as an autopoietic living organism:

[Gaia is] a complex entity involving the Earth’s biosphere, atmosphere, oceans, and soil; the totality constituting a feedback or cybernetic system which seeks an optimal physical and chemical environment for life on this planet. The maintenance of relatively constant conditions by active control may be conveniently described by the term ‘homoeostasis’ (Lovelock, 2000, p. 10).

Here, the connection between humans and nature is characterized by interconnection and interdependence; humans are simply part of the whole that is Earth.

Moving further still into the ecocentric side of the spectrum is *transpersonal ecology*. According to Eckersley (1992), “the primary concern of transpersonal ecology is the cultivation of a wider sense of self through the common or everyday psychological process of identification with others” (p. 61). In this context, the word “others” refers to other beings and not just other humans. It is based on the recognition that “one’s own individual or personal fate is intimately bound up with the fate of others” (p. 62).

One final ecocentric orientation, according to Eckersley(1992), is *ecofeminism*. Much like transpersonal ecology, it takes a relational approach based on inter-dependence and connectedness. However it points out that women, like nature, have been dominated by men and should therefore also be considered within a relational approach to inter-dependence and connectedness with that which is considered other.

Eckersley (1992) is not alone in distinguishing ecological orientations along an anthropocentric—ecocentric continuum. Curry (2006) and Vincent (1993) do so as well however they subdivide it differently. For example, Vincent (1993) includes Arne Naess' theory of *deep ecology* within the ecocentric side. A principle underlying the deep ecology movement is “the rejection of the man-in-environment in favor of the relational, total-field image” (Naess, 1999, p.3). This is to say that “deep ecology fundamentally rejects the dualistic view of humans and nature as separate and different. It holds that humans are intimately a part of the natural environment—and are one with nature” (Palmer, 1998, p. 86).

In addition to deep ecology, there are other orientations that have been accounted for within the anthropocentric—ecocentric continuum. Nevertheless, the purpose of this discussion is not to account for all these orientations, but rather to provide an overview of what connectedness with nature refers to in the literature so that it can be understood in the context of the present investigation of connectedness-with-nature as an educational outcome. Specifically then, connectedness with nature refers to the relationship between humans nature in general, and includes all variations along the anthropocentric—ecocentric continuum. Meanwhile, disconnection from nature refers to those orientations towards the anthropocentric side of the continuum and connection with nature refers to those towards the ecocentric side (Mayer and Frantz, 2004). As such, connection with nature can be understood as a “shared identity” (Roszak, 1995, p. 16); an expansion of self to include the Earth; a belief that “ ‘you’ become the Earth and all our fellow creatures upon it” (p. 17). According to Leopold (1966), “we abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to

use it with love and respect”. Thus connection with nature, as it is defined above, becomes relevant to EE in Ontario defined as follows because an education in and about the environment where one can connect with nature becomes an education for the environment as well:

Environmental education is education about the environment, for the environment, and in the environment that promotes an understanding of, rich and active experience in, and an appreciation for the dynamic interactions of: [a] the Earth’s physical and biological systems; [b] the dependency of our social and economic systems on these natural systems; [c] the scientific and human dimensions of environmental issues; [d] the positive and negative consequences, both intended and unintended, of the interactions between human created and natural systems. (Ontario Ministry of Education, 2007, p. 6)

Meanwhile, Shultz (2001) and Mayer and Frantz (2004) have supported the contention that connection with nature is the basis of care for the environment empirically: They have found that connection with nature leads to ecological behavior among other outcomes such as perspective taking, biospheric concerns and identification as an environmentalist.

First mentioned in the 1970’s (Barry, 2010) as noted above, connectedness with nature has stood the test of time in the environmental debate as many today still attribute the environmental crisis with an unhealthy relationship between/within humans and/as nature (Devereux, 1996). For example, O’Sullivan (1999) recognizes that “the long-term survival of our species.... depends on rekindling a relationship between the human and the natural world” (p. 67). Barry (2010) suggests that an environment/society disconnect is the cause of

the environmental crisis. He also suggests, as contradictory as it may sound, that it is reinforced by particular educational practices. Assuming that education has the role of preparing youth for dealing with the environmental crisis then current educators must nurture students towards being more connected with nature, and less disconnected from nature.

Connectedness with Nature in Ontario

The Ontario Ministry of Education recognizes the importance of the relationship between humans and the natural world in its vision for EE. It states the following: “Students will understand our fundamental *connections* [emphasis added] to each other and to the world around us through our relationship to food, water, energy, air, and land, and our interaction with all living things” (Ontario Ministry of Education, 2007, p. 4). Meanwhile, it has already been noted that feelings of connectedness to the natural world has been associated with outdoor adventure trips (Huluza-Delay, 2001), which are already implemented across high schools in Ontario as part of outdoor education. In order to determine how educational programming can best maximize the opportunity for participants to connect with nature, research on the characteristics of programs that support connection with nature becomes relevant. While the studies on outdoor adventure and outdoor environmental education programs discussed above examined the effectiveness of their programs based on the development and persistence of EE outcomes including connection with nature, they did not examine how program characteristics influenced their development. Since there is no available research on the characteristics of outdoor adventure and outdoor environmental education programs that support connection with nature, the body of research on the program characteristics that influence the development of other

educational outcomes (including some EE outcomes) during outdoor adventure and outdoor environmental education programs will be considered below.

Learning During Outdoor Adventure Programs

McKenzie (2000) synthesized the literature on outdoor adventure programs to determine how program outcomes usually associated with them (such as participant self-concept and interpersonal skills) are achieved. Although she did not examine connectedness with nature specifically, her examination speaks to how the outcomes of outdoor adventure trips in general, are achieved. She identified six features of it: (a) physical environment, (b) activities, (c) processing, (d) group, (e) instructor, and (f) participant. A discussion of each of these features follows.

The physical environment. The physical environment was found to have an effect on program outcomes by creating a sense of dissonance which must be overcome, and also, by providing the freedom for the discovery of new perspectives.

Activities. Activities were found to affect program outcomes through the combination of challenge, mastery, and success.

Processing. Processing, understood to be the internalization of meanings, was found to affect program outcomes. Processing was also associated with reflection over time and the use of outdoor activities as experiential metaphors for future challenges.

Group. The effect that group had was mediated by the size of the group, the autonomy of group members; and the reciprocity, mutual dependence, and personal relationships, between group members.

Instructor. The effect that instructors had on program outcomes was attributed to their being educated, reserved, bright, dominant, tender-minded, imaginative, forthright, creative, and having a high self-concept.

Participant. Lastly, the characteristics of individual participants believed to affect program outcomes included age, gender, background and expectations.

Since McKenzie (2000) found that the research used in her study was based mostly on theory rather than experimental data, she concluded that “future studies could use qualitative data collection techniques, such as interviews, surveys, and observation, to gather in-depth data, as well as to inductively discover any ‘new’ program characteristics that may be influencing outcomes” (p.8). Following these recommendations, two studies have been conducted: one by McKenzie (2003) herself, and another by Paisley, Furman, Sibthorp, and Gookin (2008).

More specifically, McKenzie (2003) examined how students achieved five program outcomes including those associated with Outward Bound Western Canada (OBWC) programs and those generally associated with outdoor adventure education. They were (a) self concept, (b) motivation, (c) interpersonal skills, (d) concern for others, and (e) concern for the environment. The components of the course she investigated which impacted student’s appreciation of, and concern for, the environment included formal curriculum, wilderness setting, and less frequently, instructors as role models. Unfortunately, little information was given to clarify these components or their relationship with further environmental concern except for a quote from one participant that suggested direct experience with the environment and leave-no-trace (LNT) practices were effective: “learning about the fragile environment and experiencing its beauty, it’s hard not to be

concerned about it. I wanted to do my best to leave no trace of my presence” (McKenzie, 2003, p.15). Note that LNT is one name associated with standards in the outdoor industry for minimizing human impact to visited locations (Ontario Camping Association, 2008, Section TR 36, p. 3-4).

Paisley, Furman, Sibthorp and Gookin (2008) also examined the means by which outdoor adventure programs achieve their outcomes. They examined six pre-determined learning outcomes which were associated with National Outdoor Leadership School (NOLS) programs. These learning outcomes included (a) communication, (b) leadership, (c) small-group behaviour, (d) judgement in the outdoors, (e) outdoor skills, and (f) environmental awareness. With regards to environmental awareness Paisley et al. (2008) found that practice, classes, encounters with impacts, and LNT, were mechanisms that facilitated student learning. They explained that *practice* involves skill rehearsal without instructors, *classes* involves formal or semi-formal aspects of the teaching process, *LNT* (is explained above), and *encounter with impacts* involves being confronted with human-made entities in nature such as a dam. Beyond a short discussion on LNT, the article provided no further clarification between the learning domains, learning mechanisms, and participants’ achievement of environmental awareness.

Deficiency in the Literature

Although both McKenzie (2003) and Paisley et al. (2008) examined the characteristics of outdoor adventure programs, EE was not their focus. Consequently, their findings with respect to EE were limited and their discussions and conclusions provide little suggestions for how to better support EE learning. In fact, no available empirical research has focused primarily on the means by which outdoor adventure and outdoor environmental

education programs achieve any EE outcomes, let alone connectedness with nature, despite it being recognized as an outcome of outdoor adventure trips, the basis for other environmental outcomes and its popularity in the environmental debate. Nor has any such study provided suggestions for EE planning based on such an investigation.

Research Goals

Stern, Powell, and Ardoin (2008), who examined connectedness with nature specifically, identified this deficiency in the literature and recommended that researchers use “observation and individual interviews [to] further document changes in students’ behavior and also uncover deeper understandings of why those changes occurred and how the [program] experience influenced them” (p. 42). Therefore, to satisfy this deficiency and fulfill Stern, Powell and Ardoin’s (2008) recommendation, the goals of the present study were to examine the relationship between participants’ connectedness with nature, interactions with nature, and the characteristics of a canoe trip based on my interpretation of participants’ accounts of their experience.

These goals were chosen to be complementarily instrumental in providing the basis for planning connecting opportunities to interact with nature and also identifying correlations between connecting interactions with nature and the Ontario Ministry of Education’s curriculum. In doing so, they meet the recommendation that multiple researchers have made about outdoor adventure/ outdoor environmental programs needing educational planning for EE outcomes to persist into post-trip contexts (see above). Since connection with nature is appropriately identified by the person experiencing it while interactions with nature are appropriately identified by an observer, connections with nature

were identified based on participants' accounts while interactions with nature were identified based on direct researcher observation.

The following questions have guided this investigation:

1. According to the canoe trip participants' accounts:
 - a) What are aspects of the canoe trip experience that promote an impression of closeness with nature³?
 - b) What are aspects of the canoe trip experience that promote an impression of distance from nature?
 - c) How are these opportunities initiated and supported in the context of the program?
2. According to the researcher:
 - a) Are there any observable aspects of the canoe trip experience that mediate participants' interactions with nature? How are they identifiable?
 - b) How are they initiated and supported in the context of the program?

³ Originally, these research questions were formulated with the word *environment*. This has been changed because during data collection, the word *nature* was used instead. The word nature is defined according to participants' understanding in the results section of this document.

Chapter 2

Packing for the Trip

Methodology

Theoretical Framework

Brody's (2005) theory of learning in nature is the theory that has been chosen as the theoretical framework of the present study for reasons discussed below following a brief explanation of the theory and how it was developed.

It is based on the Contextual Model of Learning which states that learning occurs in order to make sense of the world through a process involving individuals interacting with their social and physical environments. The theory asserts that learning is contextually driven by the following contexts: the *socio-cultural*, the *personal* and the *physical* (Falk & Dierking, 2000). The socio-cultural context involves the effect of conversation, gestures, emotions, observations of others, and the use of cultural tools such as societal beliefs, norms, and values, on learning. The personal context involves motivation, emotion, interest, and previous knowledge. The physical context involves the human tendency to situate all learning in the physical and then to generalize learning from one environment to another. Physical learning is based on the need for humans to make sense of their surroundings and act on it. Since new learning is built upon previous learning and affected by memory, learning is also affected by time.

Believing that the Contextual Model of Learning successfully described meaningful learning in nature, an unexpected outcome of value development during a study on outdoor experiences spurred Brody's (2005) decision to include feelings, attitudes and value development into a new iteration of the model. At that point he believed that "meaningful learning in EE takes place when learning is situated in real world events; it is a personal construction of knowledge through various cognitive processes mediated by social

interactions” (p.605). And also that “cognition and physical experience leads to affective development” (p 605). While seeking simplicity for his developing theory, he came upon a book called *Learning How to Learn* by Novak and Gowin (1984) which begins with the assertion that “thinking, feeling and acting are the basis for meaningful learning” (Brody, 2005, p. 609). Realizing that this provided the simplicity he was seeking, Brody (2005) included acting, thinking, and feeling in his theory as follows: “meaningful learning in nature [is] a result of direct experience[s] over time in which personal and social knowledge and value systems are created through complex cognitive and affective process” (p.611).

Each principle underlying Brody’s (2005) theory interacts with acting, thinking, and feeling (see table 1). For example, the interaction between acting and the physical context, referred to as the “*acting directly in the physical setting*” principle, “tells us that for meaningful learning to take place, the individual must have the direct experience of being in nature” (Brody, 2005, p. 611). Another example is the *acting at the personal level* principle. This principle “tells us that for meaningful learning to take place, the individual must interact directly with the physical setting” (Brody, 2005, p. 611). This means that one experiences the environment with their sensory organs.

Table 1. Theory of Learning in Nature Matrix (Brody, 2005, p. 610)

	Physical (setting)	Personal (individual)	Social (shared)	Time (continuum)
A. <u>Acting</u> Experience Sensing readout	The setting (initial)	Personal Experience	Group Experience	Direct
B. <u>Thinking</u> Integration Invariance Causal net Knowledge	The Experience (event)	Assimilation Accommodation with prior understanding	Progressive Differentiation with shared understanding	Continuous over time

system				
C. <u>Feeling</u> Attitudes Values Beliefs Value system	The Experience (event)	Assimilation Accommodation with prior affect	Progressive Differentiation with shared affect	Continuous over time

With anticipation of the difficulty in distinguishing between human capacities (acting, thinking and feeling) and contexts (social, physical, personal and time) in practice while collecting research data in the field, Brody's (2005) theory of learning was modified for the purposes of the present study. While the original theory suggests that learning results from one human capacity interacting with one human context over time, I considered that learning results from one or more human contexts interacting with one or more capacities over time; for example, that in one instance a participant could be acting in their personal, social and physical contexts while feeling and thinking about those contexts too.

Despite this difference in interpretation, the theoretical division of these capacities and contexts was useful in ensuring that each was remembered, and considered during data collection; especially considering that connectedness with nature, according to the literature and based on experience, encompasses all of them (Blanchet-Cohen, 2008; Ontario Ministry of Education, 2007; Sobel, 2008; Louv, 2008). In fact, connection with nature has also been described as a spiritual experience. Sobel (2008) wrote about: "moments of transcendence when the borders between the natural world and ourselves break down" (p. 12). Meanwhile, Louv (2008) has written that "through nature, the species is introduced to transcendence" (p. 302).

Despite these slight variations in interpretation, Brody's (2005) theory of learning in nature is more befitting to the present study in comparison with other available theories such

as outdoor education (OE) and experiential education, primarily because they are incomplete in isolation of one another in the context of this interdisciplinary study (see discussion on outdoor environmental education in the literature review). When considering outdoor education, experiential education, and EE together, Adkins and Simmons (2002) state that “strong and lasting lessons take shape (...) especially when outdoor, experiential, and environmental education are combined to support one another” (p. 5-6). According to them, “outdoor education focuses primarily on where educational activities take place and experiential education focuses primarily on the process involved” (p. 3). While neither take into account the nature context of the present study, a strict understanding of experiential learning—alone—does not take into account the social and personal aspects of Brody’s (2005) theory of learning in nature. Meanwhile OE does not take into account the social, personal *and* procedural aspects of Brody’s (2005) theory of learning in nature. Considering that each of these approaches to education alone are limited in their inclusion of human capacities and contexts, and that they overlap and are more complete when considered together, Brody’s (2005) theory of learning in nature is the most suitable theory for the present study. Therefore, although it has not been broadly used, this theory was chosen as “a framework upon which to start building a robust theoretical perspective on EE activities” just as Brody (2005) himself recommended (p.629).

Method

A social constructivist paradigm was adopted for the present study since it is complementary to Brody’s (2005) theory of learning in nature: Both are based on the assumption that individuals form their own understanding through interactions with social and historical contexts (Creswell, 2007). Another reason it has been adopted is because it is

the paradigm I ascribe to personally when considering the human experience. This is despite my educational background which is based in a postpositivist worldview. While I recognize the usefulness of a postpositivist worldview, I believe that the human experience is best understood by looking at individual, real-life situations as social constructivism puts forth. With this in mind, the study is based in a social constructivist paradigm which informs a qualitative research approach as “a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem” (Creswell, 2009, p. 4).

A case study of ethnographic design. The first characteristic of qualitative research noted in Creswell’s (2007) book is that it usually takes place in a natural (non-laboratory) setting. In the context of the present study, this was a single canoe trip, which can be considered a single case. Those studies most closely related to the present study also examined specific cases. Specifically, McKenzie (2003), Haluza-Delay (2001) and Paisley et al. (2008) used them to examine the means by which EE outcomes of similar programs are achieved. Davidson (2001) also used a case study design for this purpose and recommends their use for further investigations of the like.

Yin (2009) defines case studies in two-fold considering both the scope of a case study, and the technical characteristics of the method. In terms of scope he writes: “you would use the case study method because you wanted to understand a real-life phenomenon in depth, but such understanding encompassed important contextual conditions—because they were highly pertinent to your phenomenon of study” (p. 18). Since the purpose of the present study was to develop an in-depth understanding of participants’ connectedness with nature, which can be considered a real life phenomenon, within the context of a canoe trip,

which can be considered the contextual condition of the case, Yin's first condition for case study was satisfied in the present study.

In terms of Yin's (2009) second condition of case studies, which he refers to as technical characteristics, he provides three guidelines. The first is that the case study inquiry "copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result (p.18)." Within the span of the canoe trip experience and that of participants' personal and social backgrounds, there were countless variables that could have potentially affected participants' connectedness with nature. This included the effects that previous mentors might have had, whether there is green space near the participants' home, whether they were exposed to EE programs at their schools, what those programs involved, etc... Thus Yin's (2009) first guideline for the technical characteristic of a case study design was satisfied in my study.

Yin's (2009) second guideline (of his second condition of case studies) is that a case study inquiry "benefits from the prior development of theoretical propositions to guide data collection and analysis. (p. 18). Since Brody's (2005) theory of learning in nature was chosen to guide this study, the second guideline was satisfied as well.

Finally, Yin's (2009) third guideline is that the case study inquiry "relies on multiple sources of evidence," (p. 18). Methods of data collection chosen for this case study needed to be representative of both the participants' subjective experiences and the events that inspired those subjective experiences in order to illustrate the relationship between the canoe trip characteristics and participants' connectedness, and interactions with nature. For example, the description of a white water lesson was relevant to an account of the

participant's reactions to the lesson and vice-versa. This description would rely on multiple types of data that would clarify, inform, elaborate, and support it, holistically.

Methods that enabled the collection of data in this way are considered to belong to ethnography. According to Hammersley and Atkinson (2007) ethnography enables the investigation of people's actions and accounts in everyday contexts and the "interpretation of the meanings, functions, and consequences of human actions and institutional practices" (p.3). Meanwhile, it depends on the collection of data from a range of sources, and also on the investigation of cases "to facilitate in-depth study" (Hammersley and Atkinson, 2007, p.3). Thus an ethnographic method is salient with the requirements of the present study as stipulated above. Furthermore, ethnography accounts for "the theoretical and comparative interpretation of social organization and culture" (Hammersley and Atkinson, 2007, p. 1), which in this study means that it accounts for the social organization and culture of canoe tripping.

In general ethnography "involves the researcher participating, overtly or covertly, in people's daily lives for an extended period of time, watching what happens, listening to what is said, and/or asking questions through informal and formal interviews, collecting documents and artefacts" (Hammersley and Atkinson, 2007, p. 3). Applying this explanation to a single case canoe trip provides an accurate description of the present study.

The case. Even though the context for the present study is EE in Ontario, research was conducted at a summer camp rather than at a school. This decision was made so that the data would reflect how aspects of the canoe trip mediated participants' connectedness with nature and not how previously planned educational programming mediated participants' connectedness with nature. This differentiation is based on deficiencies in the reviewed

literature which pointed to a need for research of the former and not the latter (Berns & Simpson, 2009). Meanwhile, how aspects of the canoe trip mediates participants' connectedness with nature is comparable between school and camp affiliated programs: Since outdoor education is not an obligatory course, participation is entirely voluntary and learning outcomes are based on informal and free-choice learning opportunities similarly to those at camps. According to Ballantyne and Packer (2005) the term 'informal' is used to refer to a variety of settings outside school classrooms, which applies to any canoe trip, school or camp affiliated. Also according to the authors, the term 'free-choice' is used to refer to the type of learning that typically occurs within these settings; specifically, "learning that is driven by the needs and interests of the learner rather than by the dictates and needs of an external authority" (p. 282-283). This also applies to all canoe trips, school or camp affiliated. Consequently, the choice to use a camp-affiliated program is appropriate.

Immediately, Camp Deep Waters was considered for the case not only because of my affiliation with it, but also because it specializes in canoe tripping and has a diverse variety of trips to choose from. A co-ed camp, its trips range from 1-56 days and across the ages of 7-18. Its in-camp program which includes arts and crafts, field sports, kayaking, archery and more, is limited by the time spent out of camp, on canoe trips. As this implies, Camp Deep Water's focus is canoe tripping above all. With an emphasis on community, it has a very high return rate. This means that canoe trips can be more remote and lengthen in duration as participants increase in age and skill-level. In addition to community, Camp Deep Waters emphasizes challenge, team work, and learning about the tradition of canoe tripping as it relates with Canadian heritage and landscape.

Meanwhile, its trips are consistent with standard practices in Ontario (according to the Ontario Camps Association) and therefore, with the canoe tripping practices of those canoe trips affiliated with the formal school system, which must also adhere to industry standards. While camp and school affiliated canoe trips may vary across age of participant, length, location, and educational programming necessary consistencies between them include low-impact (LI) environmental practices, and adherence to safety protocols. This is important as these aspects may affect participants' experiences of connectedness with nature. For example, according to academic research, one of the aspects of adventure tripping that has been found to affect participants' environmental awareness is a type of low-impact practices already mentioned called LNT (Paisley et al., 2008). Based on this rationale, Camp Deep Waters was an appropriate setting for the present study.

In choosing a particular canoe trip from those offered at Camp Deep Waters, the age of school affiliated canoe trip participants in Ontario, and the length of such trips were considered. As a result, the canoe trip that was most appropriate was 10 days in length with participants between the ages of 14 and 16. Information about the trips which met these requirements were accessed through Camp Deep Waters following approval of ethics from the University of Ottawa's research ethics board.

After a canoe trip section was chosen, recruitment and consent forms were sent to the canoe trip participants and their parents via the camp's office. Consent forms signed by both participants and their parents were then returned to the researcher directly.

Data collection. Qualitative methods of data collection that have been employed by similar studies have included questionnaires with open-ended questions (Sibthorp, 2008), observational notes (Haluza-Delay, 2001), and verbatim jot-notes based on in-person

discussions, telephone interviews and interviews over e-mail (McKenzie, 2003). Likewise, verbatim jot-notes based on informal and formal interviews, as well as observational notes, were collected for the present study. They represented the main source of data as Hammersley and Atkinson (2007) recommend for ethnography.

Hammersley and Atkinson (2007) also recommend “gathering whatever data are available to throw light on the issues that are the emerging focus of inquiry” (p. 3). Consistent with this recommendation, artefacts such as audio-recordings, drawings, and photographs taken with (recyclable) disposable cameras were also collected. While considering different ways to collect data, photo elicitation was considered because it had been used and recommended for research of outdoor experiences (Loeffler, 2004). It is a method of interviewing research participants using photographs to initiate and propel conversation. Although photo elicitation was not used as an interview method in the present study, participant-taken photographs were used as research data in line with Loeffler’s (2004) understanding that “photographs are a reflection of the photographer’s point of view, biases, and experiences” (p. 540). This additional diversity of data was purposefully chosen to be representative of both the participants’ subjective experiences and the events that inspired those subjective experiences.

Data collection began upon the canoe trips’ departure from base-camp and ended upon the canoe trips’ return to base-camp. Research equipment and collected research data were kept in water proof cases and locked at all times to ensure participant confidentiality. The various data collection methods are explained below.

Observation notes and informal interview notes. Observational notes and informal interview notes were made on an ongoing basis and kept in a research logbook. The

informal interview notes were taken following casual, unscripted conversation with research participants during the everyday events of the canoe trip. Each log entry included a section for logistical information such as date, time of day, event, location, and a record of the participants involved. It also included a section for factual observation notes, and a section for subjective notes. Please see Appendix C for an observation log template and Appendix D for an informal interview log template.

Artefact collection. The varying types of artefacts that were collected included photographs taken with disposable cameras, a trip-log, and drawings that participants made with art supplies I provided. Artefacts were kept in a portfolio and entries included a fact sheet with information regarding the date, time of day, event, location, participants involved, and participant-explanation of the affiliated artefact. For a template of the artefact-fact sheet, please see Appendix E.

Disposable cameras. Disposable cameras were given to participants at the beginning of the trip and collected prior to the trip's return to base camp. Regarding the cameras, participants were given instructions to take pictures of images that symbolized their experiences of connectedness with nature.

Communal trip log. Since it is common practice for Camp Deep Waters' canoe trips to keep a trip log, asking writers to include information about connectedness with nature was a convenient way to gather research data. For the purpose of the research study, a schedule was made delegating the task of writing the trip log to one leader, or camper each day. In addition to writing what would normally be recorded in the trip log, such as a description of the daily events, writers were also asked to account for how their connectedness with nature was experienced. At the end of the canoe trip, the trip log was typed-up and a copy was kept

for research data while other copies were sent to the canoe trip leaders who modified it and sent it on to the camp office. The camp office then sent a modified version to canoe trip participants later during the year to serve as memorabilia of their canoe trip experience.

Audio recordings. An audio recorder was used to document songs that were sung during the trip. Each audio recording had a fact sheet associated with it, with information such as the date of the recording, the time of day of the recording, the location of the recording, the participants involved in the recording, and a description of the recording. These fact sheets were kept in a log book. For an example of the audio fact sheets, please see Appendix F.

Method of Analysis

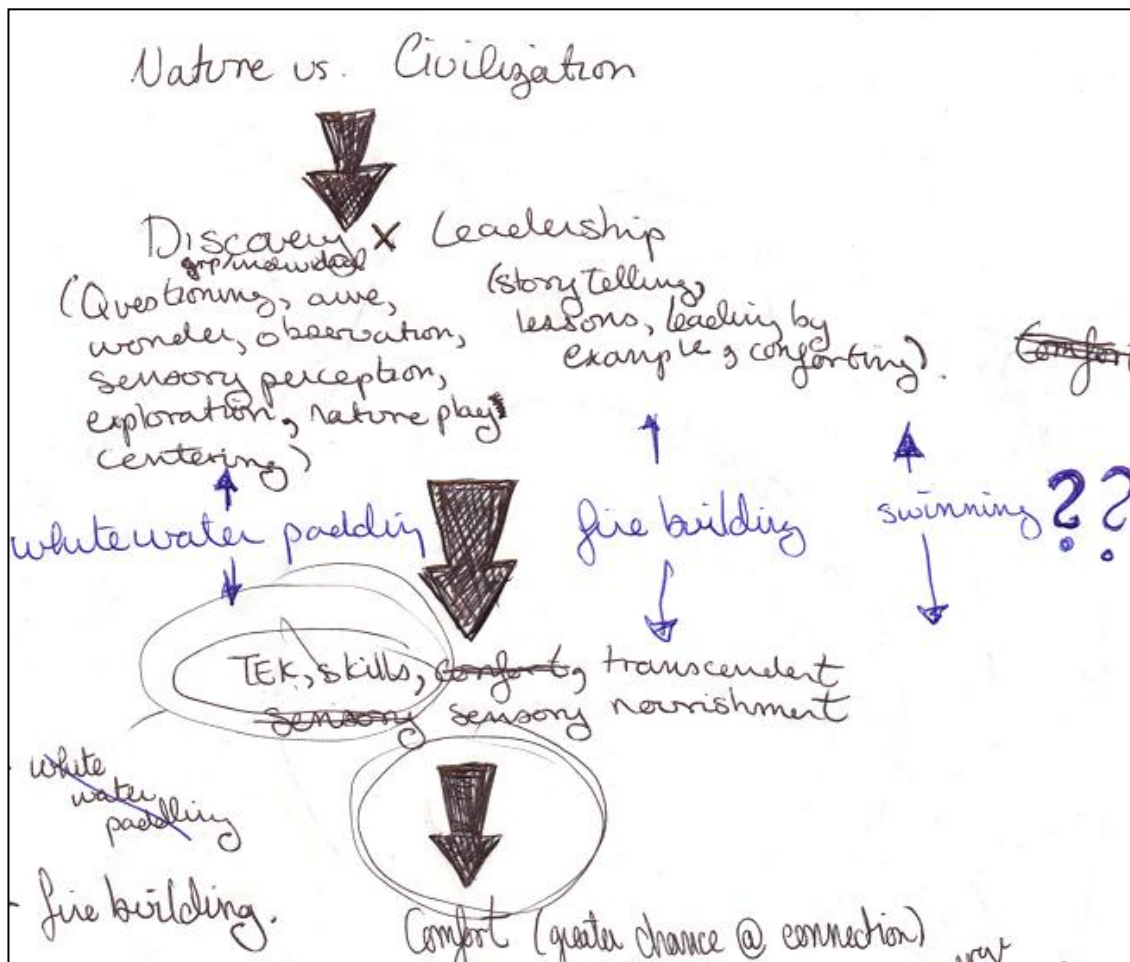
I analyzed my data using Braun and Clarke's (2006) thematic analysis because it is conducive with the qualitative approach used in my fieldwork. The process was inductive and emergent. In other words, data was organized "into increasingly more abstract units of information" (Creswell, 2007) until themes were recognizable. Each of the two research questions were analyzed separately, as described below.

The first phase of my thematic analysis involved noting initial points of interest while transcribing the interview notes, observational notes, and the trip-log. It also involved looking through the participant-made drawings and photographs, and reading over all the data repeatedly. The purpose of this was to generate a list of content and preliminary coding ideas. Codes are basic units of information representing a relevant aspect of the data that can be examined in meaningful ways.

The second phase of analysis involved generating initial codes. In order to do this, the data was reviewed repeatedly until different lists of codes were made. Then, different relationships among them were identified.

The third phase of data analysis involved sorting codes. The codes were collated with data extracts and organized into themes. Then they were sorted using tables, mind-maps, and other visual representation (see Figure 1). The purpose of this was to identify a set of potential themes and sub-themes. Potential relationships among/between themes were once again identified. This phase ended when a set of candidate themes were created.

Figure 1. A Visual Representation of Sorting Potential Codes



The fourth phase involved refining the candidate themes created in the third phase. This was accomplished by re-reading the data for internal homogeneity and external heterogeneity within, between and amongst the themes. In other words, the coded extracts were re-read to determine whether they adhered to their associated theme (i.e., if they represented it properly) and fit in relation with other themes within the entire data set. This process was carried out in order to generate a cohesive visual representation of individual themes (see Figures 13 & 14, and Table 2).

The fifth phase involved writing narratives with representative data extracts that reflected the essence of each theme. This was accomplished by “going back to collated data extracts for each theme, and organizing them into a coherent and internally consistent account, with accompanying narrative[s]” (Braun & Clarke, 2006, p. 92). More than just paraphrasing data extracts, this process involved identifying what was relevant about the themes and why, through a detailed analysis. It was also important to ensure that each section of the story fit with the overall story of the data as well as with the research questions. Identifying sub themes was also part of this process. At the end, each theme was named and defined.

Lastly, the sixth phase involved producing this report. Using data extracts in the findings section, the essence of each theme was represented by telling the story of the data. In addition to this narrative, each theme is also presented, explained and discussed within the results section of this document.

Verification. To ensure that the proposed research was trustworthy, research practices that supported its dependability, credibility, and transferability were employed. According to Anfara, Brown and Mangione (2002), these qualitative terms correlate

respectively to the terms reliability, internal validity and external validity, in the world of quantitative research.

Firstly, to support the study's dependability, which refers to the consistency of the research method (Lincoln and Guba, 1985), the definitions of emerging codes were regularly examined for any variances or drift during analysis (Creswell, 2009).

Secondly, to support the study's credibility, which refers to the degree that the findings are true (Lincoln and Guba, 1985), or accurate reflections of the research participants' realities (Creswell, 2009), multiple strategies were employed at different stages. They are described below.

At the stage of data collection this included spending a prolonged time in the field and occasional member checking. Spending a prolonged time in the field is known to increase a study's credibility because it enables the researcher to "be certain that the context is thoroughly appreciated and understood" (Lincoln and Guba, 1985, p. 302), "detect and take account of distortions that might otherwise creep into the data" (p. 302) and "provide the investigators an opportunity to build trust" (p. 303). Meanwhile, the procedure of member checking, which involves presenting participants with research data, analytic categories, interpretations and conclusions, increases a study's credibility because it provides participants with the opportunity to indicate whether the researcher's descriptions are accurate reflections of the participants' realities (Lincoln and Guba, 1985).

Finally, to support the study's transferability, or "applicability in other contexts" (Lincoln and Guba, 1985), the findings are presented with rich description, clarification of researcher subjectivities, and explanations of contradicting evidence.

Chapter 3

Unpacking

Chapter Three includes three sections: *The Trip Log*, which presents the findings through a detailed narrative; *Results and Discussion*, which explains the findings by presenting a thematic analysis of them; and *Implications*, which explains the implications of those findings.

The Trip Log: Findings

The findings are presented as a trip-log containing (a) a narrative written from my perspective, (b) participant-written trip-log entries, (c) representations of participant-taken photographs and (d) participant-made drawings. Representations of photographs were made to protect the identities of participants. They were created by tracing the participant-taken photographs onto transparencies. While participant-created data is included to reflect participants' accounts of connectedness with nature, the section written from my perspective makes up the majority of the trip-log. This is consistent with what Hammersley and Atkinson (2007) recommend for ethnographic research as already indicated above (see Data Collection). The narrative written in my perspective is based primarily on observational and interview notes I recorded throughout the trip however great care was taken while recording these notes to reproduce participants' words and actions accurately. How this was accomplished is explained below. To represent this data accurately, dialogue that was spoken or written by participants verbatim is enclosed in double quotation marks while dialogue that has been altered for fluidity is enclosed in single quotation marks. Meanwhile, the narrative is written in the first-person and present-tense to bring the reader as close to the canoe trip experience as possible.

Using this narrative approach, the members of the group are introduced first. Pseudonyms are used for any names or locations that may reveal their identity. Then, the

story of the trip is told with an account of each and every day of the trip. Days are introduced with technical information including the date, weather, time on the water (TOW), distance travelled (DT), number of portages⁴, number of rapids, and quote of the day (QOTD). The QOTD is the funniest quote that was spoken during the day as identified by the canoe trip group. Choosing it is not a research-specific task but one that is traditional practice on canoe trips associated with Camp Deep Waters. Following this technical information is participant-written trip-log entries that have been copied verbatim, then the narratives written from my perspective.

Tuesday river: August 1 – August 14, 2011

Leaders. Robin, Bear

Participants. Hawk, Loon, Caribou, Coyote, Otter, Rabbit, Fox, Wolf, and Deer.

Researchers. Mira Freiman

Days on trip. 10 with one rest day.

Distance traveled. 88km

Access points. Cottages and camps all over on Tuesday Lake. On the river, there is a well-used mine road, Tuesday Lodge, and several bridges at the end.

Skill level of group. Most people were new to white water.

Portages. That are all well marked and relatively easy.

Campsites. Abundant on Tuesday Lake

Weather. Great

Water Levels. Average.

