

Towards the re-conceptualization of outdoor education centre experiences for the delivery  
of integrated environmental education in Ontario

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HBPHE, Laurentian University, 2006

A thesis submitted in partial fulfillment of  
the requirements for the degree of

MASTER OF ARTS  
in  
ENVIRONMENTAL EDUCATION AND COMMUNICATION

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December 2012

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### **Abstract**

This study used an interpretive and critical case study methodology to explore the delivery of environmental education (EE) to an elementary school during a residential outdoor education centre (OEC) experience in Haliburton, ON. The Ontario Ministry of Education has chosen to infuse EE into all aspects of the education system. An important aspect of EE is experiential learning in natural settings. Many students attend OECs, which are often situated in natural settings. A mixed methods design used focus group interviews, peripheral membership observation and grounded theory to collect and analyse the data. The study found that while EE is being delivered to some degree, its success is potentially limited at the OEC staff level, teacher level and school system level. These limitations are mostly derived from the OEC staffs' and teachers' limited knowledge of EE, and the lack of integration of EE delivered at the OEC into the school context.

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### **Acknowledgments**

Many friends have supported me from the beginning of this journey to its completion. Their understanding and gentle encouragement have made this thesis possible, and for that, I am truly grateful. Through my post-secondary journey, I have learned to expect a lot from the professors and administrators of the academic institutions I have attended. This expectation has resulted from their displays of commitment to my education. My supervisor, Dr. Tom Puk of Lakehead University, and the many professionals at Royal Roads University have surpassed these expectations, leaving me, once again, amazed and inspired. Lastly, I must mention the support from my family, specifically my mother, who has been an invaluable sounding board off which to bounce ideas and who chose to ride the ups and downs of this experience beside me.

## **Chapter 1: Introduction**

“Out there, just at the edge of where-we-couldn’t-see, big waves were thundering in, dimly seen white shapes that boomed and shouted and threw great handfuls of froth at us.” Rachel Carson, (1956), p. 26

In a 1956 issue of *Woman’s Home Companion*, nestled between columns advertising cotton balls and Christmas cards, Rachel Carson (1956) makes a plea to parents to instil a sense of wonder in their children. The vehicle for this sense of wonder is experience, outside, in the natural world. Carson’s plea resonates with me as an outdoor educator. She provides rich, visceral descriptions of nature; short but detailed, they engage my senses. These descriptions resonate on an emotional level because her words transport me back to my own experiences deep in the woods of places