Difficulty. Easy. It was a very relaxed trip with lots of time to chill-out

Without further adieu, let us meet the members of the group and embark on our adventure which takes us away from civilization, and into the deep woods of the north. First, I would like to introduce our trustworthy and fateful leaders: Bear and Robin. This unlikely duo was able to combine their abilities and skills to create an excellent leadership dynamic. Bear, is quite a big fellow with a strong personality and while he appears to be intimidating,

⁴ A portage is the traverse of land between two bodies of water. It involves carrying all belongings, including canoes, by foot.

is extremely gentle, warm, and respectful of his fellow animals. He has been involved with canoe tripping all his life and is extremely comfortable in the interdependent and group atmosphere which is characteristic of canoe trips. His co-leader, Robin, is contrastingly quiet. She is always whistling a happy tune. One should never overlook Robin because she is an excellent (canoe) *tripper* with great skills and abilities. Both Robin and Bear have gained the majority of their canoe tripping experience through Camp Deep Waters.

Now let us meet their group. First we have Fox. As most foxes, she is sneaky and sharp. While she will not use her wit to outwit you, it is important for her to know that she can. Fox is accustomed to being in the woods (having a cottage of her own), and has been on canoe trips with Camp Deep Waters before. She is originally from China but now lives in Ontario.

Next we have Deer. Deer is gentle, quiet and affectionate. One of her parents is Canadian, and the other is from south of the border. They reside in California. She is very insightful in a philosophical sense and is aware of her surroundings on that level. She has been on canoe trips with Camp Deep Waters before.

Otter is also an insightful member of the group. She is also playful and cheeky. While this is her very first canoe tripping experience, she dives into it as she would a cool river. She is originally from Eastern Canada but has since moved to Calgary.

Next we have Hawk. Hawk looks towards the sky and wonders about the experience of others. He is cool, sharp and able but just as he embodies these characteristics he is also observant, respectful and considerate. Hawk has an Australian mother and a Canadian father. They reside in Washington, D.C. This is not Hawk's first canoe trip with Camp Deep

Waters. Of all the members of the group, he most strongly conveys interest in additional canoe tripping experiences.

Another member of the group is Rabbit who is both quiet, and gentle, though very excitable at times. She has an older brother who is another enthusiastic member of Camp Deep Waters. They are Canadian and they have both been on canoe trips with Camp Deep Waters before.

This is Wolf's first time canoe tripping. He is originally from France. Wolf brings a positive and adventurous attitude to the canoe trip. He works hard, plays hard, listens well and pays attention to detail.

Caribou is a genuinely great character. He is considerate, tentative, thoughtful and a very hard worker. And while he is quiet for the most part, he is generally contented. Canadian-born, he has been to Camp Deep Waters before.

In contrast to Caribou, Loon is *not* a quiet member of our group. She is full of "piss and vinegar" with a great sense of humour and the impressive ability to laugh at herself. While she will tell you "how it is", she is also extremely affectionate. She loves to sing and she is a prolific story-teller. She also paints and plays the guitar but she is too shy to do either in public. When she sings, she sings quietly but when she speaks, she projects well. She is also an experienced canoe tripper having been to Camp Deep Waters before. She is Canadian.

Coyote is unique. He is intelligent, creative and witty. While he is sweet, he will let you know the weaknesses he sees in you and expect more. Coyote is Canadian and has been on canoe trips with Camp Deep Waters before.

To summarize the information about our band of 11 different characters, two are adults and nine are youths. The two adults include one female and one male and of the youth, five are female and four are male. The two adults are 20 and 22 while the youths' ages range from 13-15 years. Two members of the group are American, one is from France, and the remaining eight are Canadian. From those members of the group who are Canadian, all but one is from Ontario. Nine out of the 11 participants are experienced canoe trippers with Camp Deep Water while the other two are not.

As an additional member of the canoe trip, I make the group an even 12. Although I have eight summers of leadership experience, I do not function as a leader during this trip. While everyone is informed that I have been a leader for many years and I happily share some stories about canoe tripping with the group, I do not make any leadership decisions and for the most part, I do not interact with campers, or leaders, as a leader. Instead, my focus is on keeping my relationships with all the members of the group friendly, comfortable, fun, and respectful. Still, there are circumstances, in unguarded moments, when I react to the events of the canoe trip in a leadership role. I do my best to minimize these times because I do not want to interfere with Bear and Robin's leadership or negatively impact my relationship with them. Also, I do not want to interfere with the legal responsibility of the trip which lies with Bear and Robin.

Instead of being a leader, my role is that of a participating researcher. This role was successfully used by Davidson (2001) in her case study of adventure and learning. As a participant of the canoe trip, I contribute to all canoe tripping tasks; I make sure to carry my load—literally. In fulfilling the researcher role, I audio record some guitar playing and singing, provide group members with art supplies for artefact creation at their request,

answer any questions pertaining to my research at any time, engage the group in informal interviews and take observational notes. This process and my very presence on the canoe trip likely influences participants. According to Hammersley and Atkinson (2007), “how people respond to the presence of the researcher may be as informative as how they react to other situations” (p. 16). In the present study, it likely mediates participants’ awareness about their connectedness with nature which may in turn, mediate their connectedness with nature. Meanwhile, it also helps to ensure that there is data about participants’ connectedness with nature to be collected.

I collect all data, especially notes based on informal interviews and observations, during times of convenience when doing so does not disrupt the rhythm of the trip or make anyone feel uncomfortable. Events and conversations that occur during times when I am able to record them are copied immediately and as accurately as possible. Those that I am unable to record in the moment are recorded after the fact. I try to remember key events and words that participants use however if I have trouble remembering exactly, I ask participants what they remember. In doing so, I choose my words carefully so that I do not lead them into saying things other than what they remember. Data is read aloud to participants throughout the trip to ensure its credibility (member checking). This is initiated by both researcher and participant alike at times of uncertainty on the part of the researcher, and curiosity on the part of the participant. Occasionally, when I (the researcher) am uncertain about my memory or interpretation, I read my notes aloud and ask participants whether they seem correct. More often, participants ask me what I am writing and I respond similarly; by reading my notes aloud and asking if they seem correct.

Thus, great care is taken to record participants words and actions as accurately as possible. However, since I am not able to write everything down all of the time, I must decide what I believe to be important, thus creating a filter. That said, having asked participants at the outset of the study to let me know what mediates their connectedness with nature by verbal communication, taking photographs or drawing, I am alerted to participants' connectedness with nature and am able to record everything pertaining to it.

Nearing the end of the trip, I become better at remembering events and conversations, more comfortable with formal interviews, better at recording and I am consequently able to record more accurately and inclusively. Also interviews become a little more researcher-directed nearing the end of the trip. For example, interviews begin with questions that are directly related to the study such as "what do you experience when you scout a river?"

Day 1.

Date. August 3rd

Weather. sunny and hot

DT. 2km

TOW. 1.5 hours

QOTD. [Bear]- "I don't need maps. I navigate using the daytime stars!"

[Otter]- "You mean the sun?!"

Bear took his bandana and wore it as a tube top. He looked so beautiful. That was after dinner, but before our improvised bean skit (I suggested zombie version). Now, Bear is playing his guitar, as twilight slowly sweeps over the surrounding mountains, creating a pale red background against which the tall pines stand in solitary silhouettes. Now wasn't that poetic?!

We started out really late today (like, after lunch later) because we decided to go to gathering. Where we sung a rather poorly rehearsed rendition of "Wagon Wheel" then we walked back to our cabin and finished our packing. We were planning to lunch on trip, but the kitchen had enough extra food so we ate lunch in camp and finally set off, after a very annoying hat related delay. We quickly

paddled across Fraser Bay and around the point where we passed some big rocks. We set up camp and collected firewood, then got back into our canoes and paddled to the rocks where we went cliff jumping (!). It was such a beautiful sensation to plunge into the depths after plummeting fifteen feet through the air. We paddled back to our site and hung out while Bear and Robin made stirfry for dinner. Back to the beginning. What a great day! We are all really excited to start paddling in earnest tomorrow and we all enjoyed our quasi-rest day today.—Deer

1:00 pm.

Our trip begins by paddling under a bridge known as *The Bridge*. The Bridge is situated at the mouth of a river that runs through Camp Deep Waters. Canoe trips must paddle under it in order to leave Camp. Thus The Bridge symbolizes the departure from Camp and the beginning of an adventure. As the group ventures out from under The Bridge paddling two per canoe, we leave behind our friends and family, the man-made infrastructure that connects us to mass human population, and the amenities that maximize our physical comfort and safety. We say good-bye to computers, video games, light switches, electric stoves and powered transportation. We leave that world, known to many as civilization, to enter a different world; known to us as nature.

Having paddled under The Bridge facing south, we venture just a few kilometres further, passing some impressive cliffs before arriving at our west-facing campsite.

Upon arriving, we pull our 18 foot canoes onto rock; the kind of rock that is typical of this, and most areas of Canada: The Canadian Shield. The waves push and shove our canoes as we land. To secure ourselves from the danger of dumping our dry belongings into the water, we unload quickly. The gear has to be carried to the main location of the campsite, which is a short distance away from the shore where we landed. We now look upon nature in terms of what it affords us as campers: We look for rectangular clearings

with flattened earth where we could put our tents; a circle of rocks in a clearing where we could build a fire; and the west where we will be able to see the sunset, have more light at night, and less light in the morning. (I consider the act of viewing nature in terms of its affordances to us to be one type of interaction with nature). This is part of our nomadic living style during the trip.

Eventually, the task of unloading at our beautiful campsite is behind us and it is time to collect firewood and set up tents. Collecting firewood requires venturing into the forest and combing the forest adjacent to the campsite for dead wood that has fallen to the ground. Campers walk through the woods, meandering, crouching and squeezing through dense, pathless territory on their search for wood. In this way, firewood collecting provides the opportunity to have close sensory experiences in/with nature; experiences of intimacy with nature. It is also an opportunity to see affordances in nature: after all, we have to look for good places to step, good paths to take, where the good wood will be; and if it is raining or has rained recently, where the dry wood will be.

Campers return from firewood collecting with pathetic hand-fulls of wood when arm-fulls are required. Consequently, leaders send their crew of wood-collectors back into the forest in cycles until there is a pile of wood next to the fire pit that is large enough to fuel our fire for both dinner tonight, and breakfast tomorrow.

4:00 pm.

Once the firewood is collected and the tents are set-up, we gather for a 'welcome to trip' talk. This begins with a formal introduction to the present study. During this conversation, I explain the study, reiterating the participants' rights, answering questions and handing out the research supplies including the trip-log and the cameras.

Once I am finished, the leaders take over. Bear discusses how to defecate in the woods. He explains that it involves grabbing the toilet paper and a small trowel (which I like to call the bowel-trowel), and walking into the forest. Bear explains that once we have found a ‘nice’ location (perhaps with a fallen log to sit on, or a nice view,) it’s time to dig a hole and do our business into that hole. He also notes that sometimes we might be in a rush and may not have time to dig a hole beforehand; that this is fine as long as we dig a hole afterwards, and use a stick to move our waste into it. The intimacy of this experience is apparent. The corollary is not to use the (bowel) trowel for poop-pushing because that would be far too gross. After the deed is done, we are expected to cover the hole with dirt. Although Bear does not explicitly state that the canoe trip participants are to adhere to LI or LNT principles when dealing with waste on the canoe trip, the principles are implied in his instruction.

Following the poo talk Bear has the hand-washing talk and uses an exemplary story from his life experiences to emphasize the importance of hand-washing. As Robin discusses the kitchen section of the campsite and how to call for help, a pine beetle flies at Caribou. Bear instructs him to flick it off. Caribou flicks it at Robin and Fox by accident. Fox gets up screaming. Then Robin kills the beetle. Bear comments on how he should take a picture because he is feeling further from nature. (This statement—and those like it—provide insight into how interactions with nature affect connectedness with nature.)

Following this event, we gather what we need, hop back into canoes, and paddle back to the impressive rocks we saw earlier for some cliff-jumping. Some of us are afraid of jumping off the cliffs into water but others are eager. Before we are allowed to jump, we wait as Robin and Bear manage risk by checking below for anything that we might land on

such as a log. Once they have checked, just before we start jumping, they manage risk once more by telling us we have to wear shoes to avoid cutting our feet. As we climb up the cliff, take the step of the ledge, feel the fall, and then the plunge into cool water, we experience intimacy with nature: As Deer put it in the trip log ‘it was such a beautiful sensation to plunge into the depths after plummeting 15 feet through the air’. Perhaps in the future we will examine cliffs we pass for the affordance of cliff-jumping.

While the rest of us cliff-jump, Bear paddles back to Camp for forgotten items. Meanwhile, Robin supervises the cliff-jumping. When we are done, all but Bear paddle back to the campsite for dinner. Robin starts preparing dinner. In an act of leadership, she asks if anyone else wants to make a fire. Caribou and Coyote agree but they ask for her help. Robin instructs them to start by finding small pieces of wood. Proving that Coyote is now looking to nature to help him with his current task, he explains that while he usually uses birch bark, he notices that there are fewer birch trees in this area. Then he and Caribou proceed to work together trying different materials and examining what each material affords in terms of making fire. Caribou and Coyote are enjoying using pine needles. They say so to Robin who feels the same: She says she loves stuff that gets hot fast. Time passes and the fire dies a bit. Robin suggests Coyote and Caribou blow on it a bit. They appear to experience intimacy with nature as they kneel in the dirt, touch the wood, and blow in the fire with their face in it. Then Robin looks around for a tent pole to use to blow air onto the fire. She cannot find one so Caribou puts his face closer to the fire and starts blowing on it that way.

As the boys work on the fire, Robin works on dinner which is going to be a fresh vegetable stir-fry with rice. As we wait for dinner, the conversation turns to the subject of bringing technology on trip. Someone asks Bear if any of his campers have ever brought a

cell phone on trip. The fact that this question is asked suggests that cell phones are not necessarily appropriate on canoe trips. In response, Robin tells a story of a camper who brought an iPhone on a solo trip. A solo trip is a 3-day canoe trip that campers go on by themselves. She explains how the camper in the story climbed a hill to get cell-phone reception, posted a message on facebook and in the end got “busted” by the leader who saw it on facebook back at base-camp. Using the word “busted” confirms that there is some cultural understanding that iPhones are not appropriate amenities for canoe tripping.

9:00pm.

As night turns dark, Robin, Bear and I act out skits for entertainment. Eventually, the sun sets, the moon becomes noticeable, and it is time to go to sleep.

Day 2.

Date. August 4th

TOW. 10:45 – 7

Weather. Hot

Portages. 2

- 1) well-traveled and clearly-marked
- 2) short and easy

Today was the first day of real tripping. I apologize for my bad writing and spelling. Today we also had our first portage to get us out of Tuesday Lake and into Birch Lake then we took a 100 meter portage to the bay we paddled our way to what we hoped was a good campsite Bear looked around and said no so we paddled to another campsite quite a ways away only to find some other camp in our campsite. We finally found a campsite which every one found a little creepy. Bear when looking at the site saw a area blocked of by a tarp and went in with his knife thinking he was going to find a dead body or something anyway we ate spaghetti pretty late and had no bakes, even later made by Caribou to day was mixed feeling for me but the food line up was great bacon and eggs bagels with cream cheese and spaghetti and no bakes um. Overall it was a good day. –Hawk

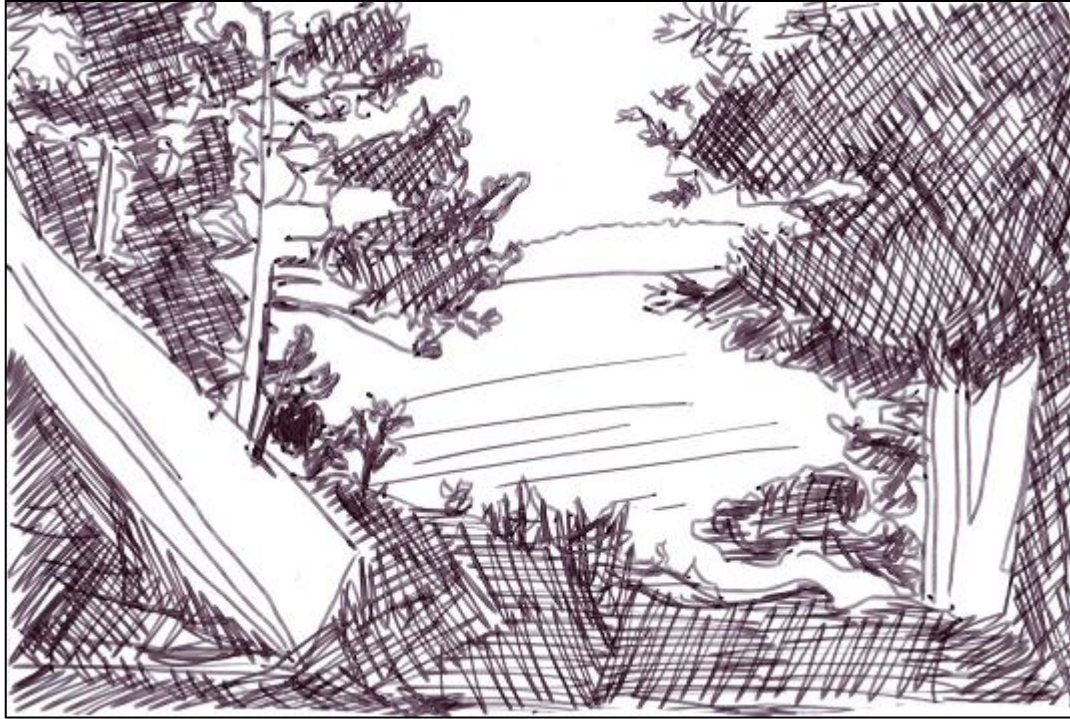
8:00am.

We wake up at our site just south of Camp Deep Waters and begin our day. Before getting out of the tents, we have to roll up our camping mattresses, stuff our sleeping bags, and pack our personal bags. Once this is accomplished and we are out of the tents, we are expected to work together in taking down our tents, packing our tents, and packing our canoes. Although this seems like a busy time, it all seems to happen quite slowly.

9:15am.

By 9:15am, the boys had not yet taken down their tent. Instead they come up to me and start talking. They tell me that they have taken some pictures of their tent surrounded by trees and a view of the lake in the background with their research camera (see figure 2). They say the tent is “shitty” so it makes them feel further from nature. I take this to mean that they are anticipating unpleasant experiences of sleeping in the tent because having a bad tent might expose them to discomforts during the night caused by bugs and rain. Later in the conversation this is confirmed through a somewhat different perspective when the boys express how the shitty tent makes them closer to nature because it causes them to feel nature more. Apparently the same aspect of the canoe trip (e.g., the tent) can make us both further from and closer to nature. Also apparent at this point is that some amenities (e.g., tents) are expected to be on the canoe trip while others (e.g., cell phones) are not.

Figure 2. Representation of Photograph: The boys’ “Shitty” Tent with a View of the Lake.



10:50 am.

We take down the tents, eat breakfast, pack the last bags, and load boats. During this time, some of the group come up to me to discuss aspects of our surroundings they notice such as cobs of corn, stickers, balloons and beer cans. One of the LI camping practices outlined by OCA standards is “removing all litter and plastic from the site” (Ontario Camping Association, 2008, Section TR 36-38, p. 4). Although Bear did not explicitly state that we are to adhere to this LNT/LI⁵ principle, campers were still apparently aware of human waste in nature. It seems that they recognize it as something that does not belong in nature, yet no one suggests removing it as the principles of LNT/LI recommend.

11:00 am.

⁵ LNT and LI are a similar set of principles about dealing with waste. This was discussed in the introduction.

By 11am we are on the water, facing south, ready for our ‘first day of real tripping’ (trip log-Hawk). On this day we experience the rhythm of our trip for the first time: We paddle for the majority of the day, stopping for portages, lunch, and intermittent water and swimming breaks. I paddle with Fox and we talk.

11:28 am.

After only half an hour of paddling, we stop for a swim break. Otter jumps into the water. I see her disappear beneath the surface before reappearing dripping with water. With a huge smile on her face, she exclaims how nice it is making me believe she is feeling nourished by the feeling of the water. Then she swims away.

12:00 pm.

After the swim-break, we are back in canoes paddling towards our portage. During this time, Fox spontaneously comments on how in the country—not like in the city—the sky really looks like a dome. This effect is especially prominent while paddling open waters, because of the open skies above. And with no other distractions as we paddle, talking about the sky—or whatever else surrounds us—passes the time.

Eventually, we make it to our portage. It is really just a piece of land between two bodies of water but having to cross it with the canoes on our backs makes it what it is to us; a portage. It can be considered both an affordance or an obstacle: As an affordance it enables us to travel from one body of water to another but as an obstacle, it impedes us from paddling right through.

As we stand at the head of the trail, Robin and Bear instruct us to attach all loose items onto our bags because this will minimize the number of trips across the portage that will be required, to travel with a “buddy”, and to return for more items until there is nothing

left. After this brief introduction, it is time to hit the trail. We are evidently challenged by the portage since we take many breaks and many of us do not make it to the end of the portage with all the items we left with. Instead, we drop them off on the way with the intention to go back for them afterwards. We start asking for swims, lunch, and water. When we complete the portage, we get back in the boats and start looking for a place to do just that. We do not paddle far before we find a rocky shore.

As lunch is being prepared, lots of questions are asked that reflect our experience of the portage as a challenge such as ‘How many portages are there on the trip? When do we get to Brown Island for poutine? How do we get picked up? When do we get brought back home? How long will our drive back to Camp be?’ Bear and Robin answer these questions as they come.

Then, Otter walks up to Robin with evergreen⁶ leaves. Otter explains that they taste like mint. She says you can chew them and spit them out. Robin tries and agrees that they taste like spearmint. Then Otter admits she is not sure if the plant is actually called evergreen. I confirm that it is. Robin and Otter discuss whether you can make it into tea. Bear says you can. I contribute that my friend is really into cedar tea. Bear agrees that cedar tea is really good too. The conversation changes to something else, then returns to the evergreen conversation. Now other kids are wondering about it. Fox goes over to see it. Robin lists off other wild plants that are edible such as clover, and bull rushes. When this lesson concludes, we all have a shared learning about edible plants that almost all of us contributed to. In other words, we taught as a group and we learnt as a group.

⁶ The correct name is in fact wintergreen.

As our lunch break continues, so does the conversation. Loon asks if it would work to go on a motorboat trip. This initiates a discussion about how a change in the amenities brought on our trip would change the experience. Robin says that we would not be able to go as many places. Loon retorts, ‘it would be easier.’ I say it would be awful to portage. Hawk suggests we find a big lake like Tuesday Lake, boat around, and stay at each site for three days.

After our lunch break, we get back in the canoes and paddle onwards towards our second portage of the day. As we paddle, we are able to observe our surroundings and talk about them. In this way, paddling shapes our afternoon. Fox comments on the bugs on the water. I ask ‘what about them?’ She says that she thinks that they leave a cool pattern behind. Time passes and we paddle on. I see loons and I point them out to Fox. I ask if she could see whether there were babies or not. She says she cannot so I put my glasses on and sure enough, I see two brown baby loons. Fox comments about how cute they are. A few moments later, I overhear Otter and Loon ooing and awing about how cute the baby loons are.

After a while Fox looks up, pointing out the “G-d Light”. I see sheets of light peeking out from the clouds and mention that I usually call that light-shining-from-the-heavens. Then I yell to the other canoes to check out the light. They comment on how it is like G-d. Fox says she calls it G-d light because when she does, everyone knows what she is talking about. Then, Robin comments on how cool the G-d light is and how she should get her camera out⁷. Since the research cameras were to be used to represent aspects of the

⁷ This photograph was not good enough quality to include.

canoe trip mediating connectedness with nature, this act implies that her connectedness with nature is affected by the G-d light.

4-5:00 pm.

As we paddle towards our second and final portage of the day, there is a marked change in our surrounding. The lake becomes narrow and shallow. There are motorboats flipped over on the rocky shoreline. Many of the boats are painted green leading me to believe they are all owned by the same people or company. I can see dead fish in the water and what appear to be pieces of an old wood-canvas canoe. Otter says ‘this place makes me feel further from nature.’ I ask ‘why?’ and she says something about it being “creepy”. Deer agrees with her. After the portage, Fox also says that the area makes her feel further from nature. Coyote says he took a picture of it (see Figure 3.). Apparently, the signs of human-presence that surround us are the cause of their feeling disconnected from nature, which have been expressed using the word creepy. That signs of human impact make us feel further from nature implies that humans are not considered part of nature.

Figure 3. Representation of Photograph of the “Creepy” Portage.



As we paddle-on into the evening, we search for a campsite. When we finally find one and decide to stay there, everyone finds it a little creepy too. In fact, when looking around the site, Bear finds an area blocked-off by a tarp and goes in with his knife thinking he might find a dead body. Garbage is all over the ground here and there is a road behind us about 200 metres from the shore. Since the tarp, road and garbage provide more signs of human-presence that are associated with the word “creepy” and disconnection from nature, the relationship among them is confirmed.

Once settled in at our new campsite, Otter and Loon decide they want to go for a swim. Instead of swimming from shore, which is the norm, they decide they want to paddle out from shore instead. Since Otter calls the location “super nasty lake, next to the *murder* campsite [emphasis added]” in the trip-log, this difference of behaviour can be attributed to the ‘creepiness’ of the area.

9:00 pm.

Much later in the evening, following our spaghetti dinner, we hang-out around the campsite. Fox asks me if I know what makes her feel further from nature. She has been complaining about the bugs for hours so I say ‘bugs?’ and she says ‘yeah.’ Then, other campers agree with her.

At some point a while later, I notice ducks and mention that we have visitors. The girls come to see. Fox says they make her ‘feel closer to nature.’ Since bugs are irritating and ducks are not, it appears that interactions with wildlife can be both connecting or disconnecting and that comfort has something to do with it.

It is getting dark as Bear tells one of his stories about a solo trip he went on for three days when he was a camper. According to the story, he had been paddling against headwinds, in the heat, up Crystal Lake. He thought he had lost his bleach⁸ and did not have any clean water to drink. Consequently, he was feeling heat-stroked and exhausted. Eventually, he pulled-over about 50 ft from his expected campsite at a sandy shoal. Figuring he had two choices; to either drink or die, he took his clothes off, walked into the water and started gulping. As he was putting his clothes back on, he found bleach in his pocket. Worrying about all the non-purified water he just drank, he took a shot of the bleach and danced it around in his belly.

When Bear is done telling his story, Hawk says he is not as excited for his solo anymore. Apparently Bear’s story-telling influences Hawk’s interpretations and is an act of leadership in this (perhaps unintended⁹) way.

⁸ Bleach is often used to purify water so that it is potable.

⁹ I say that Hawk’s loss of excitement about doing a solo was an unintended outcome of Bear’s story-telling since he demonstrates the intention of inspiring his campers during other stories. For example, during a conversation not accounted for in this narrative, Bear described his pride at returning from his final,

9:30 pm.

While the majority of the group sits around socializing, Otter and Loon work on cleaning the dishes. Otter asks me to help her pour water from one billie¹⁰ to another. I say the water is too dirty anyways and she should get more. Bear comes by and tosses a fork into the dirty water under discussion. Otter says ‘you better take that out because I’m about to dump this water in the lake.’ Bear and I respond by just staring at her for a couple seconds. Then she says ‘just kidding-that would be really gross.’ Bear agrees and then walks with her into the forest to dump the water. Even though it is not made obvious, Otter is led to follow OCA’s standards of LI practice (Ontario Camping Association, 2008, Section TR26). By not being overt about it, Bear leads Otter to think about the effect her actions have on nature instead of simply leading her to follow rules.

10:15pm.

Eventually, all the campers go to bed and Robin, Bear, and I sit in the night talking. Then, we too call it a night.

Day 3.

Date. August 5th

DT. 15 km

TOW. 11 – 6

Weather. Hot, again

QOTD. Coyote: “So are you and Mark dating?”

Mira: “Ya, seven years.”

Coyote: “7 years and he hasn’t done anything?! You should dump him.”

Today was our second true day of canoeing. We started our day with awesome muffin scramble made by Robin, Bear and Mira. Next we took a quick search for

culminating, 2-month-long canoe trip as a camper with Camp Deep Waters and how wonderful it felt to see his friends and family upon his return.

¹⁰ A billie is the term used for a cooking pot on Camp Deep Waters’ canoe trips.

me (Otter) and Loon's shoes... which sank to the bottom after we flipped our canoe during a swim break. We (unfortunately) didn't find them, and me and Loon's shoes will forever lay at the bottom of super nasty lake, next to the murder campsite. Then we started our paddle to Brown Island!!!

Once there we had a weird shock of being back in civilization. After buying our chips, chocolate, pop and ice cream, we sat on the picnic table and ate it. Then Fox found out that the store had flush toilets! After everyone got to use the toilets, we went down to the docks for a tuna salad lunch. While there we had deep conversations about whether being on Brown Island makes you feel more or less connected to nature. We left for our campsite after a short swim break. The paddle was AWFULL, Long with crazy bad headwinds. After we FINALLY got to our campsite, we unloaded the boats and went for a swim, which felt so amazing. After a quick collection of firewood, we started pitching our tents, which started a MASSIVE war over campsites (which the boys won...) then we had Big Soup for dinner, which was yummy, super filling, and GREAT with leftover flat warm coke (which everyone tried to steal). After dinner we sat and chatted, and listened to Bear play the guitar. It may be windy, but it keeps the bugs away, and you don't even notice next to the beautiful water backdrop.

8:00 am.

The leader's alarm sounded.

8:30 am.

The campers' tents are silent until Bear approaches on foot. Breakfast this morning is going to be scrambled muffins but cooking is particularly difficult because the fire-pit is constructed in such a way that we can only stand on one side of it; the side where all the smoke is blowing. In this way, fire is an obstacle to the very thing it affords: food production. Consequently, we must overcome the obstacle of the fire-smoke. Although Robin does the majority of the work, Bear and I rotate-in to give her breaks from having the smoke in her eyes. Eventually Robin thinks of a solution to the problem. She puts on Bear's paddling goggles creating a barrier to separate herself from nature. Fox tells me she took a picture of Robin making muffins with her goggles on (see figure 4.). Fox says it makes her feel closer to nature. This comment is quirky because Robin looks a little ridiculous with

Bear's goggles on. However Fox is making a relevant point. Putting Bear's goggles on is an act of leading by example. It demonstrates that the challenges we face in nature can be overcome.

Figure 4. Representation of Fox's Photograph of Robin Cooking with Bear's Goggles on.



9:15 am.

During one of Robin's breaks from cooking, and having the smoke in her face, she takes some time to relax. I notice her lying on her back with her head on a lifejacket, facing the sky. It is rare to see Robin relaxing since she is usually quietly busying herself. I ask her if she is taking a moment. She comments on how blue the sky is, demonstrating that she is using her free time to focus on nature.

As some group members pack up the site, others, who have finished, wait. We talk about going to Brown Island; a First Nations Reserve and town in the middle of Tuesday

Lake. Otter exclaims how excited she is to get a Coke. She says as long as she gets a Coke she will be excited. In fact, all the kids have been chatting about what they are going to buy. So far they have also mentioned poutine and ice cream.

As some members of the group continue to discuss their junk-food cravings over scrambled muffins, the rest of us have some free-time to focus, discuss and physically interact with whatever we choose. Hawk and Coyote notice loons on the water in the distance and ask Robin to do a loon call. As she puts her hands up to her mouth, the loons go beneath the water. Some of us sigh with disappointment. Robin does the loon call anyways. Soon afterwards, we hear a loon and Robin says 'he's answering me.' Hawk speaks for the loon saying 'why do these stupid humans keep trying to imitate us?' Everyone has a laugh demonstrating that there is a shared understanding of anthropomorphising the loon.

Nearing the end of breakfast, Bear notices some muffin-scramble scattered on the ground. Otter blames Loon. Loon complains 'Hey....' I giggle because I think they are being ridiculous. Otter claims one piece of garbage and Bear says 'whatever but I want you to pick that up before we leave.' Then, later, as we are leaving the campsite, Bear tells everyone to go collect garbage explaining that because we are going to Brown Island, we will be able to dump it later in the day. We have been carrying all the non-compostable garbage with us in nature until we have the opportunity to throw it out in civilization. Apparently we deal with our waste differently in these two contexts. Bear warns everyone not to pick up any needles or cigarette butts. Then everyone disperses. Unlike the second morning of the canoe trip when campers noticed garbage but did nothing about it, today they pick up impressive amounts of garbage. This exemplifies the effect of Bear's leadership. Time passes and the

girls ask Bear if collecting garbage was their punishment. Bear says ‘no’ and suggests they should probably wash their hands now.

After we pick up the garbage and wash our hands, we pile into our loaded canoes. I paddle with Deer through the morning. As we paddle from an area having fewer humans and less human impact, to Brown Island, having more humans and more human impact, our conversation reflects Deer’s experience and interpretation of it. When we are in an area that is still quite uninhabited, Deer exclaims how nice it would be to have a cottage here. She says that ‘although it would be hard to get to, it would be so nice’ and that you could just “get away”. I ask ‘get away from what?’ She says “people.” Then later, nearing Brown Island, Deer asks ‘isn’t it weird that there’s a town here in the middle of nowhere?’ I suggest it is not that much in the middle of nowhere. She says it feels like it is. During this conversation, when Deer talks about getting away from people, she indicates that nature for her is a place without people and afterwards, when she is confused about why there would be a town in the middle of “nowhere”, she indicates that a town is somewhere while nature is “nowhere” and that this distinction is associated with the amount of population in a particular location.

12:00 pm.

Deer and I paddle on until our path converges with Otter and Fox’s canoe. As we paddle together, we talk about last night’s campsite. The girls exclaim how creepy it was. I ask ‘what made it creepy?’ Otter explains that the remains of humans did. She says that it seems as though people left the campsite in a hurry. Then the girls start joking about the types of creepy things that may have happened there. I suggest they make up a story about it and include it in the trip report. They get excited about the idea and start to tell a story

immediately. It involves a group of people who pull a prank on someone. They push him into a fire and leave him there because they think he is ok. In reality however, he is dead. Apparently, the signs of human-presence made Otter think that people had left in a hurry for ‘creepy’ reasons, like committing murder. According to this story, other humans can be something to fear in nature. In the midst of Otter’s story-telling, she realizes she did not include a broken door she found at the campsite. She designates someone else to fit it into the story.

As the morning continues, we begin to see cottages embedded in forest. Soon thereafter, we begin to see houses too. Then all of a sudden there are power lines and as we turn a corner, the forest clears and there is a cluster of small buildings with a pier. We paddle towards it. As we arrive at Brown Island, everyone jumps out of the boats, rushes to tie them up, marches over to the chip stand, discovers it is closed, and marches up the hill to the store. We roam the store with excitement looking through the merchandise until we have chosen what we want. Unlike other meals during the canoe trip, which have involved preparing our own food and sitting on the ground, at Brown Island we buy junk-food and sit around a picnic table. As we do, we discuss how long we can make things last, how much we love what we bought, and we joke about stealing each other’s food.

Sometime during the meal, Fox figures out that the store has a flushing toilet. After everyone has had a chance to use it—even if they did not need to—we go down to the docks for a tuna salad lunch. “While there we [have] deep conversations about whether being on Brown Island makes [us] feel more or less connected to nature” (trip-log, Otter). Otter says being here makes her feel more connected to nature. I ask ‘really?’ and she confirms ‘yeah.’ Loon says that being here makes her feel further away from nature. Otter explains that it is

beautiful here and she likes looking out and seeing the view. I suggest that she likes the combination of being comfortable in civilization and getting a view of nature. Instead, Deer and Otter agree that stepping back from nature makes them feel more connected to nature. I am reminded of the saying ‘distance makes the heart grow fonder.’ In this context, it implies that distancing from nature helps us connect with nature, and appreciate it more. Bear asks if that is why when you are in the city, you do not appreciate how comfortable your couch is. Everyone agrees. Then they ask me how being here makes me feel. I say further because when I am in civilization, I want it. Otter says when she is in civilization, she wants the woods, and when she is in the woods, she wants civilization thereby suggesting that the woods and civilization are mutually exclusive: You can either have one or the other but not both. Deer says she finds it easier to connect with nature when she is not “cut-off” from her needs, such as chocolate bars, which are found in civilization. It is evident that what she believes to be her needs has more to do with the comforts she is accustomed to than the conditions she actually needs (for survival).

Following our discussion about connection with nature on the pier, we pile back into our canoes, and begin to paddle southeast. Otter describes the paddle as ‘AWFUL’ saying that it is “long, with crazy bad headwinds” (trip-log). Through the act of paddling in a particular direction, wind that would otherwise be neutral becomes a headwind and therefore, an obstacle. As I paddle, I feel the aches in my muscles, the sun on my shoulders and the cooling wind in my face. Every so often, we stop in locations where the leaders have identified the affordance of shelter from the wind in the topography. There, we can swim, drink water, and put on sunscreen without being blown backwards. Throughout the

afternoon, Bear and Robin manage our comfort with these breaks keeping an eye on time so that we can make it to our campsite.

Meanwhile, having the big sky above us affords us the possibility of cloud-dreaming to keep our mind off the afternoon's challenges. With all the wind, the clouds are moving and changing shape fast enough to be a game. Otter points out a running dog above an Inuksuk. She says it looks like a product symbol but she cannot remember which. I say "Rocket Dog" and she agrees. The girls in a neighbouring canoe want to see it and ask where it is. Otter replies that it is above the Inuksuk but that now it has changed shape and looks more like a seal.

6-7:00 pm.

Eventually we make it to our campsite. Upon arrival, Caribou, Bear and I view the campsite in terms of what it affords us as campers. First, I note to Bear that this will be a great campsite because we will be able to enjoy the sunset that evening, but we will not get the light (and heat) in the morning. Bear says he has already thought about these affordances and is happy about them. Moments later, without any relation to my conversation with Bear, Caribou makes an announcement to the boys that this will be a good campsite because it is windy and consequently cannot be buggy. With excitement over the comfortable night ahead of us, we begin to settle in by unloading the boats.

Since we have been battling the heat all day, Bear and Robin order an obligatory swim before we set up tents and start dinner. They say that people are burnt and that the swim will cool us down and make the burning stop. The cool-water satisfies this need and the intimate feeling is refreshing. Otter says it feels "so amazing".

After our obligatory swim, as the campers are planning where to put up their tents, they begin to fight over tent-sites; the girls and their tent, against the boys and theirs. Apparently, everyone has identified one clear, flat, rectangle of earth as having the affordance for being a better tent site than any other cleared, flat, rectangle of earth. At one point, someone holds the tent poles above the edge of a small cliff, threatening to drop them into the water below when the leaders intervene. In the end, the boys apologise and let the girls stay in the preferred spot.

7:40 pm.

When the campsite is set-up, Otter comes to tell me that her camera is not working and that she wants to take a picture by the water because it makes her feel very connected to nature. She says she feels very open and happy there, that she wants me to go down too, and that “it may be windy, but it keeps the bugs away, and *you don't even notice next to the beautiful watery backdrop* [emphasis added]” (trip log). Apparently, Otter's feeling of connection with nature, which she describes as an open and happy feeling, is associated with the relief from the bugs, and a visual sense of the beauty. In other words, it is associated with an overall experience of sensory nourishment. I ask if she wants the camera right away but I am informed that someone else took a picture of it so I do not rush (see Figure 5.).

Figure 5. Representation of Photograph of the View by the Water



Meanwhile, Wolf must have been feeling somewhat similar to Otter because I see him down by the water on a rock, separated from the group, facing the wind, and taking pictures with his research camera (see Figure 5.).

9-9:30 pm.

Eventually, dinner is ready and to my contentment, it is “Big-Soup”. Big-Soup is a soup that is made to fill your tummy. It often has cheese-filled dumplings, and pasta and sometimes potatoes too.

When we are done eating, we continue to sit in the wind, in a semi-circle around the fire. We sit with nothing in particular occupying our focus or conversation. As the sky grows darker, multiple unrelated conversations about the moon emerge. First, Robin looks at the moon and exclaims “look at that!” She comments on the clouds and says “I like it!” Later, Bear asks me if the moon is “waxing or waning.” I say I do not know that stuff but that I would like to. In another place on the campsite, at another time, Fox asks Robin why there is

a halo around the moon. Robin says that it is light reflecting. By the end of the night, just about the whole group has said something about the moon.

After all these conversations are complete, Bear picks up his guitar and starts playing it. With his back turned against the group, he faces the moon. In other words, he centers on it.

9:40 pm.

I sit on a log next to Coyote. At one point, I notice a bug on him so I point it out. He says ‘Hey buddy’ to the bug. Then I realize it is not a mosquito but a mayfly. He asks if it bites. I say ‘it’s a mayfly and no they don’t bite’. He asks what I am writing so tell him I am writing down this very conversation. He asks ‘does it make me feel connected to nature?’ I ask ‘does it?’ He says ‘yeah, it does.’ A while later, he notes that ‘Orangina’ is still there. Apparently he named his pet mayfly Orangina. Hawk sits down and Coyote playfully asks if he has met Orangina. Hawk asks about the name and Coyote says he named it Orangina after a mayfly he named in Grade 3. Then, I find a new, smaller mayfly and put it on Coyote. Hawk suggests they call it Koolade. Then, when a group of girls sit down, Coyote asks if they have met Orangina.

Still sitting next to Coyote, I notice Wolf making fire—as he tends to do on a regular basis. Wolf is putting fur needles on the fire and watching them spark. Bear asks him not to because the land is dry and the needles make lots of sparks. He says he does not want to start a forest fire. Despite Bear’s request, Wolf continues to put fur needles on the fire when Bear is not looking. Although Bear’s leadership is not initially effective, eventually Coyote asks Wolf to stop and Wolf does. That Wolf actually stops in response to Coyote’s request is evidence of how influential group members can be on each other. Other evidence of how

influential group members can be on each other is how annoyed Wolf is after the fact when the fire begins to die and Coyote asks him to get it going again: Wolf tells Coyote to do it himself.

10-11:00 pm.

After the campers go to bed, Bear, Robin and I sit under the stars. Bear says that the great thing about camping is that it is all a bunch of “moments”. He describes one such moment that he experienced that very night. It happened when he was playing guitar and everyone was sitting around him. He remembers that Otter was writing the trip report, and Wolf and Caribou were making fire. Confused, I ask Bear what a moment means to him. He says, ‘When I look up from what I’m doing and have a happy feeling and I take a deep breath, and my mind seems like it’s out of my body.’ He says it is like a scene from a movie of his life, except he is taken out of it. Robin says a moment for her is when she is absorbed in doing something and then she sees everyone else. Bear describes his understanding further and says that a moment would be more of a description than a story.

On that note, we go to bed.

Day 4.

Date. August 6th

DT. 14 km

TOW. 10:45 – 5:30

Weather. Hot

Robin’s multi-toned watch alarm sounded a 8 am; confirming my dread that it was time to get up. ‘At least were not being baked out of our tent today’, I thought, ‘thank g-d for east coast campsites’.

I left the tent and informed my dreary co-leaders it would be a beautiful day, an accurate fortelling. We started breakfast—oatmeal and lunch—gado-gado. It was time to wake our campers. Red Hot Chilli peppers would be a fine morning wake up tunes. “Californication” for the girls, and ‘scar tissues” for the boys. Tents down, boats packed, nutella in the oatmeal! And we’re outa here!

With Rabbit in my bow and the 5 other boats on my wing, we embarked on our journey south, aiming for lee of gathering headwinds. We island hopped along the bay, stopping for swims to beat the heat and singing the killers. Some k later we reached our “portage” which we were able to team-lift-over in a quick 6 loads. 1 load per boat.

The gado-gado was devoured in a timely fashion, but during the apple desert, a small WW3 broke out. I watched in horror as a new apex of stereotyping and racism unfolded before me. Wolf-France, Hawk-USA, and Coyote—the semi-interest Canada in a stick throwing-beatle flicking conflict. Peace was made with the discovery of a common enemy, growing headwinds. We took off at speed, myself only pausing to share a story or play guitar during the swim breaks.

The lake narrowed and I noticed a light current for the first time—thankfully moving in our direction. A few more k and we fine ourselves in Star Lake, play a game of broken-water-telephone with [another] group across the way. I cooked a well enjoyed Rossoto while Robin and Mira readied the breakfast loaf. Some guitar and warm hearted conversation before s’mores and bed.

Good day team, Another go tomorrow.

-Bear.

8:00 am.

The day begins at 8:00 am as usual. Bear’s recording of his early-morning thoughts in the trip report —“thank g-d for east-coast campsites”--indicate his understanding that since the campsite is facing a particular direction, it is not in view of the morning sun and therefore his tent does not become too hot in the morning. Regardless of the accuracy of his statement¹¹, the fact is that his comment points to the recognition of an affordance in his campsite’s location.

9:00 am.

When Bear is done packing up his personal gear, he joins Robin in preparing the day’s food. At one point, Robin takes some time to herself and I notice her lying on the

¹¹ The sun rises in the east and sets in the west. Had we had had an east-facing campsite we most likely would have been baked out of the tent, (unless the tent was heavily shaded by trees). Since we had such a lovely view of the sunset the night before, I would guess that it was in fact, a west-facing campsite making his statement of affordances correct if you replace the word ‘east’ with ‘west’.

ground, on her back, staring at the sky similarly to how Bear centered on the moon last night during his free time.

10:10pm.

Once Robin is finished lying on the ground, she joins Bear in the kitchen to help with breakfast and lunch. Meanwhile, the campers work on packing their personal bags, taking down the tents, and loading the canoes. At one point during this slow orchestra of movements, I notice Loon, Otter and Fox just sitting on the ground in the shade. They are done packing up and have nothing to do but wait. They busy themselves with the natural objects that are within reach from their position on the ground. Loon uses a short stick to move pine-needles off the surface exposing the rich earth underneath. She ends up drawing something that looks like a cross. I ask her what she is doing. She says she does not know. Fox and Otter ask her if she feels more connected to nature. She says ‘no’. Then we have a conversation about leading questions. I ask her how she feels. She says ‘OK’. Otter asks if she feels less bored—despite our conversation about leading questions. Loon says ‘yeah’ and continues to do what she is doing. At the same time, I notice Fox has a piece of grass in her hands. She is bending it and breaking it apart in her hands. It is one way to pass the time.

Eventually, we depart the campsite. Bear writes about our departure and the morning’s travels in his trip-log (see above). With the strong wind against us this morning, Bear sees the topography for what it affords him in terms of paddling; specifically, how islands can provide protection from the wind.

11:00 am.

I paddle with Otter and the two of us sing. As I sing the song *Hotel California* by the Eagles—a song that has just about nothing to do with nature and much more to do with drug

addiction—Otter tells me that paddling with me makes her feel closer to nature. I ask ‘really?’ in an excited way. She says ‘yeah, I just feel so relaxed. It’s almost a religious experience.’ As an experienced canoe tripper and responsible person I try to help people feel comfortable and relaxed during canoe trips so this is nice to hear, especially considering that Otter associates being relaxed with connection with nature which is something I am passionate about. Hearing this likened to a religious experience startles me initially because of the strength of the word “religious”. That said, connection with nature has been written about as a spiritual experience as I noted earlier (Methodology: Theoretical Framework).

Otter and I paddle on until our path converges with Loon and Fox’s canoe. Otter speaks to Loon and Fox idiosyncratically saying ‘hey, look! It’s a tree-bush.’ I ask her to explain and she says that yesterday, when she meant to say island, she said tree-bush. She figures she should keep calling it that although she says it applies only to small islands that are very covered with trees. This is a sign that Otter’s knowledge of and experience with nature is merging with her personal stories and social relationships¹², (Gough, 2008).

12:20 pm.

It is brutally hot out so we have found a place in the shade for a break. The kids ask if they can swim and Bear says yes. Otter, Fox, Hawk, Wolf, Coyote, Caribou, and Loon all go into the water. As they soak, Otter invites everyone to be aware of the sensation of the experience by asking, “Doesn’t it feel so good?” Hawk gets a piece of long grass on him. He pulls it off but finds it close to him in the water so he picks it up again and throws it further away.

¹² Gough (2008) refers to the idiosyncratic ways of speaking that symbolize the merging of knowledge and experience in nature with personal stories and social relationships as “social signatures” (p. 84).

Bear sits in the canoe waiting to go in for his swim, and he notices a large beetle on the barrel. He says “whoa, hello big boy”. Wolf goes after it with his paddle and a chorus of Hawk and Coyote ask Wolf not to kill him. Otter asks if it makes them feel further or closer to nature. Hawk says he feels like nature is closer to him. Bear says further, and that he is not sure if it is a dangerous or safe beetle implying that his disconnection from nature has something to do with not being comfortable around the beetle.

With our swim-break behind us, we make it to our portage. Upon arrival, we assess the piece of land in terms of the act of portaging and happily find out that it is extremely short. Based on this assessment, the leaders decide to try lunch-box carrying each canoe as a group instead of having people carry loads individually. In other words, they ask the entire group to try carrying one canoe at a time as though we are all carrying the same lunch-box. We try it and find out that the strategy works well so we carry the rest of the boats this way. Our efficiency is greatly improved by our use of teamwork.

2:30 pm.

Now that the portage is complete, we take some time to have lunch. While we eat, the boys start throwing seeds they find in the bush at each other. They run and jump around the rock we are all sitting on. Then they hide behind trees and Wolf starts collecting ammunition. Then he grabs a stick. Hawk collects a handful of pine cones. It turns into a nature-inspired baseball game with the pine cones as balls and the stick as a bat¹³. To fill our unscheduled time, the rest of us look-on for entertainment. Otter asks ‘who’s winning?’ Bear notices Wolf in the forest and comments on the fact that Wolf is doing a covert mission and is planning a secret attack. Then Wolf notices we are serving seconds of lunch. He drops

¹³ This type of play is referred to as *nature-play* in the present study.

everything to eat. As he eats, he picks up a stick to resume. Hawk grabs pine cones and starts throwing them again. Accidentally, Wolf throws his stick at Fox. She is not hurt but Wolf still covers his face in what I interpret as shame. In the trip report, Bear refers to this nature-play as world war three and writes that “peace [is] made with the discovery of a common enemy, growing headwinds”. Since we might as well be efficient by coordinating our afternoon of paddling with the forces of nature, free-time is over as we paddle away. We depart into the headwinds and we spend the rest of the afternoon paddling, chatting, and taking swim-breaks.

During one swim-break, I sit in my canoe, making a raft with the other canoes. Meanwhile, Bear sits in his boat leaning back, playing his guitar. As Otter swims, she says she feels very connected to nature. Fox and Loon chime in that they do too. I ask what is making them feel connected to nature. Otter says anytime they get to swim in a cool lake and listen to guitar, they will feel more connected to nature. This sounds like a sensory experience best described as nourishment.

The swim-break concludes and everyone returns to their boats to paddle some more. We paddle throughout the afternoon moving across space, watching the landscape change. At one point, we paddle through a large opening of the lake where we can see a large opening of sky. Noticing the clouds, Otter says it would be nice to sleep in a cloud and that she has always wanted to. She says she knows that it is impossible but that she likes to think about it anyways. Otter’s dream-like thought about clouds reminds me of something I read about in a book called *mythic consciousness*. According to Devereux (1996), it is a human faculty that carries the language of “both nature and the soul”. Supposedly this faculty is a “direct link with nature” (p. 239) and therefore relevant to connection with nature.

After expressing her dream to sleep in a cloud, Otter and I paddle alongside Robin and Deer. Time passes as we paddle open stretches of water, with open skies overhead. Otter interweaves cloud-dreaming into a social challenge for me, thus filling the time. She says she will tell me what she sees in a specific cloud if I tell her how many kilometres I think we have paddled. I look at the cloud for a bit to come up with my hypothesis. She asks if I am going to guess because I do not know how many kilometres we have paddled. I say 10 km's and then guess that she sees a baby on its back in the cloud. She says 'laughing genie.'

Later we find ourselves in a narrows. As we paddle through it to the other side where the waterway begins to open up a little, Otter notices a dead-head to the right of us. Specifically, a dead-head is a dead-tree that is stuck in the lake-bottom such that it does not float, or move. Instead, it remains in place as an obstacle for motor-boat propellers, canoes and boating in general. As such, it is something that is noticeable while paddling. Otter says she likes the dead head and points out the green growth on it. I ask her how come she likes it. She says because it has the dead tree and the new growth: She observes that this represents 'the circle of life' and that some people try to make things look that way.

The lake narrows as we paddle-on and Bear notices a light current for the first time. Having a current moving in the direction we are paddling in means that paddling requires less effort. Alternatively, having a current moving in the opposite direction we are paddling in means that paddling requires more effort. Bear says he is thankful that it is moving in our direction (trip-log) demonstrating that he sees this affordance.

5:00 pm.

We paddle on and arrive at our campsite early. The decision is made as a group not to rush to make dinner but to swim, relax, then have dinner instead. In other words, have unscheduled time outside. As I find a shady spot against a tree, I notice Robin lying on her back again, staring at the sky. Fox goes over to ask if she is asleep. Robin says not anymore and just explains how comfortable and relaxed she is. Although she does not say she is experiencing connection with nature, the words comfortable and relaxed have previously been associated with it so I decide to ask her about it later. Soon thereafter, Hawk asks her what she is doing. Caribou and Coyote tell him to ‘shut-up’ because she is sleeping. He apologizes and says he just wants to know what she is doing. Robin says ‘It’s just really nice’. When Robin gets up from her position on the ground, I ask her about it: ‘Can you tell me what you notice when you do what you were just doing?’ She asks me; ‘lying there?’ Then she explains that she was focusing on natural features; ‘first I looked at the clouds, then the top of the tree, and then I looked at the wind’. Robin continues to respond to my question saying ‘Then I rolled onto my stomach. Then my arms fell asleep. That was a bad idea because it really hurts.’ ‘Oh no,’ I say ‘are you ok?’ She says ‘yeah’. She says she feels better and that it was nice and very relaxing.

Meanwhile, I look over and I see Bear in the light, reading his book. Fox approaches me to tell me something. She says she remembers thinking the clouds were really pretty earlier in the day; that above there was one solid, flat, cloud and below, there were small fluffy clouds. Since Fox came to me—specifically—to describe her observation of nature, and since I am a researcher studying connection with nature, I associate Fox’s observation of nature to her connection with nature and make note of it.

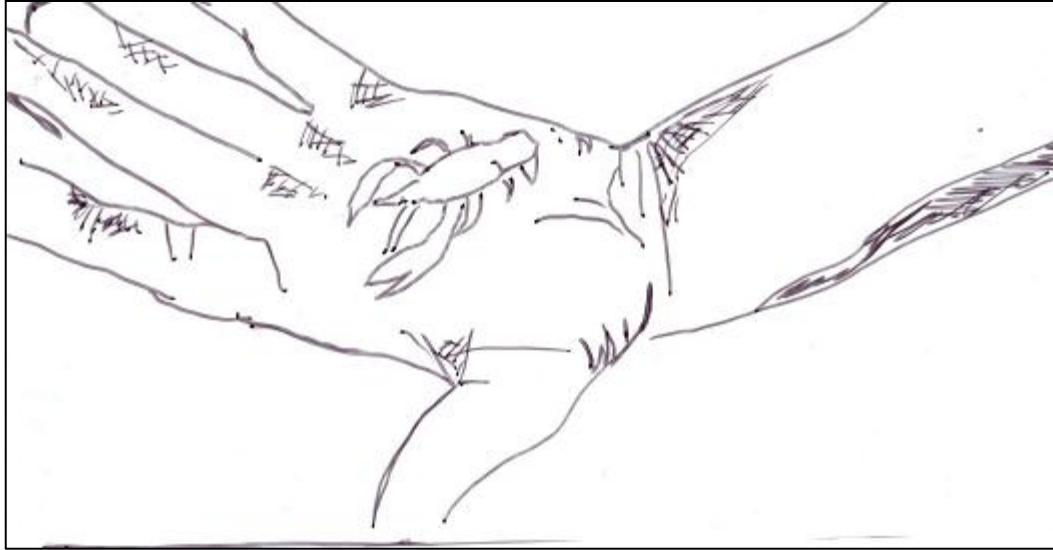
Eventually, Bear begins to prepare dinner. Meanwhile, Robin and I work on preparing a breakfast-loaf for the following morning.

9:00 pm.

After dinner, as Robin and I begin baking in the reflector oven, something unusual happens. I see a toad jump into the fire. I yell ‘no, no, go the other way!’” but it jumps in anyways so I look away. Although my reaction to yell at the toad does not get the toad to turn around, it does get a group of canoe-trip-members to run up to the fire-pit. Fox, Robin, Loon, and Caribou come to check if the toad survived but none of us see it again so I guess we’ll never know.

Not long after the toad incident, Caribou goes down to the water’s edge and finds a crayfish. He brings it to the campfire-site to show it off like a prize he generously wants to share with the group. Bear, Hawk, Coyote, Wolf, and I gather around him. Bear asks for someone go grab a research camera suggesting this interaction is affecting his connectedness with nature (see Figure 6.). Coyote and Hawk run to find theirs. The crayfish, in the meantime, is in Bear’s hands. He cycles it from one hand to another so that it does not fall. Wolf asks ‘how come the crayfish isn’t biting you?’ I say because his claws are too small. Bear reiterates. The kids take pictures.

Figure 6. Representation of Photograph: Crayfish in Bear’s Hand



As night wears on, Robin and I continue to bake the breakfast loaf. Meanwhile, Bear plays his guitar but he forgets the words to his song, so he starts making them up. The words he makes up are about the group. The group is circled around him occasionally retorting, agreeing or giggling at his verses. This is the first time I realize that we are constantly circling during the trip. We circle around Robin and Bear, around fire, around food; even around me. In a way, this is like when Bear centered on the moon and Robin centered on the sky however when we circle-up spontaneously altogether like this, everyone centers on the same thing.

After centering on Bear and his ridiculous and awesome lyrics, we make s'mores¹⁴. Unfortunately, as we enjoy our tasty dessert, warm fire, and entertaining music, the mosquitoes come out. The kids keep eating and having fun but once it gets really dark, they all go into their tents, using it as a barrier to keep away from the bugs; and also, to socialize and listen to an iPod one of the girls brought.

¹⁴ S'mores are a dessert made of chocolate and campfire-melted-marshmallows sandwiched between two graham crackers.

Soon thereafter, everyone goes to bed. Good-night everyone!

Day 5.

Date. August 7th

Weather. rainy morning, overcast rest of day

TOW. 11:30-5:00

DT. 12 km

QOTD. Bear- ‘Was that a Chewy Yawn?’ (about Robin’s accidental wookie call)

Portages. 1- take third right turn. Steep up-hill section after turn.

The alarms went off early-ish at 8am this morning and the leaders immediately jumped into action. Or, we would have if it hadn’t been raining. Instead, we waited it out in the tent listening to the wide awake campers. Once outside, we fried some of the gooey loaf, scraped off the burned bits, then chowed down. Caribou collected all his fru¹⁵, then we headed towards the river. The marsh section was successfully navigated, then we let the wind do the work for us. Zombie defense plans were discussed, and Coyote impressed us with his vast Star Wars knowledge. Eventually, we did some more puddling, making it to the dam in no time. Robin led the mighty Pack across the portage while Bear made some hummus for lunch. Once everything was over, we had some food, went swimming, then packed up. Welcome to the Tuesday River! Our preferred campsite had already been snagged by fishermen, but we found a decent alternative nearby. Chili/TVP with beans was made for dinner and turned out pretty well. Loon found a giant stick which provided great amusement until Bear tried to climb it and snapped off the bottom. People wandered off to bed early today, perhaps in anticipation of whitewater tomorrow.-Robin

8:00 am.

I wake up to the pitter-patter of rain on the tent. I can hear Hawk, Wolf, Caribou, and Coyote out of their tents and knocking around the group equipment. Robin and Bear try to wait out the rain but Bear gets impatient at around 9:30 am and gets out of the tent.

9:30 am.

Robin and I follow. I exit the tent to see a grey sky. I venture to the woods and I over-hear Coyote saying ‘please God, make it stop raining’. I pass Otter who complains that

¹⁵ Loose belongings.

it was a mean trick to let them think it was a rest-day by sleeping-in and then making them wake-up anyways. I explain how the leaders were trying to wait-out the rain.

Moments later, Coyote and Hawk review a conversation they had about connectedness with nature. Coyote says that the rain makes him feel further from nature but Hawk says it makes him feel more connected with nature. This emphasizes how aspects of the canoe trip (such as the rain, but also interactions with wildlife and amenities,) can be both connecting and disconnecting. Hawk explains that the rain makes him feel more connected with nature because it washes away all the human-smell and makes the air smell better, like nature; like the trees, the leaves and the water. Apparently, Hawk does not consider humans to be natural while he does consider the trees, leaves and water to be. The conversation continues and Deer—like Coyote—attributes feeling less connected with nature to the rain. To emphasize this point Deer says ‘she’s not joking!’

Following this conversation, the boys circle Bear and the fire-less fire-pit. I squeeze my way into the circle. We center on Bear who is trying to make fire with the complication of having wet wood. It becomes a lesson. Ironically, we rely on fire more than usual when it is raining because while we still need it to prepare breakfast, we also need it for warmth. Bear says ‘I don’t want to speak too early but I think we’ve done it’. Coyote turns around to tell me that fire-making is “an art”.

11:00 am.

After a slow get-away, we hit the water. Loon asks to paddle with me. She says she wants to be in a leader-boat for her first day of white water. I say “for sure”. She asks if we could sing Disney songs starting with *Under the Sea* from *the Little Mermaid*. In between songs, as we paddle through a marshy-creek, Loon comments on the experience of paddling

through. First, she explains how it does not smell good. We paddle a little further and then she says she does not like it here. She clarifies that she just means the marsh and not Tuesday Lake in general. She says 'it smells bad and the bugs are creepy'. She goes on to explain she does not like to see the bottom as she can at that very moment. As Loon describes her experience of the marsh, other canoes that are close-by can overhear her and therefore contribute to the conversation. Coyote says it smells like methane and how this is natural. Robin says the marsh is kind a cool and asks if anyone saw the great blue heron. By sharing what they experience while they paddled alongside us, Coyote and Robin contribute to the group's perception of the marsh.

We paddle on through the rest of the morning.

12:50 pm.

We paddle until it is time for a break at which time we raft-up and let the tailwinds push us. Earlier in the trip, we had headwinds which hindered us but now, the wind is an affordance instead. As the group floats down the river, they have a very detailed discussion about zombies. Robin says she is "weirded-out" because at the beginning of the summer, she paddled this exact same route, and discussed zombies in the same location, as tailwinds took them down the river in the same way. Something about this coincidence makes me think about mythic consciousness again.

2:40 pm.

Eventually, we make it to our portage. Robin leads us across it, making sure to indicate which turns we should take along the way. In the meantime, Bear makes some hummus for lunch. After we eat our delicious meal, we go swimming, pack-up and are on our way again. Now on the other side of the portage I can tell we have arrived at the

Tuesday River even though no announcement has been made about it. I am excited to be here.

5:15 pm.

Now late afternoon, we paddle past the campsite we are planning to stay at. Unfortunately, it is already occupied by fishermen. However, before we know it, we are paddling up to another shore. Loon turns to me and asks if this will be our campsite tonight. I smile in a way that indicates that it will be. A large smile spreads across her face. She says, 'I'm not even tired yet!'

We pull up. Robin and Bear get out to investigate. As we are waiting in our boats next to shore, Hawk and Wolf, in one canoe, paddle off to examine a floating dock. They are asked to stay in view because there are several things they do not know with regards to the route. First of all, they do not know that we are now on the river which implies the rest; that there is current which could take them where they do not plan to go and that there could be a rapid around the bend. Having arrived at the floating dock at this point, Hawk gets out. As he does, Wolf who's still in the canoe is taken away by the current and pushed into shore. Once on shore, he quickly jumps out and begins to take steps towards helping his stranded group-member. He begins by pushing the canoe over to Hawk. It works and Hawk gets back into the boat and pushes off the dock to make his way back to the shore where Wolf stands. Wolf asks for Coyote's help and as a group of three, they walk the boat back to the others. When this mini-ordeal is over, Robin and Bear announce that this will be our campsite

Boats begin to be unloaded. Otter notices that there is a picnic table at the campsite and exclaims 'we can eat dinner at the picnic table tonight—we don't have to eat on the ground. Imagine that!' In addition to the picnic table, there is also a shack the size of a closet

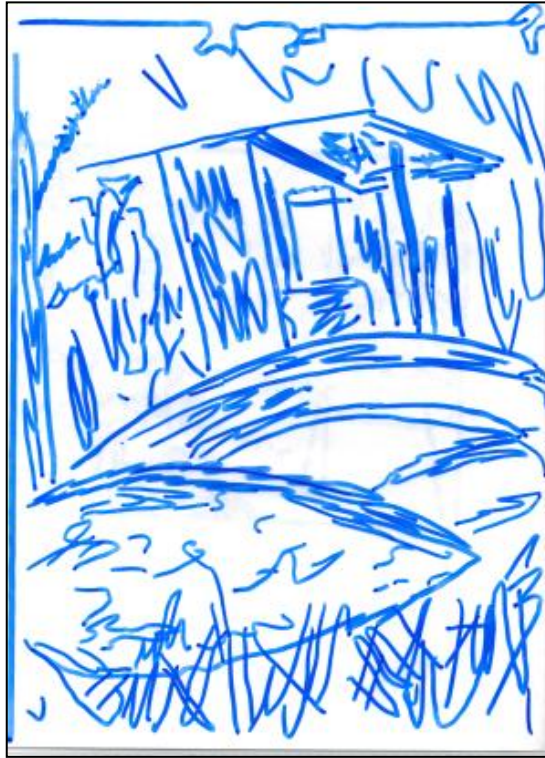
which is assumed to be a hunting blind¹⁶. A few group-members suggest that there may be a dead body in it, implying that they find it creepy. Meanwhile, the kitchen area is covered in long grass and Hawk suggests we need a lawn mower. Apparently signs of human-presence influence us because we have reacted to it with excitement (the picnic table), fear (dead body) and humour (needing a lawn-mower). When we have adjusted, we begin to set-up our campsite.

8:00 pm.

As I sit at the picnic table with all nine campers, Robin and Bear work on dinner. Hawk asks for the art supplies and draws a picture he submits for the study (see Figure 7). The image shows our canoes juxtaposed against the hunting blind. Hawk explains it for me. First, he explains that he drew the canoes because we are on a canoe trip. This suggests that they are symbolic of the canoe trip. He also explains that he drew the building because it is here and that he thinks it is for hunting. Making the historical connection between canoes, Canadian First Nations, and hunting practices, he compares the canoes with the building explaining that before “white-man” came, there was “the Indian” who did not have buildings to hide in to hunt; that they had arrows instead. The comparison continues as he explains how he included both the canoes and the hunting blind because one makes him feel further from nature and one makes him feel closer to nature. Hawk is associating the canoes and arrows with the Canadian First-Nations and their relationship with nature; and the hunting blind with ‘white-man’ and their relationship with nature. Therefore his drawing represents the relationship with nature that specific amenities (e.g., canoes and the building) symbolize to him.

¹⁶ A hunting blind is a small shelter that hunters hide in as they wait for animals to come along

Figure 7. A Representation of Hawk's Depiction: Canoes Juxtaposed with a Hunting Blind



After dinner, as I still sit at the picnic table with all the campers, I notice that Otter has her head rested on the table's surface. As she rests, she starts a conversation about missing the amenities of home. She says she is sick of peeing in the woods and that she wants a real toilet with a mirror. Loon asks if Otter wants to look at herself while she pees. Otter says she also wants a clean, soft, fluffy towel; air conditioning; running water; a soft, warm, snugly bed and a fluffy pillow. Fox says she wants them too.

9:00 pm.

Loon and Fox are supposed to be doing the dishes. Fox is, and Loon has not been. Loon marches to the kitchen area where Fox has been doing the dishes with an approximately 15-foot stick she has found. As prime-material for nature-play, it becomes a coveted item. Fox tries to take the stick from Loon so Loon gives it to Otter to protect it

from Fox while she does the dishes. Meanwhile, Otter starts dancing with the stick. Fox leaves the dishes and starts playing with the stick too by dancing around Otter. Loon runs over abandoning the dishes and says if they hold the stick, she will climb it. Robin says, 'Uh, no.' Then Bear tries to climb the stick and breaks it. Problem solved.

As I go to sleep, a few stars are visible between the darkness. I ask Bear what his guess is about the weather tomorrow. He says 'same as today'. I say 'that's depressing, but it could be worse.' He says 'it has been.'

Day 6.

Date. August 8th

DT. 11km

TOW. 11:45 – 7

Weather. Hot-ish

Portages. 2

- 1) First set, 700m, RL
- 2) Blue Spruce dam, RL, 150 m

Sets. 4

- 1) easy R1+
- 2) R2 – we went RR at the bottom
- 3) Ledge, straightforward and fun. Big washout.
- 4) Long, scouted RR. Big V at top, then pick and choose

QOTD. Otter-What would happen if they bio-engineered something to kill all bugs?

Bear-They'd mess it up and we'd turn into zombies.

Coyote – And then we'd eat only brains! Oh, wait, that's a stereotype.

Today was our first day of whitewater. Bear woke us up at eight as usual; after everyone packed up we sat down for delicious peach crisp.

After loading the boats we paddled to our first set. At the top of the rapids we ran into another camp, it was Camp Green Star. The set was considered unsafe and we portaged around. On our second set we received river instruction after scouting we all went down the river without dumping. After running the set we stopped for lunch, we had leftover chilli and traded goworp.

After scouting the 3rd set almost all of us went down safely, except Hawk and Coyote who dumped. After the rescue we continued on. One more uneventful set was run.

We paddled on past the lodge, couldn't find a campsite and ended up at the next portage.

The portage was completed in record time. We found a campsite, tents were set up and Mac'n cheese was consumed. Brownies for desert!--Fox

8:00 am.

I wake up to the alarm and as my eyes begin to focus, I notice sun spots on the tent. Then, as I exit the tent, I am greeted by a big blue sky. I cannot see a single cloud. As the leaders and I sit around the picnic table before campers awaken, Bear remarks 'what a nice day it is.' Then I comment on the beautiful wind. Bear plays guitar for a while then goes to wake up the campers.

9:45 am.

The boys are out of the tent and packed up. They encircle Robin, Bear and the fire; centering once again. Meanwhile, Bear tells them a story from his book. After a pause, Bear suggests the boys leave the area designated as the kitchen to load the boats. Instead of doing what has been asked of them, they ask more questions and Bear is distracted. Some time passes before Bear instructs everyone to load the boats again. This time, Bear leads by example by grabbing a boat and lifting it into the water himself. The boys follow suit.

Eventually, our peach crisp breakfast is eaten, camp is packed-up, boats are loaded, and we hit the river in anticipation of our first experience with white water. As we prepare to paddle-off, another canoe trip floats past us. It appears as though the leaders are teaching their campers how to paddle white water as they drift-by. They disappear around the bend but as we approach the top of our first set of rapids we see their group waiting by the shore. We wait with them as the leaders of both canoe trips go to scout the rapid. Robin and Bear return first with the decision that the set is not safe for us to paddle. Consequently, we portage around it and paddle-on to our next white water set with unwavering anticipation.

By using portaging as a safe alternative to paddling the white water, we have the opportunity to see another way the topography can be used to our advantage; to see another affordance in nature.

1:00 pm.

We reach the shore above another white water set. Robin and Bear hop out of their boats. They leave the campers as they go to scout this rapid. Soon thereafter, they return with the good news that we will be paddling it. Bear prepares for a white water lesson by crouching in the dirt, in the shade, and removing the top soil from an elongated rectangle. He grabs a rock and I hand him a twig to represent features that are found in white water sets. Then Bear takes a clam shell to represent a canoe. Not only is the lesson going to be about interacting with nature, but it is already an interaction with nature.

In a style almost opposite to a lesson in the traditional system, the campers gather around Bear in a standing position as he crouches in the dirt and begins to talk. During the lesson, he explains what angles to set our canoes at relative to the current in order to move in specific ways through the river, where to find eddies and take breaks, and how to paddle into and out of the current. In other words, he teaches us how to find affordances in the river. He also names and defines all the features in the river that are important for us to recognize explaining which ones to avoid. There is the rare question but generally, Bear speaks consistently. Learners are quiet and listen extremely well as evidenced later by their correct responses to Robin and Bear's questions.

After Bear is finished speaking, he hands the lesson to Robin to talk about communication signals. As the lesson continues, campers get tired, and a few of them sit

down such that their formation is now in reverse from when Bear was teaching. Robin is standing while the campers sit or crouch.

Next, Robin leads the way to see the white water set. She gathers rocks just before we leave. We arrive at the middle of the white water set and stand on the rocks, on the shore beside it. Robin begins to explain what is visible in the water. She asks if we can hear her but we cannot because the sound of the water is too loud. Consequently, she asks us all to shift closer to her. After we do, she begins her lesson. She points out some ‘V’s¹⁷ and some large rocks by throwing the rocks she gathered beforehand, into the river. In this way, she teaches us how to read the water. Every now and then, Bear jumps into the lesson and clarifies or elaborates on something. Robin and Bear question the group about the information that was just taught and they are able to answer correctly.

Now it is time to paddle! Robin leaves with Loon to paddle first. Everyone looks on. Their boat glides down the river exactly where it is intended to. Then it is time for the camper-boats to paddle the set. Bear sends campers away two at a time to prepare for their descent. As boats go down, those who are done wait in an eddy¹⁸ and cheer for the others. Wolf and Caribou’s boat makes it almost all the way down the set until the very end where they hit some rocks and beach up on them. To rescue them, Bear jumps over the rocks and pulls their boat off. Then he pushes it down the set. The rest of the camper-boats paddle the set with success. By the end, everyone has used the white water benignly and mindfully by reading affordances to satisfy their needs.

¹⁷ A ‘v’ is a white water feature that looks like the letter v. In general it is a path that is clear from obstruction.

¹⁸ An eddy is a non-turbulent area of water in the river.

With our successes of the first set behind us, we paddle onto the next. Before we know it, we are there and it is time to scout again. We walk halfway down the set and once there, we discuss what we see. Specifically, we discuss the white-water features that are observable, and the line (or path) that we think we should take. Then Bear paddles down first. Others follow and wait in the eddy. While in the eddy, we have to hold onto each other's boats so that the current does not take us away. Bear sits on shore to anchor us. Meanwhile, we cheer for each new boat that comes down. Apparently, successfully paddling white water is an interaction with nature that deserves celebration among the group.

Hawk looks over to me and says he is not scared of white water anymore now that he has done it. I feel a sense of satisfaction figuring that discomfort due to fear is more likely to make someone feel further, rather than closer to nature. Still, I say to him that a little fear each time is a good thing since it keeps us from doing things that are unsafe. Once we have all completed the set, we paddle towards lunch.

3:15 pm.

Today, the lunch menu includes leftover chilli from last night's dinner. When all the chilli is gone, Bear suggests we eat some G.O.R.P. (good old raisins and peanuts). As campers grab their handfuls of G.O.R.P., Bear tells a story about play fighting with his best friend. Meanwhile, the campers center once again, encircling Bear and the G.O.R.P. at his feet. Robin and I are outside of this circle. I point out how popular Bear is. Robin suggests it is not Bear that is popular, but the G.O.R.P. She takes the G.O.R.P. from below Bear's feet and walks with it outside of the circle. Loon says 'if Robin is giving more G.O.R.P then I'll follow Robin.' As predicted, all the campers follow Robin. After seconds of G.O.R.P. are

doled out, everyone spreads out to eat; and when everyone is done eating, we get back in canoes to paddle towards our next set.

Our next set consists of a small ledge. The first four boats make it down without a problem. Then it is Hawk and Coyote's turn. They make it down the ledge successfully but then ground-up on some rocks in the washout on river-right. It is an easy rescue and no harm is done. Afterwards, there is one boat left, the sweep-boat, which paddles down without a problem.

Moving right along in the day, it is time for one more white water set. This too is paddled with great success. With a full day of white water paddling behind us, it is time to campsite-hunt.

6:00 pm.

Robin says she knows of a good campsite in the east of where the group is floating. Bear asks about it and Robin says there is a picnic table there. The group cheers. Hawk asks if there is a thunder-box¹⁹. Robin says 'there isn't but that there is an outhouse'. The group cheers again. As the group approaches the campsite, Wolf and Caribou notice people at the campsite, which means we cannot stay there. Due to the disappointment over the loss of access to amenities, Loon loudly sighs 'No!!!!!!!!!!!!'

Meanwhile, we are forced to look for another campsite. In order to find one, we first have to portage over a dam. The plan is to camp on the beach on the other side of the dam. However, when we get there, we discover that the beach is far too small for us. Bear points to a far shore with rocks and grassland. Seeing some affordance in it for camping, he suggests we check it out.

¹⁹ A thunder-box is a box with a hole in the top that is used to defecate into.

We arrive at the potential campsite and Bear and Robin get out of their boats first to look around. The campers follow but they are not supposed to so Bear and Robin send them back. The problem is that the damage has already been done: Campers have already seen that there is a cabin at the site. Unlike other interactions with signs of human presence during the trip thus far, nobody talks about the cabin as creepy. Instead, it must symbolize the amenities of home because it initiates a conversation about missing them. Otter says she wants to take a hot shower. Hawk says he wants a nice poo and to call his mom. Deer wants to sleep in a bed. Hawk agrees. Loon says that she does not want to sleep in one of the beds in the cabin; that it is gross because you do not know who slept in it before you. She asks ‘what if the cabin’s owners have herpes?’

Robin and Bear return from their search of the property and say we cannot stay here. Bear points to a beach across the water and suggests we stay there instead. We paddle towards it.

7:20 pm.

Upon arriving at the beach, the campers and I sit in the boats and wait as Robin and Bear scout it out. Robin and Bear return announcing that this will be our campsite for the night. We all begin to unload the boats. After putting all our kitchen stuff (barrels, bags and a wanagan²⁰) beside the fire-pit, Bear decides to create a new fire-pit on some exposed rock instead. Consequently, we move our kitchen stuff to our new fire-pit location.

²⁰ A wanagan is a wooden box that is used to keep items required for cooking such as pots, pans, plates, cutlery, and condiments.

After all the campsite set-up is well-underway, when there is a convenient time to talk, I ask Robin and Bear about the process of choosing the site²¹. Robin and Bear explain how they looked for potential danger: ‘After arriving at the beach and checking it out, we walked around and saw there was nothing.’ Bear contributes saying ‘he looked for bear marks.’ Robin explains her concern for signs of human-presence; specifically, ‘garbage or something that another group might have left behind that’s inappropriate.’ Hawk asks ‘like what?’ and Bear says ‘condoms’. Robin says ‘porn.’

7:30 pm.

While I scurry around setting up the tent, and getting a dry pair of shoes on, Fox comes up to me eagerly wanting to share something she has found just as Caribou did when he found the crayfish. There is such excitement in sharing discoveries such as this with the group. She opens her closed hands to reveal a toad. She tells me he is trying to escape. Loon says she wants to see it too so Fox opens up her hands to show it to Loon. Suddenly the toad jumps and Loon catches it. I say ‘good catch!’ Then Loon walks over to the water to let him go.

8:30 pm.

As dinner is underway, Wolf goes off to the woods to defecate. He passes me on his way and asks me in his French accent what he should use instead of toilet paper. Apparently, we have run out and are relying on ‘nature-wipes.’ I respond to him by suggesting big leaves, smooth sticks or smooth rocks. I emphasise the word *smooth* and make sure he knows what it means. Leaves, sticks and rocks now have an entirely different affordance.

8:40 pm.

²¹ Note that this conversation actually happened the following morning but it seemed more appropriate to include it in its current location.

Dinner is ready and Bear stirs the cheese sauce into the macaroni. As he does, he says that he is so hungry he has to be careful not to drool into the pot. When he is done stirring, he doles it out and we all sit on the smooth rock around the new fire-pit and eat. I take the opportunity to ask questions for my research: ‘Do you remember the conversation at the potential campsite with the cabin?’ Someone wants to clarify if it is the one about using the toilet and internet. I say, ‘do you think that conversation was important?’ Caribou responds ‘yeah’. I ask ‘in what way?’ He says it was disconnecting thereby implying that the amenities under discussion disconnect from nature and are not considered part of nature. Otter disagrees with Caribou by saying ‘we don’t want to go to the city. We just want the amenities, the internet.’ Apparently associating the amenities under discussion with “the city,” even though she assumes nature and civilization to be dichotomous, she still recognizes that it is possible to miss *the-amenities-of-the-city* without actually wanting to be in the city. As the conversation concludes, Loon says to Otter “so basically, what you’re saying is you want a cottage”. Otter says she has one.

9:30 pm.

After dinner, we relax with nothing to do but sit under the night-sky. By now, Fox has asked me twice why the moon is so bright. She says ‘it looks like a ‘spotlight’. I take note of the fact that she compares the moon which is natural, to a spot-light which is man-made; particularly because the moon existed first but perhaps the spotlight came first for her. Having not heard Fox’s remarks about the moon, Bear exclaims how bright the moon is. He goes on to say ‘I should consider being an astronaut.’ Coyote says the 25th mission to Mars was cancelled by Obama but that he could probably hitch a ride with the Chinese.’ Bear says that he does make a mean stir-fry. Hawk says a good mac n’ cheese too!

The conversations continue and Otter says ‘I just really want to go home—I mean, to my tent.’ Bear responds by saying ‘I’m doing my job.’ I am confused so Otter explains that Bear thinks it is his job to make campers feel like their tent is their home. Then Bear explains for himself:

‘I think I was thinking about how the campers wanted their showers by the cabin. I get kicks from getting them enthused about things that aren’t in the city. Otter’s comment meant to me that I’m doing my job because it shows me that she’s comfortable sleeping in a tent; that it’s her temporary home while on trip. It’s sort of the same as when younger kids call you mom and dad. Both are comforting to me because it means that they feel comfortable. It means the group represents their family and the tent represents their resting place.’

Inherently assuming a disparity between the comforts of civilization and the comforts of the canoe trip, Bear sees that his goal is to support his campers in feeling comfortable enough with what they have in nature (i.e. tents) for nature to feel like home. Otter later says that all the girls in the tent discussed how they had not thought about missing their parents; only missing the amenities of home. In response, Robin has a giggle and imitates them ‘we don’t miss you, only the showers.’ Amenities-of-the-city must be very important indeed if they are more important for our comfort than seeing family.

Now that Otter has expressed her eagerness for the comfort she can find in her tent, we are all inspired to find our own comfort in our tents. Good-night everyone.

Day 7.

Date. August 9th

DT. 15 km

TOW. 11 – 5

Weather. Hot and humid

Portages. 2

1) First set after Thorn Lake, 150m

2) Mainland chutes, RL, 800m. Take first right turn on ATV trail. Steep put-in.

Sets.

1) 7 toes – easy V

2) Swifties after Mainland chutes portage until Smooth Chutes.

Day 7 was the second day of white water except we had to portage tow of them. To start the day we had carrot muffins. Once we finished them we left and portaged the first set of rapids. We paddled for a short distance until we were upon a campsite that we had lunch at. Lunch was salad that was cooked in the morning. After that we paddled and did some more white water. We finally made it to our camp site but we had to portage a short distance. Next we had dinner that was lazy perogies and were really good.-Caribou

8:00 am.

The alarm goes off in the leader's tent.

9:35 am.

As breakfast is being prepared, Hawk says 'it's funny how we have the same food on trip as we have in the city but it tastes so much better on trip'. Robin says it is 'because you're working harder.' Bear says it is because 'I'm the greatest cook in all the land.'

10:00 am.

I notice that the mornings are quieter than other times of day. The campers speak less. When the work is done, everyone sits and waits for breakfast but says little. Right now, I can hear the sound of fire and the breeze.

Otter sits with nothing to do waiting for breakfast by the water's edge. She points out a 'crab-like thing near the water' to Loon. It is most likely a crayfish but Otter says she does not know what it is. Loon asks 'where?' and Otter responds 'between the two pieces of macaroni, underneath a rock—you can't see it now.'

10:30 am.

When breakfast is over, we start to prepare to leave the campsite. Bear sits on a log brushing his teeth. Meanwhile, Deer is doing the dishes and walks by with the used wash water. She is about to dump it nearby when Bear interjects. He covertly teaches LI principles about how to deal with waste by saying ‘deep into the woods’. Referring to a spot between the campfire and the tent, only about 20 metres from shore, Deer complains that ‘Robin dumped the wash-water right there yesterday.’ Bear does not respond and Deer marches away, back into the woods.

Almost immediately after, Bear yells for Caribou. There is an empty Coke bottle strewn on the beach that was bought by someone at Brown Island. It has been showing up in random places ever since. Caribou claimed it at one point but it still seems to be showing up. Caribou is notorious for having his stuff all over the place. Bear covertly teaches LI principles once again by asking Caribou to get rid of the empty coke bottle; more specifically, to ‘get it out of his sight.’ Caribou starts walking towards us and Bear says ‘I asked you yesterday.’ Caribou says he is not even sure if it is his. Bear tells him to put it in the lid of his pack or something and to recycle it when he gets home so that he does not bring it back to camp next year because if he does, he (Bear) really will not want to see it.

11:00 am.

As we are sitting around the campsite getting ready to leave, the topic of the solo comes up. A few of the campers, including Fox and Loon, discuss what food they would want to pack for it. Even though there have been enough leader-told-stories about solos to fuel the campers’ discussion, Bear immediately responds with more storytelling. He explains that for his solo, he wanted to paddle up a creek but when he checked with the man in charge about it, the guy ‘almost had a heart attack.’ Consequently, Bear did another route.

Hawk continues the conversation saying he would want to do a particular loop that he did when he was younger. Robin responds that he would not be allowed to because it would be too long for a solo that only lasts for three days. Then she tells him, and the rest of us, about her solo.

As we continue to pack up the campsite, and Bear has put the fire out with water, he starts throwing rocks from the fire-pit that he made only yesterday into the lake. Caribou asks ‘why are you doing that?’ Bear mentions LNT/LI for the first time: ‘because it wasn’t here when we got here; LNT and that. You know, take only pictures and leave only footprints.’ Having not mentioned the official set of principles until now gives the impression that he wants to teach his campers a set of beliefs and not a set of rules. Deer asks ‘what about the next people who want to camp here?’ Bear says he does not care about them.

Afterwards, Caribou points out a fire pit that is visible underwater and says ‘the water’s a lot higher’ demonstrating that he sees his surroundings with knowledge about changing water-levels and building fire that he likely developed during the trip.

11:09 am.

When we are moments away from departing the campsite, Bear says that he is going to check on the extra toilet paper. I am surprised to find out we have some. Bear confides in me that he pretended not to have it. I asked him why and he said he knew it all along; that he made campers use rocks and sticks for his personal amusement. This leadership strategy definitely affected campers’ interactions with nature. Bear says it builds character.

Almost immediately following our departure from the campsite, we meet a set of rapids that we must portage around. The portage is short and we get it over with quickly. As

we sit in an eddy on the other side of the portage, Loon asks how many kilometres we have left. Robin says 'twenty-five'. Knowing that 25 kilometres are paddle-able in a single day, Loon asks if we could finish the trip today and stay in Lake Hill where the bus is picking us up for the rest of the trip. Apparently Loon understands distance in terms of paddling, perhaps from her experience with it during the trip.

The conversation changes topics but returns to planning the itinerary when Loon repeats her wish to go to Lake Hill. Otter says she wants a rest-day so that we do not have to pack everything up in the morning. Hawk asks 'why would you sit around all day with the bugs doing nothing but eating and talking?' Deer suggests a compromise: She suggests we should paddle to Lake Hill, set-up camp, and go on short little day-trips. Despite the group's opinions, it is ultimately up to the leaders: The discussion ends when Bear and Robin suggest paddling to our proposed campsite for that night, for lunch since it is only 2 km's away.

1:52 pm.

As we come down a little rapid, I see Robin up ahead of me, pulling over to the left side of the river at the campsite which was supposed to be tonight's campsite. Deer offers to tell me why a song we have been singing called *Colors of the Wind* from Disney's Pocahontas makes her feel less connected to nature. Her explanation compares the values discussed in the song, with the way we live on the canoe trip. She says that instead of connecting with nature like the song suggests, we are just coming in for a little while and are dependent on all the things that we brought. She is referring to the-amenities-of-the-city implying that our dependence on them, in addition to our valuing possessions and our desire to own the land, is the opposite of what the song advocates. She says, 'basically we just

don't relate like Pocahantas tells us to in the song'. Apparently, understanding the amenities on the trip as amenities-of-civilization and comparing our own relationships with nature to an ideal can be disconnecting.

After lunch, we hop back in the canoes and head towards Mainland Chutes.

4:00 pm.

It turns out that Mainland Chutes is a considerably large waterfall. Once again, portaging becomes an alternative to paddling and the land alongside the waterfalls acquires the affordance of safe passage. The portage is 800 m's long, with a turn-off, and extremely rugged terrain. Though still an affordance, the terrain proves to be challenging and therefore an obstacle as well as an affordance. We find a lovely bit of river at the end of the portage. There is moving water down the center of the river but no waves, swells, or rocks in the current. Also there are some large rounded rocks in the eddy. In other words, this segment of the river affords us with a lovely spot to go swimming. Everyone who wants to swim, jumps-in. Swimming continues until someone jumps head-first into the rapids and Robin manages risk by ordering him to get out.

Both the group and the leaders determine what to do next when soon thereafter, Hawk asks if we can start moving on and Robin and Bear call everyone out. Deer asks to swim more but Robin and Bear say no.

When everyone is out of the river, we walk back up the portage trail because the leaders have decided that everyone should get to have a good view of the waterfall we just portaged around. On the way, Bear waits back at a lookout to tell me a story about Hawk. Apparently, Bear came upon Hawk sitting on the white bucket staring out across the river. Bear says it looked as though Hawk portaged right to where he was seated. At first Bear

says he thought Hawk was staring at a big wooden cross that is visible on the other side of the river. But in retrospect, he does not think so. He thinks Hawk was just ‘having a think.’ Later, I ask Hawk about it. He says he was taking a break from portaging; that he was just looking at the scenery and that the particular spot looked like it afforded a good place to sit. I begin to ask Hawk more specific questions: ‘do you remember what you saw?’ He mentions seeing flowing water and the cross; that he wanted to figure out what the cross was. I ask if he remembers hearing anything. He says he recalls hearing the sound of the waterfall. I ask if he remembers feeling anything. He says no and I thank him for answering my questions. I am left wondering whether Hawk’s interaction with nature is an example of sensory nourishment, centering, having the experience of a ‘moment’ in line with what Bear described earlier, simply having a rest after working hard on the portage, none, or all of the above.

We continue walking back up the trail towards the waterfall. When it is in view, and I can feel its mist on my skin (even though I am a distance away), Fox sarcastically says ‘we could totally paddle that’ and that ‘it looks so easy.’ Loon seems to me to exhibit awe when she asks if anybody has ever paddled it. I shake my head even though I figure someone probably has and that is why there is a cross downstream.

4:40 pm.

After viewing the waterfall, we walk back down the trail towards the boats. It is a tight put-in so we are only able to load a couple of boats at a time. My boat is one of the first to be loaded so I sit in an eddy just a little downstream of the put-in with another couple of canoes. This provides us with a good opportunity to discuss the foam we see on the water. Wolf, Deer, Coyote, and Caribou ask each other why there is foam and what it is. Deer

suggests they ask me. I say I do not know but explain that I think there are natural residues in the water that create the foam just as soap creates lather. Otter says ‘a chemical?’ I confirm, ‘a chemical.’

After we leave our eddy and paddle into the evening down fast-moving water we call *swifties*, we eventually come to a large white water set. We have to portage around the top of the set to the middle of it where we find a large, rocky campsite with a view of the river below. This will be our campsite for the night. Once there, we find out that tomorrow will be a rest-day and that this beautiful campsite will be our home for the next two nights. As we set-up camp, Robin and Bear make dinner.

As they do, Robin and I begin to worry that something has happened to the canoe trip we passed at the top of our first set 2-days ago because we were expecting them to pass us but never saw them again. Consequently, Robin and Bear decide to give Camp a call on the satellite phone after dinner to get the word out in case help is needed. When they do get in touch, Camp representatives says that they will call the other camp and check back with us in the morning. We are instructed to call Camp on the satellite phone at 10 am the following morning.

After the phone call, we enjoy each other’s company well into the night knowing that tomorrow will be a rest day and that we will be able to sleep in. As the night wears on, campers discuss their canoe-tripping future; whether they will go on Camp Deep Water’s longest trip, whether they would do the leadership program and what food they will bring on their solo. This reflects the story-telling leaders have been doing during the trip. Coyote says he ‘for sure wants to do the longest trip’. Deer says she wants to do the leadership program

but that she does not think she is tough enough for the longest trip. I say things may change and that she can decide when she is older.

Conversations continue as I get my book *Catherine the Great* from my tent. Robin lies beside me on her pack as I begin to read aloud. The campers encircle us, centering once again. Everyone listens intently until Bear serves hot chocolate. Then conversation starts up again.

Later, as the last camper heads off to bed, Bear builds a large fire to burn off some inedible food. He announces in a deep voice (a voice he calls “the medieval voice”) ‘look what I’ve created; I have made fire.’ Meanwhile, I go to retrieve my toothbrush. On my way back as I approach Robin and Bear who are sitting around the fire, fanning it, I see the moon above the tree line, the river, and the smoke rising behind them. I join them to make a semi-circle with the fire at our center. We sit and tell stories, confide in each other and discuss leadership and the group.

I discuss the idea of centering as we were doing at that very moment around the fire. I explain that according to a book I have read (Devereux, 1996), humans need centering and that in Mongolian yurts and North American First Nations’ tepees, the hearth acts as the center of the home. I go on to explain that centering is important across all cultures pointing to the fact that different people have identical designations for North, South, East and West; and that if there is any variation in this, it is the consideration of up and down as directions as well (Devereux, 1996). Then I point out how our campers have been centering; that they center around the leaders as they tell stories, or the fire, and sometimes food.

Eventually, we too grow tired and the three of us head to our sleeping bags.

Day 8. (rest-day)

Date. August 10th

Weather. Variable – some rain, some sun

Today was the eighth day of our exciting voyage throughout the strong rapids that are the Tuesday river. Usually we would wake almost before the sun peaked over the horizon and eat breakfast immediately before paddling until the later hours of the evening. Today was different, since we had worked so diligently throughout the previous days of our trip, we were allowed a single day to rest instead of being awakened at the early hours of the morning we were allowed to wake whenever we pleased, and had a delicious breakfast of chocolate-chip pancakes. As the day progressed we again ran into camp Green Star who noticed the paddle I found on the first set earlier in the trip and claimed it as their own, from their camp.... Anywho, Camp Green Star stole my paddle and progressed onwards with their ... 6 day trip as they are not nearly as hardcore as us. An hour or so later we noticed camp Green Star at the beginning of the set outside our campsite, without scouting²², the first boat, a leader boat started to proceed down the rapids, almost immediately they got stuck on a very visible rock and the second pair went down with a slight bit more success than the first pair; but not much. After I watched, ... the last ... leader went down.... It has been raining off and on all day and I'm glad that today was chosen as the rest day.—Loon

10:00 am.

Usually, having a rest day means many things; one of which is sleeping in. While the rest of the group sleeps in until much later, Bear and Robin wake up before 10 to give Camp a call to find out about the missing trip. When they do, they are informed that the trip is still on schedule and should pass our group this afternoon. Robin and Bear express relief after receiving the news.

Then, Robin starts preparing pancakes and Bear starts making fire. Some of the joys of a typical rest day, besides sleeping in, include not packing up in the morning, relaxation, and labour intensive, time consuming, and delicious meals like pancakes. When the fire is ready, Bear starts cooking and the campers encircle him and the fire; centering once again.

²² Perhaps the set was not scouted by the group as a whole, but I am under the impression that the lead guide did scout the set.

Meanwhile, there is a sparse conversation as members of the group stare into the fire (Hawk and Caribou), stare at the ground (Rabbit), stare into the distance (Coyote) play guitar (Wolf plays stairway to heaven), or read (Deer). Quite frankly another joy of having a rest-day is being a little bit bored. Eventually, Bear strikes up a conversation about music and Caribou helps Bear put pancakes into a pan.

10:43 am.

The girls come out of their tent and sit down by me. As we eat our breakfast, I begin to read my book aloud again. Campers come from their positions around the campsite to make a circle with me. As I read, several listeners, (at least Robin and Fox,) play with sticks they find on the ground but meanwhile, everyone is silent. Then, when the chapter is over and everyone has finished eating their pancakes, campers go off to different places to do different things: Caribou sits drinking water in the shade, Deer catches up in the book, Otter sleeps on her belly with her arms crossed and her face in the dirt, Wolf plays guitar, Rabbit sits alone on a log outside of the group, and Robin and Fox draw in the dirt together using sticks to clear pine needles. Playing with things found within arms-reach such as sticks and pine needles is evidently a popular way of passing time this morning.

12:15 pm.

Suddenly, the leader of the group we have been concerned about approaches the campsite. Robin and I look at each other with smiles indicating excitement and relief. Then, I see rain approaching and point it out to Robin. She tells me 'you are so depressing'. I begin to put things away by closing bags and barrels. As I do, it begins to drizzle. Robin starts to help me. When we are done Robin hides under a tarp with Fox, the other campers disappear into their tents, and I go to mine. Throughout the day, the sun comes out, followed by rain

and group-members come and go from their tents in response. In this way, our tents provide barriers between us and the rain.

Later, when the sun is out and we are no longer in our tents, Fox and Otter invite me and everyone else to the water's edge to watch the other canoe trip go down the rapids. I go down first. Then Robin and the rest of our group-members arrive and settle in a cluster around a hole in the rock, seemingly centering on it. It is a feature probably leftover from before the river was dammed; when this part of the land was still riverbed. As we wait for the other trip to start descending the rapid, Otter asks me for my sketch pencils, and Deer asks me for my book.

As I watch the other group paddle down the set, an anxiety fills me. Robin and I exchange looks of discomfort. The campers comment on how dangerous the practices of the other group seem. They have either read the discomfort Robin and I are feeling, or knowing the safe paddling practices Robin and Bear have taught them, are able to assess risk on their own. Meanwhile, all the members of the other group make it down the rapid in fine form.

Afterwards, Otter gives me a drawing I watched her make moments ago by the water's edge (see Figure 8.). It resembles the hole in the rock we were all just clustered around proving that she was in fact centering on it. Since the drawing was submitted for research purposes, centering on the hole in the rock must have affected her connectedness with nature in some way. I ask her about it and she says: 'I saw water dripping into a crevice in the rock—or flowing I guess—and I decided to draw it'. This suggests that detailed observations of nature can mediate connectedness with nature.

Figure 8. Otter's Clam-Like Depiction of Water Wearing a Hole into Rock



Deer also submits a picture she drew down by the river (see Figure 9.). Explaining it she says ‘I tried to portray the current as it eddied around and flowed over rocks.’ Like Otter’s drawing, it depicts a detailed observation of the nature that surrounded her.

Figure 9. Deer’s Depiction of the River’s Current



After spending some time at the campsite²³, Otter gives me yet another drawing she has made (see Figure 10.). She describes it as follows: ‘I got caught up on the little sapling. Then I added the difference in texture: The sapling is connected to the different layers like the moss, the hill, the background trees, the water, and not just where it would be naturally. I also think it looks like a running person’. In other words, her drawing is meant to depict yet another observation of the nature that surrounds us, but also how everything in it is connected.

Figure 10. Otter’s Depiction of the Sapling Connecting with all that Surrounds It



As the rain begins again, some of us go into tents.

6:00 pm.

²³Otter actually drew and submitted this artefact earlier in the day but it seemed more appropriate to include it in its current location.

Robin and I come out of our tent to make pizza for dinner. As Robin cuts summer sausage, onions and garlic, Wolf, Caribou, Rabbit and Hawk do the dishes. I prepare dough and when it is ready to be rolled, I join the circle of campers around Robin and the food.

I am not sure how the next conversation begins exactly but Coyote decides to ask about life on other planets. He says it is likely that there is life on other planets if you consider how large the galaxy is. Hawk's eyes grow large as if he had never thought about it before and exclaims in a bewildered tone, 'it *is* likely!' Coyote asks my opinion about life on other planets. I tell him things I learnt on the topic in astrophysics when I attended the University of Toronto. Then, Coyote challenges the definition of life. Deer goes along with it and says life could exist on a smaller level than we are aware of. Then Coyote asks what electrons are made of. Deer offers quarks as an answer. Then she asks about the electron models so I explain the difference between the plum-pudding model and the Rutherford-Bohr model. When Deer says she learned about the Rutherford-Bohr model in chemistry, Coyote asks why she learnt it in chemistry when I had said earlier that this conversation was categorized as physics (astrophysics). I say that chemistry and physics are actually the same thing. Coyote disagrees and says they are very different. I explain that all subjects are the same because they all take place in this world. I show the world around us with my arms. Deer asks what comes after the two models we have been discussing and I say the quantum mechanical model. She and Coyote ask me to explain it. So I begin but all our free-time has now been filled with our philosophical conversation. Pizza is underway so I tell them I will answer the rest of their quantum-mechanics-model-questions later.

As the group is making their pizzas, Bear stands among the toppings to protect them from campers' clumsy feet. Regardless, campers continue to circle him so he tells them to

go stand in a circle somewhere else. In reference to our conversation about centering from last night, Bear tells them that they can stand around a shoe or something. I mention how much I love this comment and Robin and Bear say that centering is very obvious now that they are aware of it.

Pizza is very time consuming to make and evening turns to night as many of us grow hungrier. By the time the last pizza, is taken off the grill, it is *very* late and the majority of the group have already gone to bed. I wait as the leaders enjoy their much anticipated pizza. Now it is time for us to go to bed too.

Day 9.

Date. August 11th

DT. 15km

TOW. 11 – 4:30

Weather. Nice

Portages. 3

- 1) Lined down set right after Smooth. RL
- 2) Ledge, 75m, RR
- 3) Around falls, RL, 140m

Sets. 2

- 1) R2+, top section easy, with a big V at the bottom.
- 2) R2, thread the needle through some pillow rocks at the top, then through a big splashy wave train.

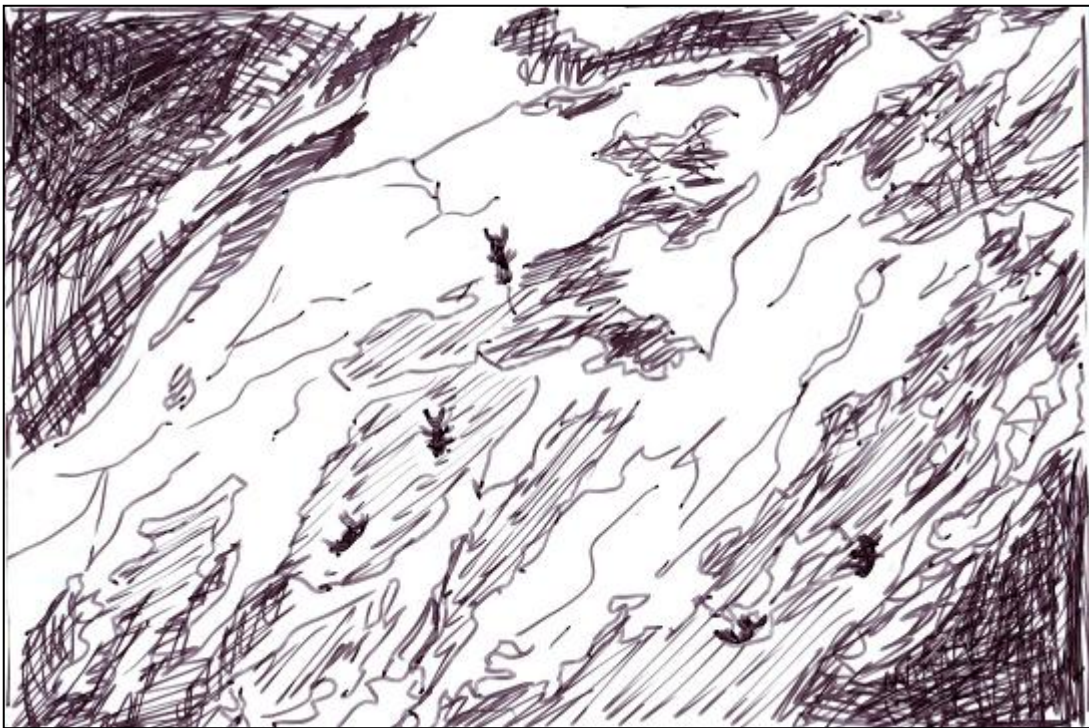
A participant-written trip-log entry was not written for day-9.

8:00 am.

We wake up to an overcast sky. Robin and I work on making a delicious breakfast of oatmeal with raisins. We add about two pounds of chocolate. Meanwhile, Bear single-handedly portages all the canoes from the beginning of the portage mid-way through the set to where we will start paddling. We eat, pack up camp and meet the boats with our stuff. Then, we scout Smooth Chutes as a group. Even though we have been looking at the same

rapids for a day and a half, we still have to examine it for the intent of paddling to find affordances in it that are specific to paddling. When we are done, Bear goes down the rapid first as the rest of us look on. He takes an excellent line and catches a small eddy on river-left. Once Bear is in position, the rest of our boats go down in a spaced-out ducky style; one after another. As bear waits in the eddy, he notices exoskeletons of some kind of bug hanging on a rock wall. He takes pictures of them (see figure 11). Apparently his observation of the exoskeletons represents his connectedness with nature in some way.

Figure 11. Representation of Bear's Photograph of Exoskeletons Hanging on Rock.



Meanwhile, everyone paddles the rapids extremely well. When everyone is done, Bear leaves his eddy to join the group further downstream. He tells me about his picture-taking with what I interpret as prideful excitement. This leads me to believe that his picture, which represents a detailed observation of nature, is associated to connection with nature.

12:55 pm.

With our first set behind us, it is time to move onto the next one which is just a short puddle-hop away. Everyone gets out of the boats to see it. Bear and Robin find an isolated location to fulfil one of their many leadership duties: To decide what our next interaction with nature will be; in other words, to decide whether we will run the set or not. I listen to them translate their perceptions of the river to predictions of how it could affect a canoe. Then I listen to them weigh possible options for how to meet the challenges the river presents by taking different paths. Subsequently, they weigh the safety, efficiency and fun of paddling, with lining and portaging, in order to find the best option. This is a process of assessing risk, upon which decisions are made to manage risk.

To clarify my understandings about the process, I ask Robin and Bear what they are thinking about. Robin says ‘I follow the water down and look where the water would push us. I’m considering river morphology²⁴ type stuff.’ She continues, ‘I am looking downstream to see the possible consequences of dumping.’ Bear responds also. He says ‘we’re wondering if people can hit the line in the right spot; whether they can get the right angle. I see the boil and I think it will make people spin. Then I see a hole and think about the consequences if someone were to go into it.’ In the end he says that since it is taking too long to decide whether to run the rapid, they should just line it instead. That is exactly what we do.

2:00 pm.

We do not have to go far to find our next rapid which is an obvious portage upon inspection. Afterwards, we hop back into the canoes and find a small space of rocky shore where we can eat our pasta lunch. For some reason there is a bench here which seems out of

²⁴ River morphology refers to the form and structure of the river.

place to me. As we sit on the river's rocky shore...and on our bench... we enjoy heaping cupfuls of pasta.

3:30 pm.

After everyone has eaten, it is time to get back in the boats and paddle away. I tell everyone that they are in charge of their own cups. Robin corrects me and says 'mugs.' Hawk protests saying that they are not usually in charge of their own mugs after a meal. In response to my request, Coyote puts his mug in the river, fills it up with water, and dumps the water and leftover pasta into the river. I make a sound because I am about to yell at him to stop, but instead, I cut myself off because I do not want to interfere. Moments later, Hawk does the same as Coyote. I make a noise, tap Robin on the shoulder, and she tells them 'we don't wash our mugs in the river.' She says 'when I said clean them, I didn't mean put noodles in the river. I meant we'll clean them later at the campsite.' I asked Coyote about the experience after-the-fact. Despite Bear's leadership surrounding waste-management, Coyote's response does not reflect principles that align with LNT/LI: 'I was pissed-off that I had to clean my own mug and I wondered if the mug was cleaned well enough; whether I was going to get some disease.'

We leave the lunch-site off to the final set of the trip. Robin and Hawk go down first and meet with a ledge that is less friendly than anticipated. Although they complete the set with success, the decision is made for the rest of the group not to paddle over the ledge, but to line instead. Deer and Loon have other, perhaps unintentional, plans. They paddle over the ledge and complete the entire set with unbelievably elegant-success. Impressive!

Without anymore rapids to paddle, we are now down to one last portage. As we finish this last portage, we can see camper-vans on river-left and as we paddle down the

winding current, we begin to see houses. Coyote says the first two cottages we see are ‘sketchy’. I ask what he means and he says that they look like they are made of plywood and scraps. He elaborates further using the word creepy as it has been used previously in the presence of humans and human-impact to imply experiences of disconnection from nature: ‘maybe some poor creepy people live there.’

Soon we start seeing roads, power lines, and trucks. As we step into civilization, away from nature, the campers become aware of their experience and a conversation defining nature ensues. Otter says, ‘Mira, I don’t like it here. It’s like fake nature. It makes me feel further from nature. I want real nature back.’ Fox interrupts contributing ‘it’s kinda gross.’ Otter continues ‘it started feeling artificial even before we started seeing cottages.’ Apparently Otter does not consider cottages to be nature. However, beyond the presence of cottages, there is something else, less obvious, in her surroundings that makes her feel the way she does. This is explained later during this conversation. Meanwhile, Deer challenges Otter by explaining how she still considers the area to be nature because there are enough natural features around us—such as river, water and trees—and only a limited number of cottages. Otter reflects introspectively, ‘I don’t know, it just fell-off like I’m going to go through trees and see a strip mall.’ Deer elaborates on her own perspective further: Expecting some degree of isolation in nature, she says, ‘I like when you have a couple cottages. Not like I’m paddling through a city but just to have the feeling that there are people around. I don’t like isolation.’ Again, Otter elaborates by firmly stating her need to feel absolutely isolated in nature: ‘I feel like nature is my own and I don’t like when other people are there.’ ‘That’s selfish!’ Deer says. She goes on: ‘I don’t mind another canoe trip or a few cottages.’ In response Otter says, ‘I’m ok with another canoe trip. I just don’t like

people in recreational vehicles or house boats.’ Deer agrees saying ‘no one likes house boaters.’ Fox concurs. In the end they all agree that a minimal number of humans are acceptable in nature as long as they have minimal amenities of civilization with them (e.g., no house-boats, cottages or recreational vehicles) and are surrounded by natural features (e.g., river, water and trees).

After a while of paddling down fast-moving, windy river, we arrive at our campsite. It is next to the road where the bus will pick us up to take us back to Camp in the morning. Since it is in a somewhat populated area, we are forced to camp on someone’s lawn. Robin and Bear knock on the lawn-owner’s door but since he is not at home, we go ahead and put our tents up on his lawn without permission. Once set up, our tents are surrounded by an old swing-set, a tractor, a wood pile, and a shed. People drive by slowly in their pick-up trucks and stare at us. Hawk yells things at them and Robin tells him not to. She also tells the group not to stare back at the drivers. One of the drivers stops to talk to us. Robin and Bear go over. It turns out to be the lawn-owner. When they return, Loon asks if we have to leave. Robin says we do not but that we should clean up out of respect. Campers disperse.

Bear seems really frustrated after his conversation with the lawn-owner so I ask him about it. Bear explains that land ownership has become an issue for us since entering civilization; that the lawn owner is used to people camping on his lawn, that he did not like it, and that he had a speech made up. In his speech he said something about how we probably would not put our tents up on someone’s lawn in Toronto. Bear reveals his dichotomous assumptions regarding nature and civilization when he says that this comparison is unfair since this is not Toronto (civilization), it is the Tuesday River (nature). Contrary to what the lawn owner thinks, Bear believes that we are being very respectful to

the lawn owner even though we are camped on his property because we are not using *his* firewood and fire pit, nor are we camped on *his* front lawn. Bear did not tell the lawn-owner about taking water from *his* hose.

7:30 pm.

As we wait for dinner to be ready, campers imply feelings of disconnection from nature by telling each other how creepy it is here. Otter confirms this implication when she says that it is creepy because ‘it’s half natural and half not.’ Caribou challenges Otter by asking how a place can be half natural. She responds by explaining that nature is the “middle of nowhere” and she considers our current location to be the middle of nowhere but that since there is “stuff” around, it does not seem like complete nature. In this context, “stuff” implies amenities-of-civilization which has already been associated with disconnection from nature.

Soon after this conversation, I notice that Hawk has taken a picture of us camped on the lawn (see Figure 12.). I ask if it is for fun, or whether it has to do with the study. He says ‘the study.’ This implies that the image symbolizes his relationship with nature in some way. I ask ‘how so?’ He says ‘at this point of trip-- when I get to ride a bus and eat fast food—I start debating what I feel more comfortable with.’ Apparently, he is drawn to both the comforts of civilization and the comforts of nature which he holds in opposition, and that this draw to opposing comforts, mediates his connection to/disconnection from, nature.

Figure 12. Representation of Hawk’s Photograph of Canoes Juxtaposed
with a Tractor



9:22 pm.

The night continues quietly and respectfully and it's early to bed. Tomorrow, we eat fast-food!

Day 10. (Travel Day)

Weather. Sunny and Hot then Stormy and Hot

Aujourh'hui est le dernier jour nous ne ferons pas de canoe a puit under the bridge pur la rentree au camp. Ce matin pour le petit dejeuner nous avons seulement mange des `GORPS` ce qui fait largement suffisant pour moi. Nous avons attend longuement le bus en plein soleil. Hawk s'est meme refuger sous les canoe pour s'isoler du soleil. Le bus est finalement arrive avec plus dune heure de retard.--Wolf

8:00 am.

We wake up anticipating our bus coming to take us into town for lunch and then back to Camp.

10:22 am.

Sitting in a circle on our reluctant-landowner's open lawn, we find ourselves unprotected from the sun. Having no natural amenities such as trees nearby, we rely on man-made amenities to protect us. Hawk decides to go hide under canoes for protection. When the other campers realize what he has done, they follow.

10:48 am.

Though a little late, the bus finally comes. With excitement, we load all our belongings onto the back of the bus; starting with the canoes. Then, we board the bus. As we do, we are greeted by the large rear-view mirror. A glance in the mirror reminds us of our own appearances which we have not seen for days. We file into our seats. This imposes a structure on us making it impossible to circle-up anymore. Then, we lean back on seat-backs for the first time in 10 days.

Before we know it, we are moving much faster than we have in a while. In comparison to paddling, the nature that we can see through the windows, but cannot touch, seems to just fly by. When the bus really gets going, Hawk says he feels like he is flying. Caribou agrees. Then, when we finally reach a paved road, Hawk exclaims 'oh my G-d, concrete!' Coyote says 'Thank G-d, concrete!'

12:00 pm.

When we arrive in the next town for some fast food, I follow Coyote, Wolf, Hawk and Caribou to the restaurant. We walk so fast with excitement that we are almost at a run. We stand in a line to order and then we sit around a table. Again our formation is imposed on us and we are not able to center naturally. Coyote gets up to buy a drink and returns criticizing a man who asked for a plastic bag for his newspaper; 'this is what is destroying our planet people'. When we have all filled ourselves with delicious food, we pile all our

waste into the garbage can. We are no longer responsible for finding a permanent location for our waste and therefore do not experience the complete waste cycle or the intimacy with nature that process involves.

1:15 pm.

With candy and pop in hand once again, it is time to hop back on the bus. I take the opportunity to ask everyone about what they noticed in town. Deer says 'being able to eat whatever I want.' Otter says 'mirrors, and flushing toilets.' In other words, they noticed the amenities-of-civilization they had the opportunity to enjoy. Then Otter adds 'all the things you can't talk about' implying that the social dynamic has changed now that the group is not isolated anymore. Hawk explains his feeling of belonging in the town, which he attributes to an understanding that the town represents both the canoe trip, and civilization: 'I felt more at home but the town is made of people from cottages and other canoe trips so it's sort of shifted but you can still get all the city things.' Otter emphasizes the importance of amenities-of-civilization once again when she says 'I found it weird how you could get things; like there was toilet paper. You could buy it, it was right there.'

2:45 pm.

Soon after leaving town, we turn off the highway onto the long logging road that will take us into home base. As we arrive at the parking lot, we know that we have 2 km's to portage before we can start paddling under The Bridge. We unload the bus and get to walking. Slowly we complete the longest portage of the trip. It is long and meaningful to me. I know that at its end, the trees break and we see the grand view of the lake that signifies home. As we paddle around the bay, past camp, we see The Bridge where we began our journey 10 days before. A crowd of people stand on it. They cheer for our safe return. Now

leaving nature, we return to our civilization. Although we are only two weeks older, we return with stories, strength and experiences that make us unique. We are heroes of a kind.

Results and Discussion

Included in this section is a discussion of participants' definition of nature followed by a separate response relating to the first, then second research questions. To avoid repetition while providing a coherent argument, my discussion is embedded throughout.

Notion of Nature

The meaning of nature had to be defined according to participants' understanding in order to completely and accurately respond to the research questions which pertain to it (the first research question addressing connectedness with nature and the second addressing interaction with nature). Based on the data, three characteristics of nature are recognized in participants' statements: (a) it has fewer humans than a city, (b) it possesses non-human/natural features (e.g., trees, leaves and water), and (c) it has amenities of a different quality than those found in a city. These characteristics are discussed below.

On several occasions during the canoe trip, participants suggested that nature involves limited human presence. For example, on day-9 (3:30 pm) of the canoe trip as we paddled into the town of Lake Hill for our last night of trip, Otter said "I feel like nature is my own and I don't like when other people are there." Other participant-statements, such as Deer's response to this comment, also implied that nature involved some degree of isolation from humans. Although that degree varied, there was an overall consensus among the group that nature involves fewer people than a city.

In addition to having fewer people than a city, participants also referred to features of their surroundings as natural, suggesting that these features *are* nature. For example, on the rainy fifth morning of the trip (9:30 am), Hawk said that rain made him feel more connected to nature because "it washed away all the human smell and ma[de] all the air smell better

like nature—the trees, the leaves and the water.” Some other features participants referred to as nature included “land”, “woods”, and “rivers”. Participants also expressed recognition that nature is something you can feel, smell, and see. A commonality that all these features had was that they had little to do with humans. Therefore, this characteristic of nature has been designated *non-human/natural* features.

Another characteristic of nature that emerged throughout my observations was that it has different amenities when compared to civilization. For example, on the evening of day-6 (8:40 pm), when the cabin was found while campsite hunting, Otter talked about wanting the amenities of “the city”. Later (9:30 pm), she said that during a discussion with the other girls in her tent, they realized that none of them had thought about missing their parents; only about missing “the amenities of home”. Altogether these comments suggest that the nature encountered on the canoe trip was perceived by participants to be without the amenities of “home” or “the city”.

Meanwhile, participants also made statements about how amenities specific to the canoe trip such as canoes and paddles affected their connection/disconnection with/from nature. This suggests that participants did recognize that amenities were present on the canoe trip, but they were of a different quality than those they have at home. That said participants did not consider natural features they were surrounded by such as clean air, trees, rivers and lakes to be amenities (see discussion on non-human/natural features above) even though they could be according to Brehm, Eisenhauer, and Krannich (2004) who include “climate, geography or topography, and other natural resources such as water, clean air, and forests” (p. 408) in their understanding of amenities. Therefore, the amenities that participants experienced on the canoe trip were named *the amenities of the canoe trip* and

point to the fact that nature is characterized by the presence of these amenities (and the absence of *the amenities of civilization*).

In sum, the participants' definition of nature is something that involves fewer humans than a city, non-human/natural features and amenities of a different quality than those in a city. This coincides with the construction of nature that Haluza-Delay (2001) identified. The qualities of nature he identified included: (a) undisturbed and "where people leave it alone" (p. 45-46), (b) without people, (c) consisting of a "natural character.... such as the trees, the ground, the water" (p. 46), (d) "not human-made" (p. 46), and (e) that it is something "out there" (p. 46). Therefore, an inherent dichotomy between nature and civilization seems to exist. This dichotomy is referred to by Haluza-Delay (2001) as the nature—civilization dichotomy. According to our definition of connection with nature as an expansion of self to include the Earth (see the Literature Review), this dichotomous notion of nature is a disconnected notion of nature and reflects an anthropocentric rather than an ecocentric orientation. Alternatively, my personal notion of the relationship between nature and civilization is more like a continuum reflecting my perhaps more ecocentric orientation. Consequently, while I address the relationship between nature and civilization through participants' perspectives as the nature—civilization dichotomy, I address it through my perspective as the nature—civilization context continuum. Participants' dichotomous notion of nature is inherently related to what mediates their connectedness with nature and thus, to question-1.

Question-1

According to the canoe trip participants' perceptions:

- a) What are aspects of the canoe trip experience that brings them closer to the environment?
- b) What are aspects of the canoe trip experience that distances them from the environment? How are these opportunities initiated and supported in the context of the program?²⁵

Since the first research question deals with the participants' perspectives of their connectedness with nature, it is based solely on participant-statements. Consequently, it ties very closely with their definition of nature as outlined above. The nature–civilization dichotomy has been designated a meta-theme under which other themes fall. Based on this meta-theme, only two kinds of experiences are available to canoe trip participants; the first is the experience of nature, in the absence of civilization, and the second is the experience of civilization, in the absence of nature. They are called *stepping-back-from-civilization-into-nature* and *stepping-back-from-nature-into-civilization*, respectively. These two themes interact with the three characteristics of nature (non-human/natural-features, fewer-people-than-a-city, and a-difference-of-amenities-between-civilization-and-nature) to produce sub-themes.

- Specifically, the *stepping-back-from-civilization-into-nature* theme interacts with non-human/natural-features characteristic of nature to produce the sub-themes called *sensation*, *observation*, and *interaction with wildlife*. It also interacts with a-difference-of-amenities-between-civilization-and-nature to produce the subthemes *presence-of-the-amenities- of-the-canoe-trip* and *absence-of-the-amenities-of-*

²⁵ The response to part c of this first research question is relevant to the recommendations for EE provided in the “Implications” section of this document and is therefore addressed there.

civilization. Finally, it interacts with *fewer-people-than-a-city* to produce the sub-theme called *isolation-from-the-population-density-of-civilization* (see Table 2 and Figure 13).

- The *stepping-back-from-nature-into-civilization* theme interacts with *non-human/natural-features* to produce the subtheme *absence-of-non-human/natural-features*. It also interacts with *a-difference-of-amenities-between-civilization-and-nature* characteristic of nature to produce the sub-theme *presence-of-amenities-of-civilization-in-civilization* (see Table 2 and Figure 13).

One more theme that emerged in response to the first research question which has not been mentioned yet is *social-influence/leadership* (see Table 2 and Figure 13). It is considered a meta-theme because it interacts with all other themes and sub-themes. It represents how leaders influenced participants' connectedness with nature according to participants' perspectives.

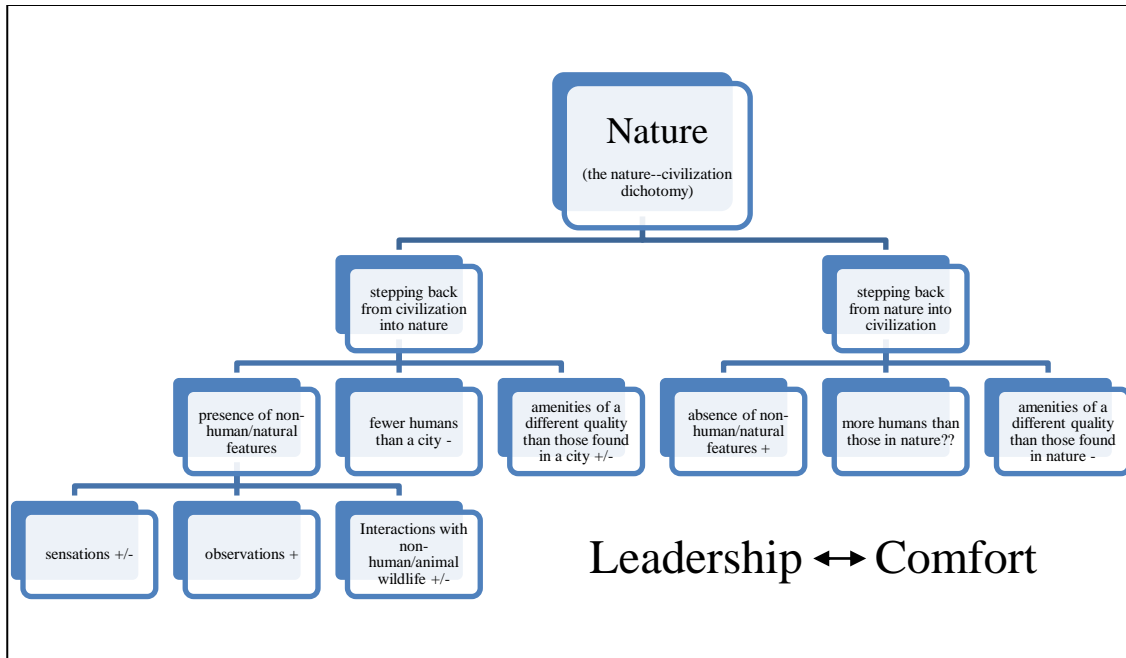
A discussion of all the themes and their sub-themes, which make up the response to the first research question, is found below. It is presented by theme since almost every one of them can affect canoe trip participants' relationship with nature towards connection or disconnection depending on the situation. Subsequently, there is a note on spirituality and a note on comfort which relate to the first research question though indirectly.

Table 2. The Themes Identified in Response to the First Research Question

	1.The Nature—Civilization Dichotomy			
	1.1. Stepping back from Civilization into Nature		1.2. Stepping back from Nature into Civilization	
(a) Non-Human/Natural Features	Sensations	+/-	Absence of Non-Human/Natural Features	+
	Observation	+		
	Interaction with Non-Human Animal Wildlife	+/-		
(b) Fewer Humans than a City	Other Human Presence	-	?	?
(c) Different Amenities than a City	Amenities of the Canoe Trip	+	Amenities of Civilization	+
	Amenities of Civilization	-		
	Social Influence/Leadership +			

The characteristics of nature in the left column interact with the two themes of the nature-civilization-dichotomy meta-theme to create the sub-themes, which can be found to the right. The meta-theme entitled social-influence/leadership found at the bottom interacts upwards to affect all sub-themes. ‘Plus’ symbols indicate connection, ‘minus’ symbols indicate disconnection and question marks indicate uncertainty.

Figure 13. The Themes Identified in Response to the First Research Question



Participants' understanding of nature is represented in the first level. It creates two possible contexts (found in the second level) which determine how features of nature are experienced (found in the third level). As above, 'plus', 'minus' and question marks indicate connection, disconnection and uncertainty, respectively. These meta-themes, themes and sub-themes are all affected by leadership and comfort which are interrelated as indicated by their placement in the space entitled *leadership ↔ comfort*.

The nature--civilization dichotomy. The nature-versus-civilization-dichotomy has already been explained above. As a meta-theme, all the themes that fall below it are discussed within this framework.

Stepping back from civilization into nature. As the group ventured out from under The Bridge on the very first day of our canoe trip, the participants left the world known as civilization to enter a different world known as nature.

The presence of non-human/natural features. Once there, they were surrounded by sparkling clean water, towering pines, and the non-human animals that dwell therein. There are three sub-themes in this section: sensation, observation, and interaction-with-wildlife.

- Sensations: According to participants, connection with nature was accompanied by an experience beyond comfort similar to pleasure, delight, or bliss, several times during the canoe trip. One example of this occurred on day-4 (2:30 pm) when Otter, Fox and Loon were swimming in a cool lake on a hot day and listening to Bear play guitar. Another example occurred on day-3 (7:40 pm) when Otter came to tell me that she wanted to take a picture by the water because being there made her feel very connected to nature, open, and happy. Later she described the experience in terms of the wind, the lack of bugs and the beauty of the view thereby suggesting a nourishing sensory experience. In this context, what John Livingston (Cayley, 1991) has referred to as sensory undernourishment becomes relevant:

I believe that we live in a society of chronic sensory deprivation, not in the classical psychological sense, but in the sense that we are deprived of the stimuli that can only derive from sources which are not human and not of human manufacture. Whereas every non-human being is born and grows up in an environment which is multitudinous in its sensory information from hundreds or maybe thousands of other species around it, both plant and animal, the human child is born and grows up in cities, in an environment in which the contact with the mere existence of the non-human is systematically denied. (...) We hear that people in the downtown core are suffering from sensory overload, simply because the neon signs flash, and the horns hoot, and so forth. But what we are actually seeing is such a pathetically hair's breadth wide part of the

spectrum of potential sensory input that we're not overloaded, we're undernourished to the point of desperation. (Cayley, 1991, p. 13-14)

In contrast to sensory undernourishment, sensory nourishment results from being surrounded by the rich sensory information “from hundreds or maybe thousands of other species around it, both plant and animal” (Cayley, 1994, p. 13). This experience of sensory nourishment was possible in the natural setting of the canoe trip and was found to influence participants' connectedness with nature based on their own accounts.

Just as one's senses can be positively stimulated in nature, or nourished, one's senses can also be negatively stimulated in nature, or *irritated*²⁶. On the fifth morning of the canoe trip (9:30 am), Coyote and Deer attributed their experience of disconnection from nature to the rain. The most likely and obvious reason for this would be the sensory irritation rain can cause when one is deprived of certain amenities, like dry clothes and heating. Rain makes you wet. It also lowers the surface air temperature making you feel cold. Furthermore, it is associated with clouds which darken the sky. Being wet, cold, and surrounded by darkness, describe a sensory experience that can be considered irritating.

Alternatively, Hawk had a different perception of rain. He found that it connected him with nature by nourishing his sense of smell. It brought the natural smells of leaves, trees and water to his attention. This finding indicates that one stimulus can be both sensory nourishing and sensory irritating; connecting and disconnecting.

- Observation of nature: Observation was also found to be an aspect of the canoe trip that mediated participants' connectedness with nature. Artefacts that the canoe trip

²⁶ This assumption is based on the societal and theoretical (i.e. operant conditioning) understandings of punishment, which relies on unpleasant stimuli, experienced as discomfort, to reduce responses associated with it (Mazur, 2002).

participants submitted on day-8 (12:15 pm) for research purposes provided insight into how their observations of nature related to their connectedness with nature; for example, Otter's drawing of the rock feature that ended up looking like a clam (see Figure 7) and Deer's drawing of the river (see Figures 8.).

Since these artefacts represented detailed observations, and were submitted for research purposes, they provide evidence that observations of nature mediate participants' connectedness with nature. However no overt statements about the direction of this effect were made. That said Otter's observation of how the sapling was connected to the rocks, moss and river likely moved her towards connection (see Figure 9). Especially, since she used the word itself in her explanation of it. Otter's drawing is a particular example of how observation can be connecting because it demonstrates how a detailed observation of nature can support the discovery that everything in nature *is* connected.

While this argument suggests that detailed observations can be connecting, intuition suggests that they can be disconnecting as well. An example of an observation that has made me experience disconnection from nature involves seeing animal tracks, homes, and feces, but rarely seeing the animals they belong to because it reminds me of how other animals avoid humans. Although the data is inconclusive in this regard, observation may have the potential to move participants both towards and away from nature like other themes that emerged in response to the first research question.

- Interactions with non-human animal wildlife: Interactions-with-non-human-animal-wildlife was another sub-theme found to influence participants' connectedness with nature when stepping back from civilization into nature. For example, coyote clearly stated on day-3 (9:40 pm) that his interaction with mayflies made him feel closer to nature. Similarly, Fox

clearly stated that her encounter with ducks on day-2 (9:00 pm) made her feel closer to nature. Meanwhile, the-beetle-on-the-barrel episode involving Bear, Hawk, and Wolf on day 4 (11am) is an account of an encounter with non-human animal wildlife that demonstrated a disconnecting reaction. Similarly, the pine beetle episode on day-1 (4:00 pm) is another example of when interactions with non-human animal wildlife can inspire disconnection from nature.

Fewer humans than a city. When participants perceived human presence in nature, for example on the portage on day-2 (4-5 pm), they described experiences of disconnection. Remembering that a characteristic of nature, according to the definition that emerged in the present study, is having fewer humans than a city, this makes sense. This line of reasoning also suggests that being isolated from other humans while in nature mediated participants' relationship with nature towards connection. Unfortunately however, there was no direct evidence of this.

Amenities of a different quality than those found in a city. There is evidence of different amenities affecting participants' relationships with nature both towards, and away from nature, depending on the situation. Regardless of the amenity, if it was perceived to belong to civilization, it had the potential to affect participants' relationship with nature towards disconnection; but if it was perceived to belong to the canoe trip, it had the potential to affect participants' relationship with nature towards connection. An example of this is Hawk's drawing of canoes juxtaposed with a hunting blind, and his explanation of it (8:00 pm on day-5). Another example was Deer's explanation of how the song *Colours of the Wind* made her feel disconnected from nature (1:52 pm on day-7).

Stepping back from nature into civilization. This discussion now turns to the opposite end of the nature—civilization dichotomy through the examination of the two occasions when participants were re-introduced into civilization. The first occasion occurred on the third day of the canoe trip when a town was visited (Brown Island). The second occasion was on the last day of the canoe trip when the group was driven back to camp along the highways stopping in a town along the way. Two subthemes of stepping-back-from-nature-into-civilization have been identified based on data collected during these times. They are in alignment with participants' definition of nature and have therefore been given titles that are consistent with the characteristics of nature; the-absence-of-non-human/natural-features and amenities-of-a-different-quality. Unfortunately, there is no evidence of the third characteristic of nature (fewer-humans-than-a-city) mediating participants' relationship with nature while in civilization as it did in nature. Hence there is no representative theme. This could be attributed to the fact that less data was collected in civilization because less time was spent in places perceived to be civilization than those perceived to be nature during the canoe trip. This could also be the reason why the two themes that did emerge were only found to mediate participants' relationship with nature towards connection (and not disconnection) even though other themes that emerged in response to the first research question mediated participants in both directions.

The absence of non-human/natural features. Evidence that the absence of non-human/natural features mediated participants' relationship with nature towards connection was found during the group discussion that took place on the docks at Brown Island on day-3 (12:00 pm). During this discussion multiple participants (Deer, Bear, and Otter) agreed that the experience of civilization helped them feel connected with nature. Meanwhile, Bear

provided an analogy for the experience. He suggested that it takes being without something to appreciate it. In context, this suggests that the experience of leaving nature to re-enter civilization inspires appreciation of nature and therefore, connection with it. Later in the same conversation, Otter explained how when she is in civilization she wants the woods, and when she is in the woods she wants civilization. Using the term ‘woods’ suggested that it was the absence of non-human/natural features—specifically—that made her appreciate and feel more connected with nature when she was in civilization.

Amenities of a different quality than those found in nature. Evidence that the experience of amenities perceived to belong to civilization while in civilization can affect participants’ relationship with nature towards connection was found during the conversation about connection with nature that took place on Brown Island on day-3 (12:00 pm). Deer stated that because she felt that she had everything she needed and was not ‘completely cut-off,’ she could go out and enjoy nature. In this context, “cut off” referred to being cut off from the amenities of civilization because she expressly mentioned the chocolate bars she had bought. Thus, having access to the amenities of civilization satisfied her needs and made her more able to connect with nature.

Social influence/leadership. Like the-nature –civilization-dichotomy meta-theme, social-influence/leadership, affected all aspects of the canoe trip experience and is also considered to be a meta-theme. Evidence from the data that supported it arose on the morning of day-3 (8:30 am) of the canoe trip when Fox took a picture of Robin making breakfast because, as Fox said, it made her feel closer to nature. Other evidence arose on day-4 of the trip (11:00 am) when Otter stated that paddling with me made her feel relaxed

and closer to nature. These examples demonstrate the potential that leading by example has over participants' relationships with nature.

Note on spirituality. As mentioned previously in the methodology section, a relationship between spirituality and connection with nature has been recognized in available literature (Sobel, 2008; O'Sullivan, 1999). Meanwhile, data collected for the present study also suggested that connection with nature is interwoven with spirituality. For example, spirituality was suggested when the participants called light shining through the clouds and downwards in sheets to the land below, "God light" (12 pm on day-2). Meanwhile, spirituality was implied later on during the trip, (though not directly associated to connectedness with nature), when the group hiked back up a portage trail to see an impressive set of waterfalls (4pm on day-7): While standing a good distance from the bottom though still sprayed with its mist, participants' looked out at the falls with an expression of awe on their faces. One participant even communicated her sense of awe when she asked if anyone had ever paddled them before implying that it would be an impressive feat to accomplish. Although awe may not be synonymous with spirituality, Louv (2008) quotes Rabbi Martin Levin who defined spirituality as being amazed and being spiritual as being "constantly amazed" (p. 291). Participants' expression of awe while viewing the waterfalls suggested spiritual amazement. Finally, spirituality was associated to connection with nature when Otter described the experience of paddling with me and feeling connected with nature as "a religious experience" (11:00 am on day-4).

Comfort and connectedness. Although participants were clearly asked about their connectedness with nature, their accounts often implied comfort-level suggesting that they perceived an association between the two. This was particularly apparent in the presence-of-

non-human/natural features theme and its sub-themes. For example, sensory experiences were often associated with connectedness with nature; both connecting and disconnecting. Specifically, comfortable sensory experiences were associated with connection while uncomfortable sensory experiences were associated with disconnection from nature. For example when Otter, Fox and Loon were swimming in a cool lake on a hot day and listening to Bear play guitar, they expressed feeling connected with nature (2:30 pm on day-4). Meanwhile, on the fifth morning of the canoe trip, Coyote and Deer attributed their experience of disconnection from nature to the rain (9:30 am). Since rain is associated with being wet and cold and surrounded by darkness, it implies sensory discomfort.

In addition to sensory experience, interactions-with-wildlife was also related to comfort level. For example, Coyote expressed feeling connected with nature when he interacted with mayflies at 9:40 pm on day-3 however Bear, Hawk, and Wolf expressed feeling disconnected from nature when they encountered a beetle on day 4 (11am). Comfort was indicated in the mayfly incident through the naming of the mayfly and playful conversation surrounding it, while discomfort was indicated in the beetle incident when Bear said he did not know whether the beetle was “a dangerous or safe beetle”. Thus comfortable interactions with wildlife were associated with connection while uncomfortable interactions were associated with disconnection from nature.

Beyond implication, this association between comfort-level and connectedness with nature was also communicated directly. Since photographs taken for the study represented connectedness with nature, Hawk’s photograph of canoes juxtaposed with a tractor represented his connectedness with nature and his explanation of the photograph as a “debate [over] what you feel more comfortable with” (7:30 pm on day-9) associates

connectedness directly with comfort. Specifically it demonstrates that having an internal debate about feeling more comfortable with nature or civilization affected Hawk's connection with nature.

Another direct association between comfort level and connectedness was made by Deer. In this case however, comfort was associated to connection with nature specifically—and not connectedness with nature in general. While at Brown Island she explained how “since she has everything she needs—she's not completely cut off and has her chocolate bars, she can go out and enjoy nature” (1:15 on day-3). In this context, satisfaction of needs describes comfort.

According to the discussion thus far, comfort is associated to connection with nature while discomfort is associated to disconnection from nature however, they are not considered to be equivalent and the opposite could also be possible: Connection with nature could emerge during a state of discomfort. For example, Hawk felt connected with nature even though it was raining. Similarly, Lloyd (2011) explains that in choosing to participate in high risk sports, “athletes are moved to desire a sense of heaven on earth, a sensation that extends the perceptive flesh of the body to sensuously include an elemental embrace, a merge with an animate earth that has the potential to elicit a fathomless sense of both terror and beauty” (p. 80). In other words, that to act within the world in ways that the actor perceives as risky and therefore uncomfortable can be experienced as connecting.

Despite the possibility that discomfort could provide a mode of feeling nature's “touching touch” (Lloyd, 2011, p. 81), it only proved to do the opposite in the context of this study. Hawk's experience of connection with nature in the rain provides the only example from the present study of a participant feeling connected with nature during a potentially

uncomfortable situation and his explanation of it suggests that in fact, he was experiencing comfort and not discomfort. Specifically, Hawk did not mention any of the negative feelings usually associated with the rain such as being wet, cold, and surrounded by darkness. Instead, he associated his experience of connection with nature with being nourished by “nature” smells such as “the leaves, the trees and the water” that emerged when it rained and also, with his belief that the rain washed away “human-smell”. This description of being nourished and purified suggests comfort in a profound way. It implies a physical/acting, emotional/feeling and cognitive/thinking comfort influenced by Hawk’s personal, physical and social contexts according to Brody’s (2005) theory of learning in nature. Comfort in this sense can be considered the overall result of the ever-changing balance of these experiences within participants’ personal, social and physical contexts over time. Consistent with this notion is the recognition that “individual participants’ perception of risk is different” (p. 17) and that manipulating comfort-level is not solely a physical task: “facilitators need to be responsive to participants’ needs and challenge them in a variety of ways, not just physically” (Leberman & Martin, 2002/2003, p. 17).

While not widely recognized according to available literature, comfort has already been recognized as a factor associated with connection with nature. The study by Stern, Powell, and Ardoin (2008) already discussed above, used a survey to measure the goals of a particular outdoor environmental program as identified by the program staff. One of the indices was entitled “the connection-with-nature index” (p. 34) and one item of that index was “students feel comfortable in the outdoors” (p. 34). Other items included in the connection-with-nature index were “students feel that they are a part of nature, rather than separate from it... students actively engage in observing their surroundings when in natural

settings and... students show interest in outdoor activities” (p. 34). Among all the items within the connection-with-nature index, the “students feel comfortable in the outdoors” item was one that contributed more powerfully. It was also among the items that demonstrated longer term gains. This supports the association between comfort and connection.

Meanwhile, comfort has already been recognized as a factor that affects learning during adventure education:

There are three primary states or zones in which people exist. The first is called the comfort zone, a place where everything is calm and the stretch zone, a place where interest is piqued, our senses are enlivened and there is some disequilibrium. The third zone is the panic zone, a place where stress is so high that information cannot be integrated and high adrenaline makes it impossible to settle into a learning environment. (Prouty, Panicucci, and Collinson, 2007, p.39)

This aligns with the results of the present study as well. In the panic zone, participants are uncomfortable and therefore have difficulty learning and connecting with nature. In contrast, the comfort zone is when participants can be connected. Since the findings of the present study are based on participants’ statements, they are based on participants’ awareness of connectedness which may be more prominent during extreme conditions. This may be why connectedness with nature was so frequently cited during comfort and panic zone experiences, (connection while comfortable and disconnection while uncomfortable), and not stretch zone experiences. However, it is

the stretch zone that is recognized for being the most important zone for learning during adventure trips:

Experience has shown that learning occurs when people are in their stretch zone. Intellectual development and personal growth do not occur if there is not disequilibrium in a person's current thinking or feeling. However, learning will also shut down if that disequilibrium gets so high that the person enters the panic zone. (Prouty, Panicucci, and Collinson, 2007, p.39)

In other words, the stretch zone is the state of disequilibrium between these two extremes, between boredom and anxiety, where the most learning occurs. This too is salient with the present study because according to a study on comfort and learning by Leberman and Martin (2002/2003), learning that is reported during comfort zone experiences may not have been apparent without the stretch and panic zone experiences. Therefore, stretch zone experiences during the case study canoe trip may have provided the participants with opportunities to learn skills, develop knowledge, and create memories that made them more comfortable in nature while comfort zone experiences provided participants with opportunities to be aware of their connection with nature, which may have in itself, increased their connection with nature.

Generally, based both on the findings of the present study and the rationale accounted for above, comfort in its varying degrees and as it is defined above according to Brody's (2005) theory of learning in nature, becomes relevant to the discussion of connection with nature.

Question-2

According to the researcher:

- a) What are the observable aspects of the canoe trip that mediate participants' interactions with the environment? How are they identifiable?
- b) How are these opportunities initiated and supported in the context of the program?²⁷

The aspects of the canoe trip that mediated participants' interactions with nature were identified directly through observations of participants' physical interactions with nature and indirectly through observations of participant-statements and trip-log entries about nature. Direct observations accounted for participants' physical interactions while indirect observations accounted for a combination of cognitive, emotional, spiritual, and physical interactions with nature. Since participants were instructed to take photographs when they were aware of something mediating their connectedness with nature, their taking photographs alerted me to such experiences and enabled me to make both direct and indirect observations (e.g. 9:15 am on day-2, and figure 1.).

In general, interactions with nature were identifiable if they involved intimacy with nature, centering on nature, and/or affordance-seeking in nature. Intimacy with nature refers to close sensory experiences; for example, when Deer described jumping off a cliff and plunging through the air into the water as "a beautiful sensation" (4:00 pm on day-1); or when participants made fire by kneeling in the dirt, touching pine needles, sticks, and birch bark, and blowing into the fire with the smoke in their eyes (4:00 pm on day-1).

Centering on nature involves physically positioning one's body away from distractions towards a focus. For example, Bear was centering on nature when he grabbed his guitar, turned his back to the group and faced the moon (9-9:30 pm on day-3). Centering

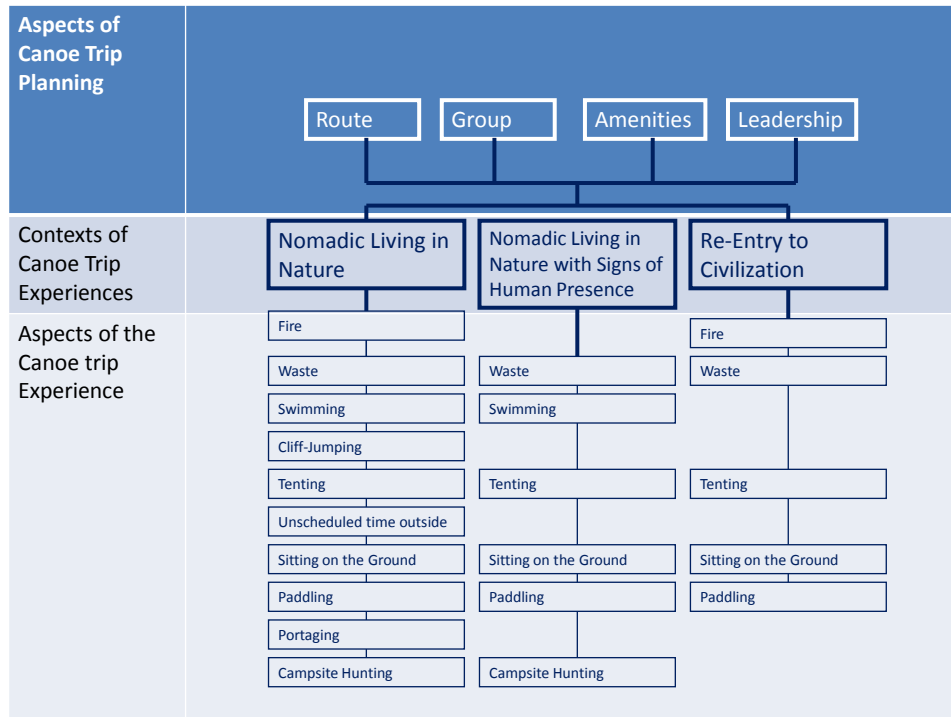
²⁷ The response to part c of this second research question is relevant to the recommendations for EE provided in the "Implications" section of this document and is therefore addressed there.

can also be a group interaction; for example, when the group formed circles around fire (9:30 am on day-5), leaders (9:45 am on day-6), food (6:00 pm on day-8) or a natural feature like a hole in the rock (12:15 pm on day-8).

Seeking affordances involves viewing nature in terms of how it can satisfy needs (Ingold, 1992, p. 46). For example, when fire-building, participants look to the forest for materials that can be used to build the fire, which is needed to prepare food and provide warmth (4:00 pm on day-1).

Two tiers of themes have been identified using these indicators in response to question-2: *aspects-of-canoe-trip-planning* and *the-canoe-trip-experience*. The aspects-of-canoe-trip-planning include: *route, leadership, group* and *amenities*. These four aspects were determined in preparation of the trip and interacted to produce the experience. Through this process the aspects-of-canoe-trip-planning mediated participants' interactions with nature indirectly. Meanwhile, the canoe trip experience consists of 10 different activities that mediated participants' interactions with nature directly. They are *fire, waste, swimming, cliff-jumping, tenting, unscheduled time outside, sitting on the ground, paddling, portaging* and *campsite hunting* (see Figure 14.). Provided below is an explanation and discussion of the aspects of canoe trip planning followed by an explanation and discussion of the activities of the canoe trip experience.

Figure 14. The Themes Identified in Response to the Second Research Question



The four aspects of canoe trip planning create the canoe trip experience which is composed of the three canoe trip contexts. Variations of the 10 canoe trip activities are listed below the canoe trip contexts they apply to.

Aspects of the canoe trip planning.

Amenities. The concept of amenities, already introduced in response to the first research question, applies to the second research question as well. Amenities that were packed in preparation of the canoe trip and brought on the trip mediated how participants interacted with nature during the trip. For example, by acting as barriers amenities affected the extent that participants were exposed to nature. Consider how on day-8 (12:15 pm) and day-4 (9:00 pm) of the canoe trip, participants used their tents as barriers from nature to escape the bugs and rain (respectively). Meanwhile, another way that amenities functioned as barriers was by limiting the need for participants to look to nature for affordances. For example, on day -10 (10:22 pm), Hawk didn't have to look to nature for the affordance of

shade as was required on day-8 at our rest-day site because he used the shade from the canoes instead.

Amenities packed in preparation of the canoe trip also shaped participants' interactions with nature by determining the activities participants engaged in during trip. For example canoes, paddles and lifejackets enabled paddling. Meanwhile, paddling was identified as an aspect of the canoe trip experience that mediated participants' interactions with nature (see below).

By acting as barriers between participants and nature and by determining activities participants engaged in, amenities mediated how participants interacted with nature.

Route. The route, which was decided before the trip, mediated participants' interaction with nature in several ways during the trip. Firstly, it determined what nature participants were exposed to, and therefore, what they interacted with. For example, participants were exposed to, and interacted with marshes (i.e. 11:00 am on day-5), large lakes (i.e. intermittently until 2:30 pm on day-5 when we reach the river), and a river (2:30 pm on day-5 on).

Meanwhile, the route, in combination with the amenities on the trip, determined the activities participants were able to do. For example, since the route involved a river with white water rapids, (and since participants had canoes, paddles, lifejackets and helmets), the participants were able to engage with nature through white water paddling.

Another way the route affected participants' interactions with nature was by determining the degree of human presence along the way. Human presence proved to mediate how participants interacted with nature in different ways. This is discussed further

in relation to the contexts of the canoe trip (see the section entitled *Contexts of the canoe trip experience*).

Altogether, route mediated participants' interactions with nature by determining what features of nature participants were exposed to, what activities they were capable of and the degree of human presence participants experienced.

Group. The third aspect of canoe trip planning that was identified in the present study was the group. Members of the canoe trip were interdependent during most everyday activities such as paddling, portaging and cooking. Since these activities involved interacting with nature as a group, they were mediated by the group. For example, consider the portage on day-4 (12:20 pm) when the group arrived at the edge of a 30-meter-wide piece of land that obstructed them from paddling from one lake to another; because the group consisted of 12 individuals amounting to a particular strength and ability, the possibility existed for the entire group to carry one boat over the portage at a time.

Another way the group mediated participants' interactions with nature was through interactive discussions. For example, on day-2 of the canoe trip (12:00 pm) Otter initiated an interactive group-discussion about edible plants that resulted in Robin, Fox and Otter seeing, smelling and eating local plants. Other examples of this include participants arguing over a tent-site (6-7:00 pm on day-3); Fox, Robin, Loon, Caribou and I having a reactionary discussion about a toad jumping into the fire (9:00pm on day-4); and Bear, Hawk, Coyote, Wolf, and I having an interactive discussion about a crayfish Caribou found (9:00pm on day-4).

Another way that the group interacted with nature during the canoe trip was through play. This is referred to as *nature-play* in the present study. Although individual participants

sometimes engaged in nature-play by themselves by drawing in the dirt or throwing natural items around, often the types of nature-play that emerged required the presence of a group. For example, consider ‘world war three’ that took place between Hawk and Wolf at our lunch site on day-4 (2:30 pm).

Through teamwork, group discussions and nature-play, the group mediated individual participants’ interactions with nature.

Leadership. The fourth and final aspect of canoe trip planning that mediated participants interactions with nature was leadership. One of the major reasons leaders were assigned to the canoe trip was to mediate participants’ interactions with nature as they guided the trip. Bear and Robin did so in different ways. One way involved making decisions that directly resulted in specific interactions with nature. For example, Bear and Robin decided that the group would paddle back to the cliffs to cliff-jump on day-1 (4:00 pm), would not run the first white water rapid they came to on day-6 (9:45 am), and would walk back up the portage trail so that everyone could see the waterfalls on day-7 (4:00 pm).

Another way leaders mediated participants’ interactions with nature was through instruction. Consider the formal welcome-to-trip-talk on day-1, and how-to-paddle-white-water-talk on day 6 (1:00 pm); or the informal instruction Robin gave Coyote and Caribou on how to make fire on day-1 (4:00 pm).

Finally, leaders influenced participants’ interactions with nature via leading by example (8:30 am on day-3).

By making decisions, instructing, and leading by example, Bear and Robin mediated participants’ interactions with nature and since much of Bear and Robin’s expertise was

developed and managed by the organizing body of the canoe trip prior to the trip, leadership is considered a predetermined aspect of the canoe trip.

The canoe trip experience. The four aspects of canoe trip planning discussed previously interacted to produce the canoe trip experience. The 10 activities of the canoe trip experience that were identified to mediate how participants interacted with nature did so differently depending on the context (See Figure 14). There were three contexts of the canoe trip; nomadic living in nature, nomadic living in areas perceived to be nature with signs of human presence, and re-entry to civilization. This corresponds with participants' dichotomous notion of nature which framed the response to question-1 and therefore, the themes stepping back from civilization into nature, and stepping back from nature into civilization. Additionally, it corresponds with the concept of context according to Brody's (2005) theory of learning, based on the Contextual Model of Learning, as introduced in the section entitled Theoretical Framework. Accordingly, these three contexts appear to emerge from participant's personal, physical and social contexts depending on the situation, negotiated over time and for each situation. The following is a brief explanation of these contexts. Note that since more time on the canoe trip was spent in perceived nature than in perceived nature with signs of human presence, or civilization, fewer activities were found to mediate participants' interactions with nature in the latter contexts.

Contexts of the canoe trip experience.

Nomadic living in nature. On day-1 of the canoe trip, two leaders with a route planned, and amenities packed, grabbed their group and paddled under a bridge. As they did, the lives of every member of the group changed and an experience was initiated. The group entered what they themselves referred to as "nature" (9:30 am on day-5). In addition to this

change of place, travel suddenly became part of participants' everyday lives: To get from one place to another, participants needed to paddle across lakes (1:00 pm on day-1), paddle down a river (2:40 pm on day-5), portage over land (12:00 pm on day-2); and cook (8:30 am on day-3), eat (10:50 am on day-2), sleep (9:00 pm on day-1), and defecate (8:30 pm on day-6) outside. To manage distance over time, participants had to sleep in different locations eight out of nine nights. Suddenly, they were living a nomadic lifestyle in nature. The activities of the canoe trip experience that applied to the nomadic-living-in-nature context were fire, waste, swimming, cliff-jumping, tenting, unscheduled time outside, sitting on the ground, paddling, portaging and campsite hunting. Note that this list includes all 10 of the activities identified.

Nomadic living in areas perceived to be nature with signs of human presence. As participants completed their route and travelled distance, they crossed spaces that had varying degrees of human presence. This varied experience proved to influence participants' interactions with nature in different ways. One was by inspiring conversations about the amenities of civilization participants missed most (6:00 pm on day-6). Another was by making them feel uncomfortable and disconnected from nature; for example, at 'murder' campsite where there was garbage, a tarp, and an old door, participants reported feeling that the atmosphere was 'creepy' and requested to swim away from shore (4-5pm on day-2). The activities of the canoe trip experience that applied to nomadic-living-in-areas-perceived-to-be-nature-with-signs-of-human-presence were waste, swimming, sitting-on-the-ground, paddling and campsite hunting.

Re-entry to civilization. Having been away from civilization by being in nature, part of the canoe trip experience involved re-entering civilization. When participants did so, they

re-entered familiar environments but with a nomadic lifestyle which is unfamiliar to them in that environment. The differences between civilization and nature intersected their lifestyle altering how they interacted with nature (3:30 pm on day-9). The activities of the canoe trip experience that applied to re-entry-to-civilization were fire, waste, tenting, sitting on the ground, and paddling.

Activities of the canoe trip experience.

The following is an explanation of the 10 activities that mediated participants' interactions with nature in the contexts they applied to.

Fire. An aspect of nomadic living in nature was fire. It mediated how participants' found affordances in nature (i.e. 11:00 am on day 7), found intimacy with nature (i.e. firewood collecting at 1:00 pm on day-1), and centered with/on/in nature (i.e. 9:30 am on day-5, 9:45 am on day 6, and 10:00 am on day-8). Alternatively, when the group re-entered civilization at the end of the canoe trip (7:30 pm on day-9) the leaders cooked with a stove for the first time (3:30 pm on day-9) and participants did not have the experience of the intimacy of firewood collecting or fire-building. Nor did they have to look to nature for affordances in terms of fire. Therefore, fire mediated participants' interaction differently upon re-entry to civilization.

Waste. Waste was another aspect of nomadic living in nature that was found to mediate participants' interactions. For example, at 8:30 pm on day-6 when everyone thought the toilet-paper had run-out, Wolf had to start finding affordances in rocks, moss, sticks and leaves he had not previously considered. Also, he was destined to have a more intimate experience with nature as a consequence. Part of this intimacy involved experiencing complete waste cycles. This is in contrast to how complete waste cycles were not

experienced in civilization when participants used flushing toilets (1:15 pm on day-3 and 1:15 pm on day-10), and disposed of their waste into garbage cans (12:00 pm on day-10).

Note that how waste mediated participants' interactions with nature during the canoe trip was also mediated by how leaders conveyed LI/LNT principles. For example, when Deer wanted to pour her dish-washing water onto the shore, Bear demanded that she walk deeper into the woods (10:30 am on day-7).

Another finding with regards to waste is that it mediated participants' interactions with nature differently when signs of human presence were noticed. An example of this was when campers commented on cobs of corn, stickers, balloons and beer left behind at the first campsite (10:50 am on day-2).

Swimming. Swimming is another activity identified during the present study. When Otter jumped into the water on the second morning of trip (11:28 am) and exclaimed how nice it was with a huge smile, she exemplified intimacy with nature. Meanwhile, when the group came to the end of the 800 meter portage on day-7 (4:00 pm) to find moving water down the center of the river but no waves, swells, or rocks in the current, they recognized an affordance for swimming in nature. Thus, by mediating how participants experienced intimacy with nature and how they found affordances in nature, swimming mediated participants' interactions with nature. Meanwhile, swimming mediated participants' interactions with nature differently in the presence of human impact; for example, when Otter and Loon swam away from shore at "murder campsite" (trip-log on day-2 and 4-5pm on day-2).

Cliff-jumping. At 4:00 pm on day-1 of the canoe trip, cliff-jumping influenced how participants experienced intimacy in nature, how they found affordances in nature, and how

they managed risk in nature. Consequently, it is considered an aspect of the canoe trip that mediated participants' interactions with nature.

Tenting. Tenting mediated participants' interaction with nature in different ways. One was by mediating how they found affordances in nature. For example, participants fought over one clear, flat, rectangle of ground as a tent-site and not any other (6-7:00 pm on day-3). Another way was by acting as a barrier between participants and nature. Consider that at 9:00 pm on day-4 participants used their tents to hide from bugs, and at 12:15 pm on day-8 participants used their tents to hide from rain. Meanwhile, tenting mediated participants' interactions with nature differently upon re-entry to civilization. For example, on the ninth and final night of the canoe trip Bear and Robin had to ask permission to put up tents, making sure not to put their tents up on the landowner's front lawn. Having landowner's lawns meant that small, rectangles of cleared, flattened earth for tent-sites was no longer limited; in other words, tenting no longer involved finding affordances in nature but in landowners' willingness to share instead.

Unscheduled time outside. Another aspect of nomadic living in nature was unscheduled-time-outside. Firstly, it mediated participants' interactions with nature by providing opportunities for participants to center on nature. For example, consider that Robin lay on her back and stared at the sky at 9:15 am on day-3 and 5:00 pm on day-4 during unscheduled time outside.

In providing the opportunity to center on nature, it also provided the opportunity for participants to create artefacts that reflected their connectedness with nature. For example, the drawings Otter and Deer created on day-8 (12:15pm) and the drawing Hawk created on day-5 (8:00 pm).

Meanwhile, unscheduled time outside also provided the opportunity to center on, *and* discuss nature. For example, consider when Fox, Robin, and Bear noticed and discussed the moon on several occasions throughout the third evening of the canoe trip (9:00 pm).

Finally, when Coyote made friends with two mayflies on the third evening of trip (9:40 pm), unscheduled time outside provided the opportunity to center on, discuss, *and* act with nature. Some of these interactions that involved centering, discussion and acting could be considered nature-play. For example, consider ‘world war three’ at 2:30pm on day-4.

Sitting on the ground. Sitting on the ground was another aspect of nomadic living in nature that mediated participants’ interactions with nature. It provided the opportunity for participants’ to position themselves in accordance to features of nature they were centering on; for example, when the group clustered around a hole at 12:15 pm on day-8. Meanwhile, sitting on the ground also provided the opportunity for participants’ to find other affordances in nature that satisfied their needs such as when Caribou sat in the shade drinking water while Otter rested belly-down in the dirt (10:43 am on day-8).

Another way that sitting on the ground mediated participants’ interactions with nature was by making natural features accessible. Oftentimes, participants would sit on the ground playing with the grass, leaves, twigs, or pine needles that were within arms’ reach. For example, Loon used a stick to move pine needles around at 10:10 pm on day-4 and Robin and Fox did the same at 10:43 on day-8.

When there were signs of human presence, sitting on the ground mediated participants’ interactions with nature differently. For example at the night-5 campsite (5:15 pm), participants sat-on a picnic table instead of the ground because it was available. In fact campers expressed great excitement over not having to eat their dinner on the ground.

Meanwhile, participants didn't sit on the ground at all while in civilization since there was always an alternative; for example, the picnic table at Brown Island (12:00 pm on day -3), the seats on the bus that picked us up at the end of trip (10:48 am on day-10), and the seats in the restaurant (12:00 pm on day-10). Consequently, affordances such as comfort were no longer found in nature and participants no longer entertained themselves with hand-fulls of dirt, sticks, leaves, grass and pine-needles.

Paddling. Paddling mediated participants' interactions with nature in multiple ways. Firstly, it mediated what natural features participants were exposed to and therefore, what natural features they *could* interact with. In this way, paddling was influenced by the route. For example, large skies, 'G-d light', bugs on the water, loons (12pm on day-2) and a deadhead (2:30 pm on day-4) were all features that participants engaged with that were more likely to be experienced while paddling. In this way, paddling is similar to unscheduled time outside since participants were free to focus on the features of their surroundings that caught their attention.

Meanwhile, participants were also free to discuss the natural features they were exposed to with at least one other person; their canoe mate. As other canoes drifted closer and further from each other, participants had the opportunity to discuss their interests with members of the group besides their canoe mate as well (11:00 am on day-5).

Another way that paddling mediated participants' interactions with nature was by shaping the affordances participants saw in nature. For example, a wind that was otherwise neutral became a headwind if it blew in the opposite direction participants were paddling in (12pm day-3). Meanwhile, it became a tailwind if it blew in the same direction participants were paddling in (12:50 pm on day-5). Other examples of when paddling shaped how

participants saw affordances in nature included participants' perspective of topography when looking for a place to break with shelter from the wind (10:10 am day-4), their perspective of current if it was flowing in the direction they were paddling in (2:30 pm day-4), and their perspective of river morphology when they wanted to paddle down a white water rapid safely (12:50 pm day-9).

In addition to being an aspect of nomadic living in nature according to the ways discussed above, paddling was also an aspect of nomadic living in nature with signs of human presence. While areas perceived to be nature with signs of human presence were sometimes seemingly in the middle of nature (4:00 pm on day-2), other times they were located between nature and civilization. The experience of the physical space between the two addressed the nature—civilization dichotomy. For example, Deer discussed how paddling between a campsite and Brown Island affected her understanding of 'nowhere' and 'somewhere' (9:15 am on day-3). Meanwhile, Otter, Loon, and Fox demonstrated how paddling to Lake Hill influenced their understanding of nature during the conversation on that very topic (3:30 pm on day-9).

Portaging. Portaging was an aspect of nomadic living in nature that was found to mediate participants' interactions with nature. Using a piece of land as a portage gave that land the affordance of passage (12:00 pm on day-2). If that portage was a safe alternative to paddling a white water rapid or a waterfall, the piece of land acquired the affordance of *safe* passage (9:45 am on day-6). However, despite providing these affordances to participants, sometimes portages were experienced as obstacles; particularly if the terrain was difficult to traverse (4:00 pm on day-7). This in turn shaped how participants understood distance

(12:20 pm on day-4) demonstrating another way that portaging mediated how participants interacted with nature.

Campsite hunting. Campsite-hunting was another aspect of nomadic living in nature that mediated how participants interacted with nature. For example, consider how the group looked for the following affordances while campsite hunting: clear rectangles of flattened earth for tent-sites, a west-facing site for late light at night and less light in the morning, and a pit with a circle of rocks around it to use for building fire (1:00 pm on day-1). Meanwhile, in civilization, campsite hunting was more a question of finding landowners willing to share their land, than finding affordances in nature. Therefore, campsite hunting mediated participants' interactions differently upon re-entry to civilization. It also mediated participants' interactions with nature differently when there were signs of human presence in nature. For example, leaders looked for 'inappropriate' human waste such as porn and condoms when campsite-hunting in the presence of human-impact (7:20 pm on day-6).

Implications

The major implications from this research involve supporting canoe trip participants' connection with nature through programming for educational purposes. Had the aspects of the canoe trip been found only to be disconnecting, then these recommendations could not be made. However, more aspects of the canoe trip were found to be connecting than disconnecting and unexpectedly, some were found to be both (see Table 1.). When aspects of the canoe trip were found to be both connecting and disconnecting no obvious variation in the aspect itself was necessary (e.g. the rain at 9:30 am on day-5). In other words, there was no particular characteristic of the aspect that made it connecting with nature or any other that made it disconnecting from nature. This suggests that what determines connectedness with nature is not necessarily anything in particular about the aspect but the experience of it. The implication this has for educational purposes is that identifying and supporting the factors found to mediate participants' experience in connecting ways has the potential to support connection with nature overall during the trip and improve the likelihood it will endure following the trip. Since this approach would be carried out through leadership, the finding that leadership was an aspect mediating participants' connectedness with nature provides support that this approach is possible.

Findings from the first research question provide useful information in this regard: The experiences participants found to be connecting can be examined for what to support while the experiences found to be disconnecting can be examined for what not to support. Meanwhile, the findings from the second research question, about how the canoe trip mediated participants' interactions with nature, can be used to inform how to support, develop and plan connecting interactions with nature. Based on the finding that the aspects

of the canoe trip mediated participants' interactions with nature differently in different contexts along the nature—civilization continuum, recommendations are provided for all canoe trip contexts, including that of re-entry to civilization, recognizing that the appraisal of context on the nature—civilization continuum is a product of participants' personal, social and physical contexts according to Brody's (2005) theory of learning in nature, and therefore varies among individuals and situations, over time.

The above approach to provide recommendations for educational programming in outdoor contexts is one of two approaches accounted for by the present study. The other approach involves identifying correlations between connecting interactions with nature and the Ontario Ministry of Education's curriculum so that programs can support connection with nature while satisfying ministry expectations. While both approaches are applicable to programs with opportunities to interact with nature, the latter is also applicable to more traditional, in-class programs because it provides canoe trip leaders and in-class teachers with information upon which to develop complimentary lessons.

Since the implications of this study are directed towards different variations of outdoor environmental programs associated with different educational fields (outdoor, environmental, adventure and experiential), recommendations are provided for each aspect of the findings in the order in which they are presented above to avoid repetition while providing a holistic description of educational opportunities for supporting connection with nature. As exceptions, the implications of spirituality and comfort are discussed first because they are general and refer to multiple aspects of the canoe trip. Meanwhile, the implications for Brody's (2005) theory of learning in nature are discussed last because they pull together several implications while addressing multiple aspects of the canoe trip.

A Note on Spirituality

In the method section of this document, it was suggested that since spirituality is associated with connectedness with nature in available literature, the applicability of Brody's (2005) theory of learning in nature to the present study may benefit from the inclusion of spirituality. Since the association between spirituality and connectedness with nature is supported by the findings of the present study, this suggestion for Brody's (2005) theory is implicated here. It is also elaborated upon in the section entitled *Implications for Brody's (2005) Theory of Learning in Nature* at the close of this section on implications.

On a similar note, the recommendations for supporting connection with nature that are listed below are provided recognizing the association between connection with nature and spirituality. Louv (2008) warns that "the spiritual necessity of nature to the young is a topic that receives little notice" (p. 298). The point of this short note is to notice it.

The Implications of Comfort in the Context of Connection

The finding that comfort is associated to connection with nature while discomfort is associated to disconnection from nature, implicates that a canoe trip leader with the intent of supporting connection with nature should support participants' comfort. While this can be accomplished by providing participants with comfortable situations that do not require any challenging interactions with nature, such as bringing participants into nature to rest on a fair-weather day, it can also potentially be accomplished by challenging participants to develop new knowledge, skills and memories during panic and stretch zone experiences that result in increased comfort. This is supported by Leberman and Martin (2002/2003) who recognized that "the prior effects of out of comfort zone activities may have affected the positive

effects that participants claimed for the comfort zone activities (p. 17). Meanwhile, comfort zone experiences provide participants with opportunities to be aware of their connection with nature which may be connecting as well. Therefore, moving participants away from the panic zone, through the stretch zone, and towards the comfort zone of Prouty, Panicucci, and Collinson's (2007) theory of adventure learning is recommended. For example, if it happens to be raining, leaders can support participants' comfort by teaching them how to read the weather and/or make shelter; lead a game to create a positive memory, emphasize the wonderful smells that emerge in the rain and later, when it has stopped raining and participants appear comfortable, ask them about their experience with the rain and how it affected their connection with nature.

A corollary to this discussion is that leaders should recognize that comfort-level is specific to individuals (Leberman and Martin, 2002/2003). Therefore, supporting connection with nature through comfort involves being "responsive to participants' [individual] needs" (p. 156). In general, managing comfort in support of connection with nature according to the rationale above is recommended for all aspects found to mediate participants' connectedness and interactions with nature discussed below.

Question-1

The nature--civilization dichotomy. Haluza-Delay (2001) suggested that the nature—civilization dichotomy needs to be addressed because it makes nature less relevant to participants in certain contexts and consequently limits their environmental concern in these contexts. Meanwhile, it represents an anthropocentric, disconnected orientation/notion

of nature (as discussed in Results and Discussion). Since we are seeking ways to support connection with nature instead, addressing the nature—civilization dichotomy according to the following rationale is recommended.

According to Roth & Lee (2007), “language reproduces the structure of the actual life of society” (p. 209). The dichotomous meaning of nature and civilization indicated in participants’ definition of nature reflects their experience of it (Cayley, 1991). In civilization, humans do not experience how their food grows, how their meat dies, where their waste goes or where their water comes from. Instead, their vegetables come from aisle 1 and 2 in the grocery store, their meat comes from ‘the back’, their waste goes to the end of their driveway before going ‘away,’ and their water comes from the tap. In other words, their needs are all met through human planning and maintenance while their relationship with the non-human is less frequently experienced. The meaning of the word civilization reflects this insular experience, and becomes not-nature.

At the same time, it can be argued that civilizations are outgrowths of nature through humans, just as beaver dams are to beavers, bird’s nests are to birds, and gopher’s holes are to gophers (Valeri and Reis, 2012). However, this line of reasoning relies on the assumption that humans are part of nature just as beavers, birds and gophers are but, alternatively, humans do not necessarily see themselves as part of nature (when they are disconnected) (Barry, 2010). The insular experience of being set apart from all else that people experience in civilization contributes to a distorted perception of our relationship with nature. Hence, the dichotomy is cyclical: While civilizations are not nature (human-made) and humans are not nature, civilizations insulate humans from all else creating an experience of disconnection. Meanwhile, the canoe trip, as an experience where humans leave civilization

and are exposed to nature, has been found to support connection with nature according to the present study. Therefore, providing the canoe trip experience and supporting participants' connection with nature during the different contexts of the trip has the potential to mediate participants' perception of nature. If the nature—civilization dichotomy makes nature less relevant to participants in certain contexts, perhaps new perceptions of the relationship between participants, nature and civilization developed in this way can make nature more relevant to them in varying degrees of the two contexts. Supporting this process overtly through discussion so that participants consider how they relate to nature and how nature relates to civilization may also affect how they perceive their relationship with the two contexts and in turn, it may affect their notion of nature and orientation along the anthropocentric—ecocentric continuum. Therefore, suggestions for how to do so rooted in connection with nature and based on the information that emerged in response to the research questions (such as the importance of comfort), are provided below.

Stepping back from civilization into nature.

The presence of non-human/natural Features.

- Sensation: Since participants' sensations were often influenced by the spontaneous features of nature such as a nice view or a cool breeze (7:40 pm on day-3), which are not controllable, being prepared to support comfort during those times is desirable. While bringing proper clothing and equipment can be useful, sending leaders with the skills to manage comfort using nature is another, perhaps more connecting feature. For example, leaders can use swimming and unscheduled time outside because swimming can cool participants down when they are hot (6-7:00 pm on day-3) and keep them clean when they are dirty; and unscheduled time outside can provide participants with opportunities to find

comfortable places to sit or lie down (5:00 pm on day-4), nice views to observe (7:40 pm on day-3), and places to rest (10:43 am on day-8).

To use the effect of sensation on participants' connection with nature in addressing the nature—civilization dichotomy, leaders should discuss the differences and similarities in sensory nourishment/irritation or comfort that participants experience in nature and civilization, and the different sources of that comfort. Such discussions should be rooted in connection with nature. For example, leaders may want to ask participants, either on the canoe trip or after, to compare a connecting sensory experience in nature with one in civilization to shed light on how humans, though seemingly isolated when in civilization are in fact connected with the rest of nature. Doing so through the use of poetry would correspond with Ontario's grade9 English curriculum (ENG1D) that asks learners to "experiment with one or more organizational patterns to connect and order free-associated images for a poem" (Ontario Ministry of Education, 2007, p. 49).

- Observation: That observation has emerged as a theme in response to the first research question has implications for educational programming. Although there was only evidence that observation was connecting, intuitively, observations could be disconnecting as well (see Results and Discussion). With this in mind, it is important to provide participants with comfortable opportunities to make observations of nature. Since opportunities to make observations of nature were initiated and supported when participants had unscheduled time outside (9:30 pm on day-6) and were given opportunities to engage in visual arts projects (12:15 pm on day-8), providing such opportunities in a comfortable way is recommended.

Haluza-Delay (2001) has also recognized the implications of small observances to EE:

Learning to look at small wonders instead of just the spectacular scenes and pristine expressions of nature would go a long way toward alerting participants that nature at home could be a source of the powerful feelings generated in wilderness settings. (p. 48)

By providing opportunities to make connecting observations of nature during all canoe trip contexts, including civilization, educational programming could maintain participants' connection with nature in varying contexts. This is yet another way to address the nature—civilization dichotomy.

Observances may link with broader topics that relate to the Ontario Ministry of Education's curriculum. For example, Otter's picture of the tree that was visually connected with the textures that surrounded it (12:15 on day-8), corresponds to Ontario's grade9 science curriculum (SNC1D) chapter entitled Biology: Sustainable Ecosystems which asks students to "describe the complementary processes of cellular respiration and photosynthesis" (Ontario Ministry of Education, 2008a, p. 51).

- Interactions with non-human/wildlife: Like sensory experiences, interactions with wildlife are initiated by spontaneous and uncontrollable features of nature. Therefore, leaders are unable to initiate interactions with non-human wildlife and can merely take advantage of them when they do occur. Since, interactions with wildlife, like sensation, are connecting when comfortable (9:40pm on day-3) and disconnecting when uncomfortable (11:00 am on day-4), taking advantage of them requires ensuring participants' comfort. For example, during the interaction with the crayfish at 9:00 pm on day-4, Bear could have made

sure everyone who wanted to hold the crayfish was provided with the information and emotional support they needed to feel comfortable doing so.

To overtly address the nature—civilization dichotomy based on the connecting effect that interactions with wildlife has, leaders may want to discuss other interactions participants have had with wildlife in different contexts including those considered civilization. For example, leaders could ask participants whether they had seen a crayfish in the waterways at home and whether these experiences affected them similarly. Bringing participants to waterways where they may see a crayfish in civilization would complement this, and provide an opportunity for connection with nature in participants' home contexts. This corresponds with the grade 9 science curriculum which asks students to “analyse the effect of human activity on the populations of terrestrial and aquatic ecosystems” (Ontario Ministry of Education, 2008a, p. 51).

Fewer Humans than a city. The findings show that human presence in nature is disconnecting for canoe trip participants which suggests that staying in areas with fewer humans would support participants' connection with nature. However, this approach does not address the nature—civilization dichotomy. Therefore, choosing a route that takes participants into more and less populated areas is recommended. Asking participants to reflect on why their connectedness was affected could address the nature—civilization dichotomy overtly, and make people aware of the situational conditions of it. This corresponds with Ontario's grade-9 'Canadian and World Studies' (CGC1D) curriculum which asks students to “distinguish between the characteristics of urban and rural environments (e.g., differences in population density, land use, forms of settlement, development patterns, types of employment); [and] explain the geographical requirements

that determine the location of businesses, industries, and transportation systems” (Ontario Ministry of Education, 2005, p. 30).

Amenities of a different quality than those found in a city. The situations when amenities mediated participants’ connectedness with nature were initiated by the amenities present (i.e. canoes and hunting blind in Hawk’s drawing that was explained at 8:00 pm on day-5) and also by social ideals (i.e. singing *Colours of the Wind* at 1:52 pm on day-7 and discussing what was appropriate to bring on a canoe trip at 4:00 pm on day-1). Therefore leaders could support connection with nature when choosing amenities to bring on the canoe trip and planning how to establish social ideals about them. Since amenities belonging to the canoe trip were connecting and those belonging to civilization were disconnecting, a leader would want to decide in advance which amenities to bring and how to frame them as belonging to the canoe trip and not civilization. For example, canoes can be framed as amenities that enable participants to go on the canoe trip and experience nature instead of amenities that separate participants from nature by continued dependence on that which has been brought from civilization. Canoe trip leaders’ beliefs become relevant in deciding what to bring and how to frame it.

Unfortunately however, this approach is topical and would not necessarily address the nature—civilization dichotomy. Similarly, one could avoid exposing canoe trip participants to anything that symbolizes amenities of civilization in support of their connection with nature but this would also be topical and would not address the nature—civilization dichotomy. Alternatively, leaders could purposefully expose participants to amenities of civilization to inspire questioning and self-reflection towards the development

of deeper understandings regarding the relationship between amenities of civilization and nature. The steps to supporting this process are presented below.

The first step would involve supporting participants' comfort while exposing them to amenities. In general this could be achieved by ensuring participants' safety. However, since amenities of civilization sometimes have a disconnecting effect because they represent the comforts of civilization participants crave (8:40 pm on day-6), this could also be achieved by reminding participants of the comforts available to them in nature; for example, the comfort of jumping into a cool freshwater lake on a hot day.

To prompt thought on the topic, leaders may want to ask prompting questions about why specific amenities belong to civilization or the canoe trip. This would correspond with Ontario's grade 9 English curriculum (ENG1D) which asks that students "communicate orally for several different purposes, using language appropriate for the intended audience" (Ontario Ministry of Education, 2007, p. 43).

Since song analysis (1:52 pm on day-7), and visual arts activities (8:00 pm on day-5) supported participants' awareness of how amenities on the canoe trip affected them, similar methods could be used to create exercises that inspire self reflection, awareness and questioning. For example, participants could be asked to draw symbols of amenities representing their canoe trip experience juxtaposed with symbols representing amenities of home and explain how the two relate to them personally through an oral or written presentation. This would help participants be aware of situational conditions of their connection with nature. Meanwhile, this would also correspond with Ontario's grade 9 or 10 visual arts curriculum (AV11O & AV12O) which asks that students "create art works that

express personal feelings and/or communicate emotions to an audience” (Ontario Ministry of Education, 2010, p.120).

Stepping back from nature into civilization.

The absence of non-human/natural features. Since the absence of non-human/natural features in civilization made participants appreciate and connect with nature, educational programming should purposefully include multiple re-entries to civilization. During points of re-entry, programming could address the aspects of nature participants miss and appreciate while in civilization, and how they can connect with that in their everyday lives. For example, if participants say they miss watching the birds, leaders can suggest that participants put up birdfeeders at home (Bird, 2011). Finding that the same birds feed from the birdfeeder as the ones that were seen during the canoe trip may inspire connection with nature in civilization and in this way, address the nature—civilization dichotomy. Meanwhile, this specific example corresponds to the grade 11 Ontario science curriculum (SB13U) which asks students to “define the concept of speciation, and explain the process by which new species are formed” (Ontario Ministry of Education, 2008b, p. 53) through the concept of geographic isolation.

Amenities of a different quality than those in nature. Two implications for educational programming are based on the finding that connection with nature was initiated and supported by re-entry to civilization and the enjoyment of amenities associated with it. Firstly, since certain individuals, like Deer (12:00 pm on day-3), may require greater access to the amenities of civilization than others to feel comfortable enough to connect with nature, leaders should be aware of participants’ individual needs and be accommodating in this regard. Minimizing participants’ anxiety may require planning canoe trips that are less

remote and/or shorter in duration. To increase participants comfort in nature over time, age-appropriate trips that get longer and more remote over multiple years should be considered.

The second implication this finding has for educational programming is that participants' connection with nature can be supported by re-entering civilization part-way through canoe trips. As already discussed in light of the connecting effect that being in the absence of non-human/natural features has, such opportunities should be provided. Accompanying such opportunities with discussions on perceived needs, such as the chocolate bars Deer mentioned she required to feel comfortable connecting with nature (12:00 pm on day-3), and actual (food) needs, and the origin of those entities that satisfy actual needs, could nurture participants into awareness that their needs can be met in nature. This could free participants to experience comfort and connection with nature more readily while placing their dependence on civilization in perspective. This could also address the nature—civilization dichotomy. This particular example corresponds with the Ontario grade-12 'Food and Nutrition Sciences' curriculum which asks students to identify the ways in which physical factors influence food choices (e.g., geographical location, regional growing seasons, availability of food markets, home storage capacity)" (Ontario Ministry of Education, 2000, p. 61).

Social influence/leadership.

That leading by example was found to support connection with nature implicates that canoe trip leaders can and should support connection with nature by modelling it. That said, their ability to influence connection with nature depends on the quality of relationship they have with their participants because, as Mitten (1999) says, "leadership is a relationship" (p. 258). Since I would describe the relationships between the leaders and participants of this

case study canoe trip based on my informal observations as safe, supportive, friendly, playful, governing, dynamic, responsive, patient, instructive, generous and attentive, these qualities are recommended.

On a more general note, the finding that leading by example was found to support connection with nature also implicates that providing educational programming on outdoor adventure trips through leadership according to the other suggestions provided above can influence participants' relationship with nature.

Question-2

Now we turn to the implications that the response to the second research question has for EE.

Indicators of participant-nature interactions. Now that seeking affordances, centering and intimacy have been identified as indicators of human-nature interactions, they can be used for this purpose in the future. Researchers can use them for investigations that depend on the identification of human-nature interactions while leaders can use them to observe and monitor their participants' interactions with nature during outdoor environmental programs. Considering the focus of the present study, it is recommended that such monitoring be carried out instrumentally as the basis for supporting connection with nature in the other ways recommended herein.

In addition to these uses of the human-nature-interaction-indicators, centering has yet another implication. As I mention during the autobiographical introduction of this thesis, part of my personal evolution in this Master's degree involved the realization that I interpret the teaching-learning relationship as a circular rather than linear one. The finding that participants centered as a group, in a circle around a focus, supports this interpretation.

Visualize the rhythmic sequence of a group of individuals who wake up, circle around a fire, then scatter as they do independent tasks, then circle around one particular individual as he tells a story, then scatter as they load boats, then circle around a pot of peach crisp, then scatter as they paddle downstream, then circle around a model white water set etched in the earth, then scatter as they paddle further downstream; and you will have visualized the sixth morning/early-afternoon of the case study canoe trip (See day-6), and also, my understanding of the relationship between teaching and learning. Especially considering that in these instances, it was not always the same individual who introduced the focus, nor the same individual who had a monopoly on the knowledge about that focus. Rather, as I describe in the autobiographical introduction, the teaching role was shared circularly among and between the teacher and the (other) learners. This pattern represents an instinctive relationship and recognizing it as such provides an understanding of that relationship and also, the basis for providing opportunities to teach and learn in this way in the future.

Aspects of canoe trip planning.

Amenities. The implications that amenities have in response to question-2 contribute to those introduced above, in response to question-1. When mindfully deciding which amenities to bring on a canoe trip, how to frame them, and which to expose participants to upon re-entry to civilization, leaders should carefully consider the ways different amenities limit participants' interactions with nature. For example, in deciding whether to bring a stove, leaders would weigh the increased comfort and safety it affords, with how it limits participants' reliance on fire and the interactions with nature that fire invites (see fire section below).

Another implication regarding amenities is based on the finding that by determining the activities participants engaged in, they indirectly determined the ways participants interacted with nature during the trip. The implication this has is that amenities should be chosen with consideration for how the activities shape participants' interactions with nature. For example, in choosing to bring the amenities for rock-climbing, leaders may consider how rock-climbing provides an alternative perspective (aerial view) of the natural locations they are paddling. They may also consider how comparing the view from the top of a rock face with topographic maps of the immediate area provides participants with the opportunity to learn how to read topographic maps and that comparing those maps with those of participants' homes could address the nature—civilization dichotomy. This would correspond with Ontario's grade 7 geography curriculum which states that students should "use a variety of thematic and topographic maps to identify patterns in physical geography" (Ontario Ministry of Education, 2004, p. 69).

Altogether, when mindfully deciding which amenities to bring on a canoe trip, leaders should carefully consider how they may limit participants' interactions with nature, and how they determine participants' interactions with nature by establishing the activities participants are able to engage in during the trip.

Route. Route has several implications for educational purposes as seen below. Firstly, since route determined what nature participants were exposed to, and therefore, what they interacted with, routes should be planned to include features of nature to interact with that may initiate interest and discussions in specific topics. For example, if a leader wanted their participants to become interested in and learn about the water cycle, they might plan a route that takes participants from streams, to rivers, to the ocean. With an explanation about

the water cycle and how human-action is affecting it, this experience could address the nature—civilization dichotomy. This corresponds with Ontario’s grade-8 science and technology curriculum which asks that students “demonstrate an understanding of the watershed as a fundamental geographic unit, and... explain how human and natural factors cause changes in the water table (Ontario Ministry of Education, 2007, p. 151).

A specific feature of the route that greatly affected participants’ interactions with nature during the trip was the degree of human impact along the way. The implications this findings has for education has already been discussed in response to question-1 (see p. 151). However, something to consider in this context, is that Chawla (1999) has found that experiencing habitat destruction and pollution mediates the development of environmental commitment. Therefore, planning a route that provides such experiences of human impact is recommended. For example, continuing with the idea of rock climbing, leaders could choose a cliff that provides an aerial view of forests that are both untouched and clear-cut or juxtaposed with a city. This would address the nature—civilization dichotomy by providing a visual representation of the relationship between them. Meanwhile, connecting this experience with the lesson on topographic maps would correspond with the Ontario curriculum as already noted. An advantage of this lesson is that it could be taken out of the canoe trip context and provided during a field trip of shorter duration.

Yet another implication route has for educational planning and improvement is based on the finding that route—like amenities—contributes to the activities participants are able to engage in and therefore how they interact with nature. The implication based on this is to plan routes that enable those activities that the amenities afford. With regards to the rock

climbing example provided above, leaders would want to choose a route with a climbable cliff.

Altogether, the implications based on how the route mediated participants interactions with nature according to the response to question-2 is that it should be planned with consideration of the activities it affords, and the specific features it exposes participants to including negative experience of habitat destruction and pollution.

Group. The overall implication that group has for educational program planning is that groups should be constructed to facilitate positive interactions with nature²⁸. For example, when the group is paddling white water, leaders should create safe combinations of paddling partners whose skills, abilities, and personalities are complimentary. Likewise, when the group is portaging, leaders should choose safe and balanced combinations of portaging partners.

Another implication that group has for education is to take advantage of the mediating effect teamwork has on participants' interactions with nature by planning specific exercises that involve both. For example, asking the group to build a shelter would require participants to interact with nature and each other through a series of steps. Each step would either involve interacting with nature directly or indirectly as intermediates between other humans. To address the nature—civilization dichotomy during this activity, participants could be asked to compare the human system that evolved in the process, to the human system that has evolved for the same purpose in civilization (e.g., a contracting company). This example corresponds with Ontario's grade-9 Canadian and World Studies curriculum

²⁸ In this context, positive interactions are considered either comfortable interactions, or challenging interactions that result in increased comfort through the development of skill, knowledge and/or memory.

which asks that students “describe the characteristics (e.g., complex, interconnected, affecting natural systems) of human systems (e.g., transportation, communication, infrastructure, energy networks, economic systems)” (Ontario Ministry of Education, p. 30).

Another implication group has for educational programming is based on the finding that group-directed discussions mediated participants’ interactions with nature. The implication is that leaders should be prepared to take advantage of participants’ comments as entry points for discussions about nature. They should also be prepared to participate in discussions with the intent of addressing the nature—civilization dichotomy without overpowering the discussion such that it becomes leader-directed. If the opportunity for this does not arise in the moment, then leaders should plan to refer back to it at a later time.

In this context, consider how the conversation on the seventh day of the canoe trip (4:40 pm), about why there was foam on the water, could have been used. To address the nature—civilization dichotomy, a leader could have asked participants if the foam reminds them of anything in civilization hoping for answers such as soap. As an example of surface tension, this corresponds with Ontario’s grade-12 curriculum which asks students to “explain how the physical properties of a solid or liquid (e.g., solubility, boiling point, melting point, melting point suppression, hardness, electrical conductivity, surface tension) depend on the particles present and the types of intermolecular and intramolecular forces” (Ontario Ministry of Education, 2008, p. 111).

Altogether, the implications that group has for educational programming is that the group’s dynamic should be considered, exercises that take advantage of teamwork should be planned, and leaders should be taught how to mediate group-discussions for EE outcomes.

Leadership. The overall implication based on the finding that leadership mediated participants' interaction with nature is that leaders should be prepared in advance to fulfill the recommendations provided here. Specific implications that leadership has relates to the three ways leadership was found to mediate participants' interactions with nature during the trip. Firstly, leaders should be equipped with the expertise to make decisions that result in positive interactions with nature. While it is difficult to provide an example of this since so many factors must always be considered, a simplified example would be the decision to make a fire on a cold and wet day since this would likely make participants' warmer and dryer, thereby raising morale. Secondly, since leader's instruction mediates participants' interactions with nature, leaders should be equipped to formally and/or informally instruct participants how to interact with nature positively. For example, instruction on how to paddle and portage safely increases the likelihood of having positive experiences. Finally and as already introduced in response to question-1, the implication that leading by example has for educational planning and improvement is that leaders who experience connection with nature themselves should model it for their participants (see the section entitled "Social influence/leadership").

Activities of the canoe trip experience.

Fire. The implication that fire has for educational programming is that teaching participants how to make fire provides them with the opportunity to interact with nature by centering on it, finding affordances in it and experiencing intimacy with it. Furthermore, learning how to make fire provides participants with a skill that can be used to interact with nature in all contexts of their lives. Meanwhile, it can address the nature—civilization dichotomy in various ways. For example, a comparison between the experiences of cooking

with a wood-burning fire from locally found logs versus a gas-burning or electric stove found at home could be interwoven with a comparison between the environmental foot-print of each. This corresponds with Ontario's grade-11 chemistry curriculum which asks that students "analyse the effects on air quality of some technologies and human activities..., including their own activities, and propose actions to reduce their personal carbon footprint" (Ontario Ministry of Education, 2008, p. 102). This conversation could be developed further into a conversation about alternative forms of energy which would correspond with Ontario's grade 12 chemistry curriculum expectation to "analyse some conventional and alternative energy technologies (e.g., fossil fuel-burning power plants, hydro-powered generators, solar panels, wind turbines, fuel cells), and evaluate them in terms of their efficiency and impact on the environment" (Ontario Ministry of Education, 2008, p. 112).

Waste. Several implications for educational programming are based on the findings regarding how waste mediated participants' interactions with nature and how leadership influenced that relationship. Firstly, leaders should manage waste in ways that support participants finding affordances, experiencing intimacy and complete waste cycles in nature during all the canoe trip contexts. One way to accomplish this in nature is to follow LNT/LI procedures and avoid carrying waste back into civilization for disposal.

Another implication that waste has is due to the finding that it mediated participants' interactions differently when there were signs of human presence such as pollution. As already recommended in the route section with reference to Chawla (2000), providing negative experiences of human impact is recommended here as well. For example, comparing the different categories of natural versus human-made materials could address the nature—civilization dichotomy. This corresponds with Ontario's grade-11

environmental science curriculum expectation to “describe different categories of waste (e.g., biodegradable, recyclable, toxic, organic, inorganic)” (Ontario Ministry of Education, 2008, p. 161).

Swimming. The implication that swimming has for educational programming is that opportunities to swim should be provided as a means of interacting with nature by finding affordances in it and experiencing intimacy with it. To apply and extend this into post-trip contexts, leaders could take participants swimming in natural bodies of water near their school or homes. This would address the nature—civilization dichotomy because it would provide participants with an experience of how civilization is embedded in nature.

Another way of addressing the nature—civilization dichotomy by swimming, based on the finding that swimming mediated participants’ interactions differently in the presence of human impact, involves taking participants to varying degrees of nature and civilization to investigate water samples and identify good swimming locations based on their water samples. This would correspond with the Ontario Ministry of Education’s grade-11 science curriculum (2008). In choosing natural and disturbed locations, it is recommended not to choose areas in perceived civilization that are obviously contaminated, and areas in perceived nature that are obviously not contaminated because this would not develop participants’ understanding of nature and civilization beyond dichotomizing them. Instead, it is recommended to examine bodies of water in participants’ home environments and nature that are both clean and contaminated.

Cliff-Jumping. To provide opportunities for cliff-jumping, participants can be taken to natural bodies of water near their home or school to swim as in the recommendation above however in this case, a safe jumping cliff would have to be available. While this

would provide participants with the opportunity to interact with nature through cliff-jumping, it would address the nature—civilization dichotomy as above; by giving participants an experience of how civilization is embedded in nature. Meanwhile, cliff-jumping can correspond with Ontario’s grade 11 physics curriculum expectation to “analyse and solve problems involving the relationship between the force of gravity and acceleration for objects in free fall” (Ontario Ministry of Education, 2008, p. 187) and to “plan and conduct inquiries involving transformations between gravitational potential energy and kinetic energy” (Ontario Ministry of Education, 2008, p. 188).

Tenting. An implication that findings pertaining to tenting have for educational programming is that shelter used on canoe trips should be chosen to maximize opportunities for experiencing intimacy with nature, and finding affordances in nature. This suggests that building and using hand-made shelters (e.g., a quinzhee or a lean-to) may be preferable to using a tent, which in turn may be preferable to staying in a pre-existing cabin. The choice of whether to sleep in a hand-made shelter must be made with consideration of participants’ comfort.

To provide a similar opportunity upon a trip’s return, leaders could ask participants to build shelters near home over a few hours without the intention of sleeping in them. As long as a shelter was built, participants would have the opportunity to find affordances in nature and experience intimacy with nature. To use the opportunity to address the nature—civilization dichotomy, leaders may want to compare the designs and materials the participants used in building their structures, and the characteristics of them, with human structures found in civilization as well as animal structures such as bird’s nests and beaver dams. Altogether, this exercise corresponds with the Ontario Ministry of Education’s grade-

7 curriculum which asks that students “design and construct a variety of structures, and investigate the relationship between the design and function of these structures and the forces that act on them” (Ontario Ministry of Education, 2008, p. 129).

Unscheduled time outside. Sobel (2008) recognizes the importance of having unscheduled time outside in enabling nature-play. Meanwhile, he acknowledges that nature-play during childhood is important for the development of environmental ethics and behaviour in adulthood: He says that “talking to trees and hiding in trees precedes saving trees” (p. 19). Furthermore, he says that “it is often in the midst of these kinds of play that the transcendent experiences occur” (p. 20). This emphasizes the importance of providing unscheduled time outside for EE, especially in the context of the present study and its focus on connection with nature.

Since unscheduled time outside also enabled participants to focus on nature, discuss nature, and produce artefacts that demonstrated their connectedness with nature, leaders are encouraged to provide their participants with these opportunities. Furthermore, leaders are encouraged to address the nature—civilization dichotomy based on the participant-directed conversations or actions that emerged during the time allotted remembering, as Sobel (2008) says, that “serendipity rules” (p. 20).

Sitting on the ground. Since sitting-on-the-ground provided opportunities for participants to position themselves in accordance to features of nature they were centering on, and to play with natural feature that were accessible to them, participants should be encouraged to do so in all canoe trip contexts. This could decontextualize it from being a solely nomadic-living-in-nature activity and in this way address the nature—civilization dichotomy. While sitting on the ground, participants could also address the nature—

civilization dichotomy by writing poems, drawing, debating, acting etc..... This would correspond to a myriad of curricular expectations. Alternatively sitting on the ground could be an opportunity to have unscheduled time outside.

Paddling. Paddling is another activity that mediated participants' interactions with nature in multiple ways and therefore has multiple implications for EE. The first has already been discussed with regards to the route and is based on the findings that through paddling, the route mediated what participants were exposed to. Generally the resulting implication is to choose paddling routes that expose participants to desired features. For example, the experience of paddling the physical space between nature and civilization was found to mediate participants' interactions with nature and should therefore be provided.

Since another way paddling mediated participants' interactions with nature was by providing participants with the opportunity to discuss whatever they were exposed to, leaders should take advantage of such opportunities to address the nature—civilization dichotomy. For example when Otter, Loon, and Fox discussed their understanding of nature as they paddled the space between nature and the town of LakeHill (3:30 pm on day 9), there was an opportunity for leaders to address the nature—civilization dichotomy. This would correspond with Ontario's grade-9 Canadian and World Studies (CGC1D) curriculum which asks students to “distinguish between the characteristics of urban and rural environments (e.g., differences in population density, land use, forms of settlement, development patterns, types of employment); [and] explain the geographical requirements that determine the location of businesses, industries, and transportation systems” (Ontario Ministry of Education, 2005, p.30). Since the discussions that arise while paddling, like those that arise during unscheduled time outside, are based on whatever catches participants'

focus, lessons should similarly be serendipitously based on the participant-directed conversations or activities that emerge.

To extend these recommendations to the context of the trip's return, participants could be taken to a river near their school or home to paddle the space between nature and civilization. Note that such an experience could also be accomplished by hiking, biking, cross-country skiing etc...

Portaging. Since portaging mediated participants' interactions in various ways, it is recommended during canoe trips as an additional way to interact with nature. To address the nature—civilization dichotomy via portaging, participants could be asked to compare the time it takes to travel different distances using different modes of transportation including portaging and those typical of life in civilization such as driving. This corresponds with Ontario's grade-11 physics curriculum which asks students to “solve problems involving distance, position, and displacement” (p. 185).

Campsite hunting. Since campsite hunting provided yet another way for participants to interact with nature, it too is recommended for EE. This recommendation complements those that have been made about tenting; specifically, how tenting and other forms of shelter should be used to maximize opportunities to find affordances in nature. To use campsite hunting to address the nature—civilization dichotomy participants could be asked to compare and contrast the way they hunt for and organize campsites according to LNT/LI practices with “how human activities (e.g., agricultural and urban development, waste management, parks development, forest harvesting, land reclamation) affect, or are affected by, the environment [and] how natural systems (e.g., climate, soils, landforms, natural

vegetation, wildlife) influence cultural and economic activities (e.g., recreation, transportation, employment opportunities)” (Ontario Ministry of Education, 1999, p. 31).

Although campsite hunting is specific to overnight camping trips, there are similar activities that can be accomplished in a day that can extend into post-trip contexts. For example, participants can be taken to spaces—both disturbed and undisturbed—for the purpose of planning its development for human use with consideration of environmental consequences. This would also satisfy the Ontario curriculum and address the nature—civilization dichotomy in the ways outlined above.

Implications for Brody’s (2005) Theory of Learning in Nature

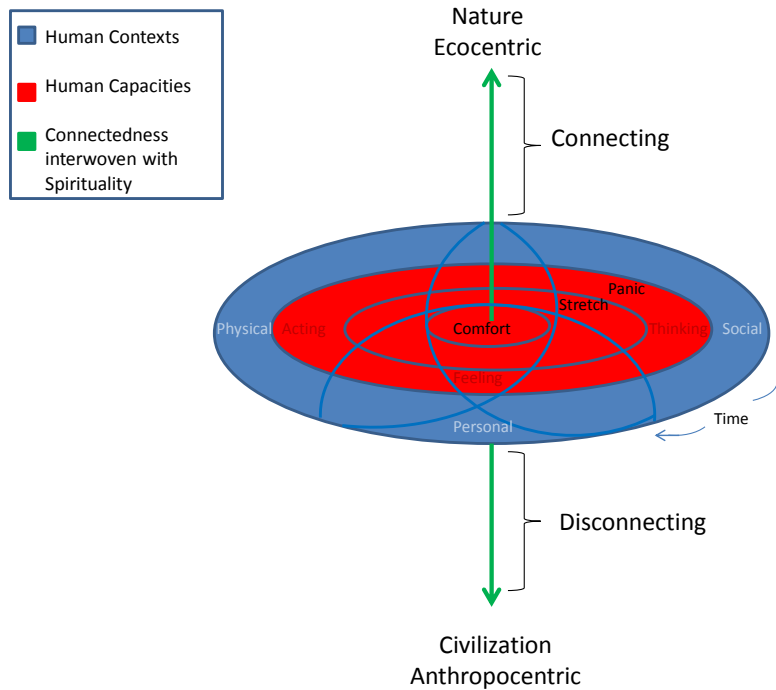
Now we turn to the implications that the responses to both the first and second research questions have for Brody’s (2005) theory of learning in nature. Expanding the theory is the suggestion that spirituality should be included. Meanwhile, the recognition that comfort is the overall result of the ever-changing balance between and among human capacities (acting, thinking and feeling) and contexts (personal, physical and social) over time, compliments Brody’s (2005) theory. Lastly, the finding that emerged from both the first and second research questions that participants interact with, and connect differently with nature depending on the context they perceive along the nature--civilization context continuum compliments Brody’s (2005) theory by adding another dimension to his contexts. Specifically, where a participant perceives themselves to be along the nature—civilization context continuum may emerge from participant’s personal, physical and social contexts depending on the situation, negotiated over time and for each situation, according to Brody’s (2005) theory.

The following is an iteration of Brody's (2005) theory which is suggested based on these findings, on my experience of difficulty distinguishing between human capacities (acting, thinking and feeling) and contexts (social, physical and personal over time) in practice while collecting research data in the field, and also, on my interpretation of a circular relationship between the teaching and learning relationship as discussed in *Implications: Indicators of participant—nature interactions* (see Figure 15).

Learning in nature results from an individual's capacity to act, think and feel within their personal, social and physical contexts, over time. While it is possible that learning results from one human capacity interacting with one human context over time, it may also be possible for learning to result from the interaction between one or more of these human capacities with one or more of these contexts. These interactions and their relationship with time are conceptualized circularly: As if human capacities spin within human contexts, bound within circular time. They result in different states of comfort, referred to as the panic, stretch and comfort zones (Prouty, Panicucci & Collinson, 2007) and also, in an individual's perception of where they are along the nature—civilization context continuum. Where a person perceives themselves along the nature—civilization context continuum is considered an additional dimension to their personal, social and physical contexts. It depends on their notion of nature, which is related to their connectedness with nature (see Results and Discussion, Notion of Nature). Meanwhile, connectedness with nature is related to comfort because connection with nature, interwoven with spirituality, was associated with comfort while disconnection from nature was associated with discomfort. Consequently, where a person perceives themselves to be along the nature—civilization context continuum, interrelated with connectedness with nature, emerges from states of comfort, which results

from the ever-changing balance among and between an individual's capacities to act, think and feel within their personal, social and physical contexts, over time.

Figure15: A diagram of this new iteration of Brody's (2005) theory of learning in nature.



The inner (red) circle, representing human capacities (acting, thinking and feeling), spins within the outer (blue) circle, which represents human contexts (physical, personal and social), as they interact. Both are bounded by time. Within the inner (red) circle of human capacities are comfort levels. Connectedness interwoven with spirituality can emerge from states of comfort (the green arrow). Following connectedness upwards or downwards along another dimension of context, known as the nature—civilization dichotomy/continuum, is the process of connection (towards an ecocentric orientation) or disconnection (towards an anthropocentric orientation), respectively.

This theory and diagram can be used in multiple ways. Firstly, it can be used as a theoretical framework for research such as that which has been carried out in the present study. Secondly, it can be used for program development. As an aspect of canoe trip

planning, leaders can use this model to better understand the concept of connectedness with nature as it relates to all other aspects represented in the model (spirituality, time, comfort, acting, thinking, and feeling; physical, social and person contexts). It is suspected that leaders will be better equipped to support connection with nature by supporting comfort, and also by addressing the nature—civilization dichotomy, if they understand how they are related.

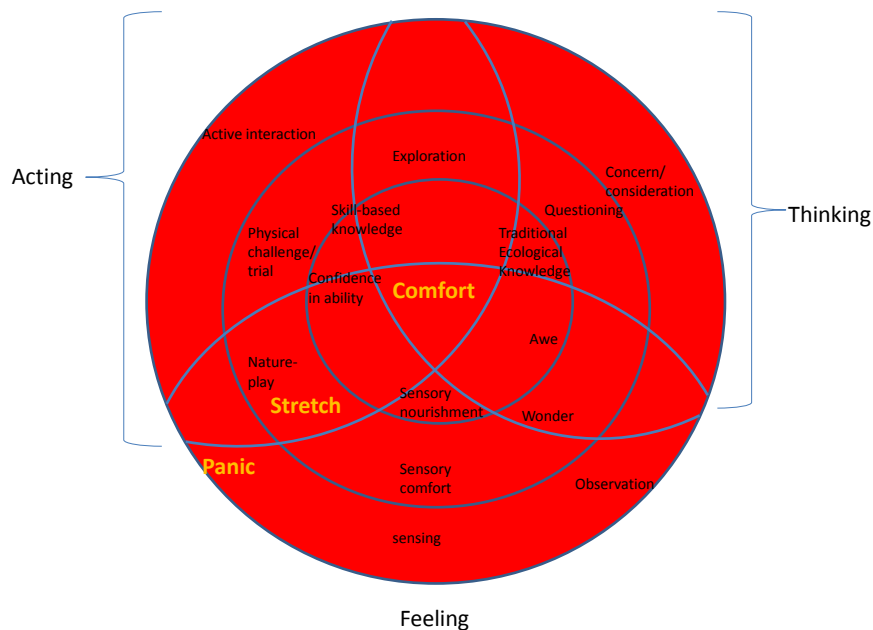
Leaders can also use this model to reflect on their own relationship with nature. For example, where do they find themselves along the anthropocentric—ecocentric continuum? Since leading by example was found to be related to connection with nature, this exercise could be beneficial in supporting participants' connection with nature during the trip.

Another way this model could be used is through direct instruction with students/participants. Teaching students overtly about their relationship with nature may help them to connect with nature. Specifically, the model (and associated diagram) may be used with students/participants to conceptually break down the nature—civilization dichotomy and transform it into a continuum. As previously discussed in this section, altering students'/participants' notion of nature to one that is more inclusive of humans may support connection with nature.

As an example of its many possible uses, this new iteration of Brody's (2005) theory of learning in nature can be used to examine interactions with nature that were observed during the present study (see figure 16). For example, the human capacity known as acting can be broken down into different types of interactions in the panic, stretch and comfort zones as follows: The panic zone may involve active interaction, the stretch zone may involve physical challenge/trial, and the comfort zone may involve skill-based-knowledge

and confidence-in-ability. Note that skill-based-knowledge and confidence-in-ability can be considered combinations of acting and thinking. Feeling meanwhile can be considered to involve irritation in the panic zone, sensing in the stretch zone and sensory nourishment in the comfort zone. The interaction between feeling and thinking can be considered to involve observation in the panic zone, wonder in the stretch zone and awe in the comfort zone. Meanwhile, thinking can be thought to involve concern or consideration in the panic zone, questioning in the stretch zone and traditional-ecological-knowledge in the comfort zone. Traditional-ecological-knowledge can also be thought of as a component of acting. Similarly, exploration can be considered a component of acting however it resides in the stretch zone. As participants' interactions with nature move from the panic zone, through the stretch zone and into the comfort zone, they are thought to develop more potential as a basis for connecting with nature.

Figure 16. Latest iteration of Brody's (2005) theory applied to this canoe trip context



Chapter 4

Conclusion

The new policy framework for EE in Ontario puts forth that schools should “enrich and complement students’ classroom learning by organizing out-of-classroom experiences and activities” (Ontario Ministry of Education, 2009, p. 17). Meanwhile, outdoor adventure trips are already implemented across high schools in Ontario as part of outdoor education. Research has reported the development of multiple EE outcomes on outdoor adventure trips; for example, environmental concern (McKenzie, 2003), awareness (Paisley et al., 2008), commitment (Chawla, 1999) attitudes (Hanna, 1995; Berns & Simpson, 2009) and behaviour (Theodori, Luloff, & Willits, 1998). However studies also suggest that providing directed education is necessary to extend EE outcomes after the trip (Haluza-Delay, 2001; Hanna, 1995). Therefore, “there may be value in deconstructing specific outdoor recreation activities in an effort to understand which qualities or characteristics of outdoor experiences promote environmental attitudes and which do not” (Berns and Simpson, 2009, p. 89). McKenzie (2003) and Paisley et al. (2008) have examined outdoor adventure trips for the basis of multiple educational outcomes including EE outcomes however EE was not their focus. Consequently, no recommendations for EE program improvement and planning were provided. To satisfy this deficiency in the literature, and meet the suggestion that multiple researchers have made about programs needing educational planning for EE outcomes to persist into post-trip contexts, the goals of the present study were to examine an outdoor adventure program’s characteristics based on my interpretation of participants’ accounts of their experience.

To meet this end, a canoe trip was chosen for investigation. This choice was made for various reasons including (a) the researcher’s personal experience with canoe tripping, (b) the researcher’s affiliation with canoe tripping organizations, (c) the popularity of

canoeing in outdoor education programs across Ontario, and (d) the cultural relevance of canoeing to Canadian society. Meanwhile, the environmental outcome chosen for investigation was connectedness with nature. It was chosen because it is (a) a recognized goal of EE in Ontario according to the policy framework for EE (Ontario Ministry of Education, 2007), (b) considered to be a desirable outcome of outdoor adventure trips (Haluza-Delay, 2001), and (c) a focus of the discussion surrounding the environmental crisis since the 1970's (Barry, 2010; Reis, 2010). Furthermore, it is considered the essential-glue (Sobel, 2008) or foundation (Blanchet-Cohen, 2008) for other environmental outcomes to become transferable upon participants' return to civilization (e.g., Simons, 1999) which makes it optimal for the basis of a variety of EE programs.

To investigate connectedness with nature on canoe trips, research questions were formulated to examine the aspects of the canoe trip that mediated (a) participants' connectedness with nature according to participants' accounts and (b) participants' interactions with nature according to the researchers' perspective. It became evident that participants' understanding of the word nature had to be defined. (Otherwise I would have run the risk of answering questions about something without knowing the meaning of it.) Based on participants' statements, nature has three characteristics: (a) fewer humans than a city, (b) natural features such as trees, leaves and water, and (c) amenities of a different quality than those found in a city (e.g., tents but not cellular phones). Inherent in this definition is a dichotomy between nature and civilization that reflects a disconnected perception of nature in which humans are separate from nature (anthropocentric orientation, rather than an ecocentric orientation).

This definition of nature and its inherent dichotomy with civilization converge with the aspects of the canoe trip found to mediate participants' connectedness with nature in response to the first research question. Specifically, the aspects seem to result from the interactions between each one of the three features of participants' definition of nature and their dichotomous experience of nature. Two main experiences existed; stepping back from nature into civilization, and stepping back from civilization into nature. The aspects that mediated participants' connectedness with nature while stepping back from nature into civilization included absence of non-human/natural features, and presence of the amenities of civilization. Meanwhile, the mediating aspects while stepping back from civilization into nature included sensation (e.g., the sensory experiences of being in nature such as swimming in a cool lake on a hot day or being wet from the rain), observation (e.g. observation of small features of nature or relationships among features of nature such as a hole worn into rock by water), amenities typical of the canoe trip, and amenities typical of civilization. Leadership, or leading by example, was also found to mediate participants' connectedness with nature across all other aspects.

In addition to these themes which provide a general description of the relationship between the canoe trip and participants' connectedness with nature, two major findings emerged. Firstly, several of the aspects identified were found to be both connecting and disconnecting with/from nature, and secondly, comfort was related to connection with nature while discomfort was related to disconnection from nature. In this context, comfort refers to a net result of acting, thinking and feeling within participants' personal, physical and social contexts over time according to Brody's 2005 theory of learning in nature.

The second research question resulted in themes that were identified using three indicators: (a) intimacy (b) centering and (c) affordances. Intimacy with nature involves close sensory experiences. Centering on nature involves positioning one's body in the direction of a focus. Finding affordances in nature involves looking to nature to satisfy needs. The themes identified using these indicators were structured in two tiers; aspects of canoe trip planning, and activities of the canoe trip experience. Aspects of canoe trip planning include route, amenities, leadership and group. Activities of the canoe trip experience include fire, waste, swimming, unscheduled time outside, cliff-jumping, campsite hunting, paddling, tenting, sitting on the ground, and portaging. The aspects of canoe trip planning mediated participants' interactions with nature indirectly by resulting in the activities of the canoe trip experience, which mediated participants' interactions directly.

A third key finding of the present study emerged from this second response: The activities of the canoe trip experience mediated participants' interactions differently depending on the context. There were three contexts indicated by the canoe trip participants' interactions; nomadic living in nature, nomadic living in nature with signs of human presence and re-entry to civilization.

Implications from the present study are based on its three major findings. Firstly, the finding that some aspects of the canoe trip were both connecting and disconnecting with/from nature has implications based on the following rationale. When an aspect of the canoe trip was both connecting and disconnecting, there was no obvious variation in the aspect itself: No characteristic of the aspect made it connecting with nature or alternatively disconnecting from nature. This suggests that what determines connectedness with nature is not necessarily anything in particular about the aspect but the experience of it. Identifying

the factors found to mediate participants' experience in connecting ways and alternatively disconnecting ways, and then supporting the former and not the latter could support connection with nature overall during canoe trips. That leadership was identified as an aspect mediating participants' connectedness with nature in response to the first research question provides further support that this is possible.

The second major finding—that comfort was associated to connection with nature while discomfort was associated to disconnection from nature—is useful in this regard: To support participants' connectedness with nature, programs should support participants' net comfort. This could be accomplished by supporting participants through uncomfortable experiences by providing them with the skill, knowledge and/or memories that result in increased comfort; for example, by providing the experience of learning how to paddle white water safely. Meanwhile, since opportunities to be comfortable and therefore aware of connection with nature may in itself be connecting, they are also recommended.

Participants' individual needs are also an important consideration. For example, if a participant is particularly afraid of paddling white water, an alternative challenge should be provided.

Finally, since the activities found to mediate participants' interactions with nature did so differently depending on the context, the present study recommends providing participants opportunities to connect with nature in a variety of contexts to decontextualize it such that it persists in different settings (Simons, 1999). This recommendation is made with the understanding that depending on the route, canoe trips may vary in terms of time spent in contexts perceived by participants to be nature, have signs of human impact, or be civilization.

Limitations of the Study

Although the verifying research practices discussed in the methodology section supported the credibility of the present study, limitations were still inherent in its design as with all research designs. Firstly, as a Masters of Arts in Education thesis, this study was limited by time. One consequence of this constraint was that the investigation was limited to one canoe trip of a short duration. It would have been preferable to examine different kinds of recreational trips of differing lengths with varying participants in addition to the 10-day canoe trip case. This would have provided insight into how different activities, lengths of trip, group dynamics and leadership styles mediated participants' connections and interactions with nature.

Another limitation of this study due to its time constraint was that it did not investigate re-entry to civilization following the canoe trip to the same extent that it investigated time spent in nature during the canoe trip. Therefore, findings regarding the relationship between the canoe trip experience and participants' connectedness with nature cover the nature-context of the canoe trip in more depth than the re-entry-to-civilization-context of the canoe trip.

Yet another limitation resulting from the study's time constraint, (and also the difficulty of tracking participants who come from various parts of the province, the country and the world,) is that follow-up interviews investigating the transference of participants' connectedness with nature into post-trip contexts were not possible.

On a similar note, a pilot study would have ideally been conducted if it were not for time constraints. This limitation is recognized in lieu of that fact that my data collection skills improved in various ways throughout the trip. Firstly, I became more comfortable and

proficient asking participants prompting research questions. Secondly, I became more aware of the times that were appropriate to record data and ask questions which did not interfere with social dynamics or my ability to contribute to the work load. Finally, data collection was also advanced by my improved ability to remember observations I was not able to record in the moment.

Another limitation of the study—unrelated to time—was that the research process itself may have affected participants' descriptions of their relationship with nature. Specifically, having a researcher on their canoe trip, being examined for connection with nature, and being given the task of providing information about it, may have made participants more aware of their connection with nature which in turn may have mediated their connectedness with nature.

Finally, one last limitation discussed here is that based on the registration fee of the canoe trip, participants likely came from families with higher socioeconomic statuses in the province. Meanwhile the willingness of parents to endorse a canoe trip, which introduces their children to the risks associated with being in remote wilderness spaces, suggests that participants' parents support experiences with nature. This leads to a limitation in the study's generalizability: It is difficult to say that the way these adolescents experienced the canoe trip applies to all Ontario adolescents.

Main Contributions

As a case study of ethnographic design, the primary target of this particular investigation was “the characteristics of the particular situations investigated” (Hammersley and Atkinson, 2007p. 32). Meanwhile, as with other case studies, this study provides a rich description with information upon which readers can base “judgments of transferability”

(Lincoln & Guba, 1985, p. 359). Therefore, a major contribution of the present study is that it provides environmental educators and canoe trip leaders with a rich description of the characteristics of a canoe trip, as well as canoe trip participants' connectedness and interactions with nature for comparison with other outdoor environmental programs as the basis for program improvement and development. Meanwhile, associations with education in Ontario according to the Ontario Ministry of Education curriculum documents are noted.

Another practical contribution of this study is a model for connectedness with nature based on Brody's (2005) theory of learning in nature that can be used by canoe trip leaders/educators to support connection with nature in various ways (see Implications). This also contributes on a theoretical level since the model can be considered another iteration of Brody's (2005) theory and can therefore be used by future researchers as a theoretical framework.

In addition to this theoretical contribution, the present study broadens the educational literature related to outdoor environmental programs by investigating environmental outcomes in particular. According to the available literature, no research on outdoor adventure trips has done so thus far.

Finally, by choosing connectedness with nature as the environmental outcome for investigation, the present study also broadens the literature in this way. Although connectedness with nature has been discussed thoroughly in light of the environmental crisis since the 1970's (Barry, 2010), other outcomes such as environmental concern (McKenzie, 2003), awareness (Paisley et al., 2008), commitment (Chawla, 1999) attitudes (Hanna, 1995; Berns & Simpson, 2009) and behaviour (Theodori, Luloff, & Willits, 1998) have been dominating EE research. This is despite the popularity of connectedness with nature in the

environmental debate (Barry, 2010) and the finding that it is an outcome of outdoor adventure experiences (Haluza-Delay, 2001).

Directions for Future Research

One possible direction for future research involves doing similar investigations on educational trips with varied characteristics, including activities, duration, and participant-demographics. For example, future research could examine a case study hiking trip. During such investigations, different EE outcomes could be examined as an alternative to, in addition to, or relative to connectedness with nature.

Alternatively, future research could focus solely on connectedness with nature. One possible approach for such an investigation is based on the finding that while some aspects of the canoe trip mediated participants' connectedness with nature both towards connection and disconnection, some aspects did so only towards connection, or disconnection, but not both. While this finding could simply mean that some aspects of the canoe trip experience are only connecting and others are only disconnecting, it could also mean that there was simply inconclusive evidence to demonstrate that all aspects are both connecting and disconnecting with/from nature. For example, although there is only evidence that observation of nature is connecting, intuitively observation could also be disconnecting. An example of an observation that has made me experience disconnection from nature involves seeing animal tracks, homes, and feces, but rarely seeing the animals they belong to because it reminds me of how other animals avoid humans. Future research could examine connectedness with nature to determine whether all aspects mediating it, do so both towards connection and disconnection.

Two other approaches to studying connectedness with nature are based on the finding that connectedness with nature is associated with comfort-level. While comfort is associated to connection with nature and discomfort is associated to disconnection from nature, little is known about participants' connectedness with nature between these extremes when participants are less likely to be aware of it. It was suggested that this is attributable to the fact that information about participants' connectedness with nature was founded solely on participants' statements. Therefore, future research could investigate how different levels of comfort on outdoor adventure trips mediate participants' connection with nature by using different data collection methods that do not rely on participant-statements alone.

Another approach to studying the relationship between connectedness with nature and comfort involves determining how different ways of achieving comfort mediates participants' connectedness. For example, how does being challenged to develop new skills that result in increased comfort affect participants' connectedness with nature? Is connecting with nature through experience and the development of relevant skills more connecting than simply being set-up with a comfortable situation in nature? Is the connection with nature that results from one more powerful or enduring than the connection with nature that results from the other?

Another approach to studying connection with nature would be to examine how outdoor adventure tripping experiences affect participants' conception of the nature—civilization dichotomy and how this relates to connectedness. For example, is the nature—civilization dichotomy perceived as a continuum as participants become more connected and ecocentrically oriented?

Yet, another direction for future research into connectedness with nature is based on the finding that leading by example can mediate it. This phenomenon is rooted in a certain kind of relationship between leaders and participants (Mitten, 1999). Therefore, another direction for future research would be to examine the characteristics of canoe trip leader—participant relationships that support connection with nature via leading by example.

Finally, since civilization is considered a part of the canoe trip experience and a mediator of participants' connectedness with nature, just as much as being in nature is, future studies should examine how re-entry to civilization mediates connectedness with nature and/or other EE outcomes. This would provide opportunities to address the issue identified by other research that the transfer of environmental outcomes from outdoor adventure trip contexts is limited (Haluza-Delay, 2001; Hannah; 1995). As participants of other kinds of EE programs may also perceive their experience to involve departing civilization to enter nature, and then departing nature to re-enter civilization, this suggestion is applicable to other EE contexts.

Personal Reflection

Throughout my life (so far), my father has always asked me this question when I returned from canoe trips: "Were there any magic moments?" Inevitably, there always were. Only two nights ago, I was at a family dinner party and in trying to persuade my cousin to send her two children canoe tripping, my father asked me if I could remember any magic moments from past trips. As I was sitting at the dinner table deciding on a story which was persuasive enough, people around me began to excitedly share their magic moments. One person recalled paddling in the early morning as the mist was rising. Another recalled being on the second week of a very rainy three-week-canoe-trip when the sun came

out for the first time; he saw the light shine through the clouds to the land below (God light) and felt the warmth he had been longing for. Yet another person remembered seeing a moose as he was waiting to be rescued after dumping his canoe.

Although the term magic-moment is not frequently used in this regard during everyday speech, everyone at the dinner table knew exactly what my father meant in context. I always have. Yet, it did not occur to me that I could study it for my master's research. I did not think that *a magic-moment in nature* was the recognized terminology I required for respectable academic work. As I wrote in my introduction, I knew at the outset of this study that the key, the bridge and the spark required for EE could be experienced on outdoor adventure trips but I did not have the words to describe it just yet—at least I did not think I did.

As I skirted around the topic of magic moments in nature while planning this study, my academic advisors finally recommended I examine *connection with nature*. Finally, I realized where my interest lay. As I worked through a literature review in search of it, I found that the idea of magic-moments in nature existed in several ideologies surrounding the environmental crisis, and even in educational literature (see the literature review).

While I hope that one of the main contributions of this research is that the meaning of magic moments, connection with, and/or experiences of transcendence in nature (Sobel, 2008) becomes a recognizable and respectable goal in/of EE, I am happy to have given recognition and respect to its importance in my own life. As I was sitting at the dinner table two nights ago going through all the magic moments I could remember I realized that in recent years, all my magic moments have involved watching youth connect with nature. Recognizing this, gives me direction for the future.

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Appendices

Appendix A

Recruitment Forms

A1. Canoe Trip Leader Recruitment Form

Dear Camp Deep Waters Leader,

My name is Mira Freiman and I am writing to you as someone who spent 6 summers leading canoe trips for Camp Deep Waters. I am now doing a Master's of Arts in environmental education and I will be collecting my research on the canoe trip you are leading. I am writing this letter as a letter of recruitment to invite you to participate in my study. The purpose of the study is to examine canoe trips as a method of environmental education. I aim to identify ways the canoe trip experience affects environmental learning by looking at the experience through your eyes.

I will be accompanying you on your Camp Deep Waters canoe trip for the full length of the trip beginning with its departure from Camp Deep Waters and ending with its return. If you participate in my study, I will observe you informally, interview you informally, and collect artefacts (such as drawings or poems) you choose to donate for the purposes of the study. Things you say may be audio-recorded. You will be given a disposable camera and asked to take pictures you feel represent an aspect of the canoe trip that inspired environmental learning. Finally, you will be asked to contribute to writing the trip log, which is a journal of the daily canoe tripping events, usually written on Camp Deep Waters trips. Please note that there are no risks associated with your participation in my study.

The potential benefits of this study to you are (a) an increased awareness of your learning, (b) an increased awareness of your relationship with the natural environment, (c) an opportunity to share your story and give voice to your lived experience and (d) an opportunity to experience a sense of giving by contributing to environmental education.

If you decide to participate in this study, your information will be kept confidential and anonymous in reports and publications of this research. However given certain constraints surrounding the study (e. g.: small number of participants, group participation, self-identification to peers, etc.), it may be impossible to keep your participation in the project entirely anonymous in the camp setting. All original records will be kept locked. Only my supervisor and I will have access to the information collected for this study. A pseudonym (which will be kept secret between my supervisor and me) will be used instead of your real name to protect your identity. Any personally identifying information will be removed or altered for the purpose of publications. Data collected will be used for academic purposes only.

Participation in this research is entirely voluntary. If you choose to participate in this study, you may refuse to do any of the research tasks that are asked of you with no negative consequences. Furthermore, if you decide to participate in this study, and then later decide that you no longer want to participate, you may withdraw at any time with no negative

consequences. Note that should you decide to withdraw, not all existing records of your participation will (can) be destroyed. For example, the contributions you make to the trip log, usually kept on Camp Deep Waters trips and sent to canoe trip participants following participation, will still be included. However, these contributions, as well as any contributions that cannot be destroyed, will not be used for research purposes.

You may also choose not to participate at all with absolutely no negative consequences. Should that be the case, I (Mira Freiman) will still accompany you on your canoe trip however no information about you will be included in my study.

If you would like any more information, please contact the researcher, Mira Freiman or her supervisor Dr. Giuliano Reis. Any questions regarding the ethical conduct of this study should be addressed to the University of Ottawa's Protocol Officer for Ethics in Research.

If you decide to participate, please read and sign both consent forms attached to this email. One copy is for you to keep and the other is to be returned to me. You can return it to me in any one of four ways:

- (1) by faxing it to the attention of Giuliano Reis
- (2) by scanning it and then emailing it to me
- (3) by mailing it

Or

- (4) by bringing it to camp with you and handing it to me on the day of your canoe trip's departure.

I must receive a signed consent form before you may be included in the study.

Again, if you have any questions at all, please contact me.

Sincerely,

Mira Freiman
Master of Arts in Education (candidate)
University of Ottawa

A2. Canoe Trip Parent Recruitment Form

Dear parent of a Camp Deep Waters canoe tripper,
My name is Mira Freiman and I am writing to you as someone who spent 6 summers leading canoe trips for Camp Deep Waters. I am now doing a Master's of Arts in environmental education and I will be collecting my research on the canoe trip your child is registered for. I am writing this letter as a letter of recruitment to invite your child to participate in my study. Since I require both you and your child to give consent to participate, if your child is to participate in my study, I have written this letter of recruitment for you, as well as a letter of recruitment for your child. Beyond consenting to your child's participation in my study, nothing more will be asked of you. The purpose of this study is to identify ways the canoe trip experience teaches environmental education by looking at the experience through your child's eyes.

I will be accompanying your child on their Camp Deep Waters canoe trip for the full length of their canoe trip beginning with its departure from Camp Deep Waters and ending with its return. If your child participates in my study, I will observe your child informally, interview them informally, and collect artefacts (such as drawings or poems) they choose to donate for the purposes of the study. Things your child says may be audio-recorded. Your child will be given a disposable camera and asked to take pictures that they feel represent an aspect of the canoe trip that inspired environmental learning. Finally, your child will be asked to contribute to writing the trip log, which is a journal of the daily canoe tripping events, usually written on Camp Deep Waters trips. Please note that there are no risks associated with your child's participation in my study.

The potential benefits of this study to your child are (1) an increased awareness of their learning, 2) an increased awareness of their relationship with the natural environment, 3) an opportunity to share his or her story and give voice to his or her lived experience and 4) an opportunity to experience a sense of giving by contributing to environmental education.

If you consent to your child's participation in this study, your child's information will be kept confidential and anonymous in reports and publications of this research. However, given certain constraints surrounding the study (e. g.: small number of participants, group participation, self-identification to peers, etc.), it may be impossible to keep your child's participation in the project entirely anonymous in the camp setting. All original records will be kept locked. Only my supervisor and I will have access to the information collected for this study. A pseudonym (which will be kept secret between my supervisor and me) will be used instead of your child's real name to protect their identity. Any personally identifying information will be removed or altered for the purpose of publications. Data collected will be used for academic purposes only.

Participation in this research is entirely voluntary. If you and your child decide to participate in this study, your child may refuse to do any of the research tasks that are asked of them with no negative consequences. Furthermore, if you consent to your child's participation in this study, and either you or your child decide later on that you no longer want your child to participate in the study, either one of you may withdraw at any time with no negative consequences. Note that should you or your child decide to withdraw, not all existing

records of your child's participation will (can) be destroyed. For example, the contributions your child makes to the trip log, usually kept on Camp Deep Waters trips and sent to canoe trip participants following participation, will still be included. However, these contributions, as well as any contributions that cannot be destroyed, will not be used for research purposes.

You may also choose not to give your consent for your child's participation in this study at all with absolutely no negative consequences. Should that be the case, I (Mira Freiman) will still accompany your child on their canoe trip however no information about your child will be included in my study.

If you would like any more information, please contact the researcher, Mira Freiman or her supervisor Dr. Giuliano Reis. Any questions regarding the ethical conduct of this study should be addressed to the University of Ottawa's Protocol Officer for Ethics in Research.

If you decide to participate, please read and sign both consent forms attached to this email. One copy is for you to keep and the other is to be returned to me. You can return it to me in any one of four ways:

- (1) by faxing it to the attention of Giuliano Reis
- (2) by scanning it and then emailing it to me
- (3) by mailing it

Or

- (4) by bringing it to camp with you and handing it to me on the day of your canoe trip's departure.

I must receive a signed consent form before you may be included in the study.

Again, if you have any questions at all, please contact me.

Sincerely,

Mira Freiman
Master of Arts in Education (candidate)
University of Ottawa

A3. Canoe Trip Participant Recruitment Form

Dear Camp Deep Waters Tripper,

My name is Mira Freiman and I am writing to you as someone who spent 6 summers leading canoe trips for Camp Deep Waters. I am now doing a Master's of Arts in environmental education and I will be collecting my research on the canoe trip you are registered for. I am writing this letter as a letter of recruitment to invite you to participate in my study. The purpose of the study is to examine canoe trips as a method of environmental education. I am hoping to identify ways the canoe trip experience affects environmental learning by looking at the experience through your eyes.

I will be accompanying you on your Camp Deep Waters canoe trip for the full length of the trip beginning with its departure from Camp Deep Waters and ending with its return. If you participate in my study, I will observe you informally, interview you informally, and collect artefacts (such as drawings or poems) you choose to donate for the purposes of the study. Things you say may be audio-recorded. You will be given a disposable camera and asked to take pictures you feel represent an aspect of the canoe trip that inspired environmental learning. Finally, you will be asked to contribute to writing the trip log, which is a journal of the daily canoe tripping events, usually written on Camp Deep Waters trips. Please note that there are no risks associated with your participation in my study.

The potential benefits of this study to you are (1) an increased awareness of your learning, 2) an increased awareness of your relationship with the natural environment, 3) an opportunity to share your story and give voice to your lived experience and 4) an opportunity to experience a sense of giving by contributing to environmental education.

If you decide to participate in this study, your information will be kept confidential and anonymous in reports and publications of this research. However given certain constraints surrounding the study (e. g.: small number of participants, group participation, self-identification to peers, etc.), it may be impossible to keep your participation in the project entirely anonymous in the camp setting. All original records will be kept locked. Only my supervisor and I will have access to the information collected for this study. A pseudonym (which will be kept secret between my supervisor and me) will be used instead of your real name to protect your identity. Any personally identifying information will be removed or altered for the purpose of publications. Data collected will be used for academic purposes only.

Participation in this research is entirely voluntary. If you choose to participate in this study, you may refuse to do any of the research tasks that are asked of you with no negative consequences. Furthermore, if you decide to participate in this study, and then later decide that you no longer want to participate, you may withdraw at any time with no negative consequences. Note that should you decide to withdraw, not all existing records of your participation will (can) be destroyed. For example, the contributions you make to the trip log, usually kept on Camp Deep Waters trips and sent to canoe trip participants following participation, will still be included. However, these contributions, as well as any contributions that cannot be destroyed, will not be used for research purposes.

You may also choose not to participate at all with absolutely no negative consequences. Should that be the case, I (Mira Freiman) will still accompany you on your canoe trip however no information about you will be included in my study.

If you would like any more information, please contact the researcher, Mira Freiman or her supervisor Dr. Giuliano Reis. Any questions regarding the ethical conduct of this study should be addressed to the University of Ottawa's Protocol Officer for Ethics in Research.

If you decide to participate, please read and sign both consent forms attached to this email. One copy is for you to keep and the other is to be returned to me. You can return it to me in any one of four ways:

- (1) by faxing it to the attention of Giuliano Reis
- (2) by scanning it and then emailing it to me
- (3) by mailing it

Or

- (4) by bringing it to camp with you and handing it to me on the day of your canoe trip's departure.

I must receive a signed consent form before you may be included in the study.

Again, if you have any questions at all, please contact me.

Sincerely,

Mira Freiman
Master of Arts in Education (candidate)
University of Ottawa

A4. Recruitment Reminder

Dear Camp Deep Waters Canoe Trip Leader,

This is to remind you of the research study being conducted on your canoe trip. This study aims to identify, describe, and articulate the relationship between aspects of a canoe trip and participant connectedness with the environment. If you have interest in participating in the study, please remember to return a signed copy of the consent form to me by faxing it, or emailing it prior to the trip; or handing it to me in person on the day of the canoe trip's departure. Information regarding how to do this will be found on the recruitment form. If you need new copies of the recruitment and consent forms, or if you have any questions regarding the study, please contact me by telephone, or by email. You can also contact my supervisor, Dr. Giuliano Reis, by e-mail or by telephone.

Any questions regarding the ethical conduct of this study should be addressed to the University of Ottawa's Protocol Officer for Ethics in Research.

Thanks so much,

Mira Freiman

A5. Recruitment Reminder

Dear Parent of a Camp Deep Waters Canoe Tripper,

This is to remind you of the research study being conducted on your child's canoe trip. This study aims to identify, describe, and articulate the relationship between aspects of a canoe trip and participant connectedness with the environment. If you and your child have interest in their participating in the study, please remember to return a signed copy of the consent form to me by faxing it or emailing it prior to the trip, or handing it to me in person on the day of the canoe trip's departure. Information regarding how to do this will be found on the recruitment form. If you need new copies of the recruitment and consent forms, or if you have any questions regarding the study, please contact me by telephone, or by email. You can also contact my supervisor, Dr. Giuliano Reis, by e-mail or by telephone.

Any questions regarding the ethical conduct of this study should be addressed to the University of Ottawa's Protocol Officer for Ethics in Research.

Thanks so much,

Mira Freiman

A6. Recruitment Reminder

Dear Camp Deep Waters Canoe Tripper,

This is to remind you of the research study being conducted on your canoe trip. This study aims to identify, describe, and articulate the relationship between aspects of a canoe trip and participant connectedness with the environment. If you have interest in participating in the study, please remember to return a signed copy of the consent form to me by faxing it or emailing it prior to the trip, or handing it to me in person on the day of the canoe trip's departure. Information regarding how to do this will be found on the recruitment form. If you need new copies of the recruitment and consent forms, or if you have any questions regarding the study, please contact me by telephone, or by email. You can also contact my supervisor, Dr. Giuliano Reis, by e-mail or by telephone.

Any questions regarding the ethical conduct of this study should be addressed to the University of Ottawa's Protocol Officer for Ethics in Research.

Thanks so much,

Mira Freiman

Appendix B

Consent Forms

B1. Consent Form – Canoe trip leader

This letter explains what the study is about and what I will be doing as a participant. I must give my consent to participate in this study by signing the attached form.

The project is being led by Mira Freiman (principal investigator), a Master of Arts in Education candidate from the Faculty of Education at the University of Ottawa under the supervision of Giuliano Reis, an assistant professor in the Faculty of Education, at the University of Ottawa.

THIS STUDY: aims to identify, describe, and articulate the relationship between aspects of a canoe trip and participant connectedness with the environment (e.g., the practice of leave-no-trace camping).

WHAT WILL I NEED TO DO? I will be accompanied on my canoe trip by the principal researcher, Mira Freiman. Mira will participate in the canoe trip experience beginning with the departure of the canoe trip from base camp and she will remain with the canoe trip until its return to base camp. During the canoe trip, I will be informally interviewed and observed. This means that notes will be taken describing things I have said and done. Things I say may also be audio recorded. I will be given a disposable camera to take pictures of things I feel inspired me to learn about the environment which I will return to Mira at the end of the canoe trip. Also, I will participate in writing the trip log, a journal usually kept on Camp Deep Waters canoe trips that records the daily events of the canoe trip. I have the right to refuse to answer any questions I do not wish to answer and/or to refuse to participate in any research activities that I do not wish to participate in. I understand that the information Mira collects about me will not be shown to anyone other than her and her supervisor, and no one, besides her and her supervisor, will know my name (unless explicit permission is given in advance by me).

I MAY STOP PARTICIPATING AT ANY TIME: Participation in the research project is entirely voluntary. If I choose not to participate in this study, I will still be a leader on the canoe trip I am assigned to lead at Camp Deep Waters and I will experience no negative consequences for choosing not to participate. Mira Freiman will still be present on the canoe trip with me but she will not collect information about me and there will be no information about me in her study. If I want to do the different things explained in this letter, I will sign the attached consent form. Signing does not mean that I can't stop or quit participating. If I want to stop or quit the study, I can let the researcher, Mira Freiman, know and she will stop and/or destroy the evidence of my participation wherever possible without any negative

consequences. I understand that not all existing records of my participation will (can) be destroyed. For example, the contributions I make to the trip log, usually kept on Camp Deep Waters trips and sent to canoe trip participants following participation, will still be included. However if I choose to withdraw from the study, all records of my participation that cannot be destroyed, will be excluded from Mira's study unless permission is specifically granted to use the data for subsequent analysis—whichever happens to be the best solution for me.

CONFIDENTIALITY: I understand that my identity will be kept confidential and anonymous in reports and publications of this research. I understand that the only people who will have access to details of my participation in this study are the researcher and her supervisor. The researcher and her supervisor will identify me by using a pseudonym, and it will be kept secret between the researcher and her supervisor. No one else will know this secret. Moreover, the content of quotes, whenever their use is necessary, will not reveal my identity. During the canoe trip, all records of my participation will be kept locked in waterproof cases, except the trip log and my disposable camera, which will be kept by me. Following the canoe trip, during data analysis, records of my participation will be kept locked in the researcher's home. After the study concludes, all records will be kept locked and stored at the University of Ottawa during a 15 year conservation period. Materials will be destroyed following the 15 year conservation period, or when I quit the study unless I give specific permission not to destroy the records. Given certain constraints surrounding the study (e. g.: small number of participants, group participation, self-identification to peers, etc.), I understand that it may be impossible to keep my participation in the project entirely anonymous in the camp setting.

RISKS AND BENEFITS: I understand that there are no risks associated with my participation in this study. Likewise, there are no financial benefits stemming from my participation. The potential benefits of this study to me are (1) an increased awareness of my relationship with the environment, 2) an opportunity to share my story and give voice to my lived experience and 3) an opportunity to experience a sense of giving by contributing to environmental education.

If I have any questions about the study or about my participation, I may contact the principal investigator, Mira Freiman, by email, or by telephone. I may also contact her supervisor, Giuliano Reis by email, or by telephone. I may also contact the researcher and/or her supervisor by sending a fax to the attention of Giuliano Reis. If I have questions about my rights I may contact the Protocol Officer for Ethics in Research at the University of Ottawa.

B2. Consent Form – Parent

This letter explains what the study is about and what my child will be doing as a participant. Consent must be given by both me and my child signing the attached consent form for my child to participate in this study.

The project is being led by Mira Freiman (principal investigator), a Master of Arts in Education candidate from the Faculty of Education at the University of Ottawa under the supervision of Giuliano Reis, an assistant professor in the Faculty of Education at the University of Ottawa.

THIS STUDY: aims to identify, describe, and articulate the relationship between aspects of a canoe trip and participant connectedness with the environment (e.g., the practice of leave-no-trace camping).

WHAT WILL MY CHILD NEED TO DO? My child will be accompanied on his/her canoe trip by the principal investigator, Mira Freiman. Mira will participate in the canoe trip experience beginning with the departure of the canoe trip from base camp and she will remain with the canoe trip until its return to base camp. During the canoe trip, my child will be informally interviewed and observed. This means that notes will be taken describing things they say and do. Things my child says may also be audio recorded. My child will be given a disposable camera to take pictures of things they feel inspired them to learn about the environment which they will return to Mira at the end of the canoe trip. Also, my child will participate in writing the trip log, a journal usually kept on Camp Deep Waters canoe trips that records the daily events of the canoe trip. My child has the right to refuse to answer any questions they do not wish to answer and/or refuse to participate in any research activities that they do not wish to participate in. The information Mira collects about my child will not be shown to anyone other than her and her supervisor, and no one, besides her and her supervisor, will know my child's name (unless explicit permission is given in advance by me and my child).

MY CHILD MAY STOP PARTICIPATING AT ANY TIME: Participation in the research project is entirely voluntary. If I do not want my child to participate in this study, my child will still be able to participate in the canoe trip they are registered for with Camp Deep Waters and they will not experience any negative consequences for choosing not to participate in this study. Mira Freiman will still be present on the canoe trip with my child but she will not collect any information about my child and no information about my child will be included in her study. If I want my child to do the different things explained in this letter, I will sign the attached consent form. Even if I sign the consent form, my child can still withdraw from the study at any point without any negative consequences. If either my child or I want to stop or quit the study, my child or I can let the researcher, Mira Freiman,

know and she will stop and/or destroy the evidence of my child's participation wherever possible. I understand that not all existing records of my child's participation will (can) be destroyed. For example, the contributions my child makes to the trip log, usually kept on Camp Deep Waters trips and sent to canoe trip participants following participation, will still be included. However if my child or I chooses to withdraw from the study, all records of participation that cannot be destroyed, will be excluded from Mira's study unless permission is specifically granted to use the data for subsequent analysis—whichever happens to be the best solution for me and my child.

CONFIDENTIALITY: I understand that my child's identity will be kept confidential and anonymous in reports and publications of this research. I understand that the only people who will have access to details of my child's participation in this study are the researcher and her supervisor. The researcher and her supervisor will identify my child by using a pseudonym, and it will be kept secret between the researcher and her supervisor. No one else will know this secret. Moreover, the content of quotes, whenever their use is made necessary, will not be revelatory of my child's identity. During the study, all records of my child's participation will be kept locked in waterproof cases except the trip log which will be kept by the canoe trip leaders, and my child's disposable camera, which will be kept by my child. Following the study, these records will be kept locked in the researcher's home. After the project concludes, all original records will be kept locked and stored at the University of Ottawa during a 15 year conservation period. Materials will be destroyed following the 15 year conservation period, or when my child quits the study unless my child and I give specific permission not to destroy the records. Given certain constraints surrounding the study (e. g.: small number of participants, group participation, self-identification to peers, etc.), I understand that it may be impossible to keep my child's participation in the project entirely anonymous in the camp setting.

RISKS AND BENEFITS: I understand that there are no risks associated with my child's participation in this study. Likewise, there are no financial benefits stemming from my child's participation. The potential benefits of this study to the participants are (1) an increased awareness of their relationship with the environment, 2) an opportunity to share his or her story and give voice to his or her lived experience and 3) an opportunity to experience a sense of giving by contributing to environmental education.

If I have any questions about the study or about my child's participation, I may contact the researcher, Mira Freiman, by email, or by telephone. I may also contact her supervisor, Giuliano Reis by email, or by telephone. I may also contact the researcher and/or her supervisor by sending a fax to the attention of Giuliano Reis. If I have questions about my child's rights I may contact the Protocol Officer for Ethics in Research at the University of Ottawa.

B3. Consent Form – Canoe trip participant

This letter explains what the study is about and what I will be doing as a participant. Consent must be given by both me and one of my parents for me to be included in this study by signing the attached form.

The project is being led by Mira Freiman (principal investigator), a Master of Arts in Education candidate from the Faculty of Education at the University of Ottawa under the supervision of Giuliano Reis, an assistant professor in the Faculty of Education at the University of Ottawa.

THIS STUDY: aims to identify, describe, and articulate the relationship between aspects of a canoe trip and participant connectedness with the environment (e.g., the practice of leave-no-trace camping).

WHAT WILL I NEED TO DO? I will be accompanied on my canoe trip by the principal researcher, Mira Freiman. Mira will participate in the canoe trip experience beginning with the departure of the canoe trip from base camp and she will remain with the canoe trip until its return to base camp. During the canoe trip, I will be informally interviewed and observed. This means that notes will be taken describing things I have said and done. Things I say may also be audio recorded. I will be given a disposable camera to take pictures of things I feel inspired me to learn about the environment which I will return to Mira at the end of the canoe trip. Also, I will participate in writing the trip log, a journal usually kept on Camp Deep Waters canoe trips that records the daily events of the canoe trip. I have the right to refuse to answer any questions I do not wish to answer and/or to refuse to participate in any research activities that I do not wish to participate in. I understand that the information Mira collects about me will not be shown to anyone other than her and her supervisor, and no one, besides her and her supervisor, will know my name (unless explicit permission is given in advance by me and my parent).

I MAY STOP PARTICIPATING AT ANY TIME: Participation in the research project is entirely voluntary. If I choose not to participate in this study, I will still be able to participate in the canoe trip I am registered for with Camp Deep Waters and I will not experience any negative consequences for choosing not to participate in the study. Mira Freiman will still be present on the canoe trip with me but she will not collect information about me and there will be no information about me in her study. If I want to do the different things explained in this letter, I will sign the attached consent form. Signing does not mean that I can't stop or quit participating. If I want to stop or quit the study, I can let the researcher, Mira Freiman, know and she will stop and/or destroy the evidence of my participation wherever possible. I understand that not all existing records of my participation will (can) be destroyed. For example, the contributions I make to the trip log, usually kept on Camp Deep Waters trips

and sent to canoe trip participants following participation, will still be included. However if I choose to withdraw from the study, all records of my participation that cannot be destroyed, will be excluded from Mira's study unless permission is specifically granted to use the data for subsequent analysis—whichever happens to be the best solution for me.

CONFIDENTIALITY: I understand that my identity will be kept confidential and anonymous in reports and publications of this research. I understand that the only people who will have access to details of my participation in this study are the researcher and her supervisor. The researcher and her supervisor will identify me by using a pseudonym, (which means a fake name), and it will be kept secret between the researcher and her supervisor. No one else will know this secret. Moreover, the content of quotes, whenever their use is necessary, will not reveal my identity. During the study, all records of my participation will be kept locked in waterproof cases except the trip log which will be kept by the canoe trip leaders (as is usually the case on Camp Deep Waters canoe trips), and my disposable camera, which will be kept by me. Following the canoe trip, when the data is being analyzed, these records will be kept locked in the researcher's home. After the project concludes, all original records will be kept locked and stored at the University of Ottawa during a 15 year conservation period. Materials will be destroyed following the 15 year conservation period, or when I quit the study unless me and one of my parents give specific permission not to destroy the records. Given certain constraints surrounding the study (e. g.: small number of participants, group participation, self-identification to peers, etc.), I understand that it may be impossible to keep my participation in the project entirely anonymous in the camp setting.

RISKS AND BENEFITS: I understand that there are no risks associated with my participation in this study. Likewise, there are no financial benefits stemming from my participation. The potential benefits of this study to me are (1) an increased awareness of my relationship with the natural environment, 2) an opportunity to share my story and give voice to my lived experience and 3) an opportunity to experience a sense of giving by contributing to environmental education.

If I have any questions about the study or about my participation, I may contact the principal investigator, Mira Freiman, by email, or by telephone. I may also contact her supervisor, Giuliano Reis by email, or by telephone. I may also contact the researcher and/or her supervisor by sending a fax to the attention of Giuliano Reis. If I have questions about my rights I may contact the Protocol Officer for Ethics in Research at the University of Ottawa.

B4. Informed Consent

I have read and understood all of the information in this letter. Before signing, I have been allowed to ask any questions I had and these were answered clearly.

Youth's name _____

Youth's signature _____

Date _____

Parent's name _____

Parent's signature _____

Date _____

Our home phone number _____

Parent's e-mail address: _____

Researcher's signature _____

Date _____

Appendix C**Observation Log Template**

Observation Number	
Date	
Time	
Location	
Event	
Participants Involved	

Observations	Subjective Notes

Appendix D

Informal Interview Log Template

Canoe Trip	
Interview Number	
Date	
Time	
Location	
Event	
Participants Involved	

Interview Questions	Participant Responses	Non-Verbal Responses	Subjective Notes

Appendix E**Artefact Fact Sheet Template**

Canoe Trip	
Artefact Number	
Date	
Time	
Location	
Event	
Participants Involved	

Participant Explanation

Appendix F**Audio Recording Log Template**

Canoe Trip	
Audio Recording Number	
Date	
Time	
Location	
Event	
Participants Involved	

Description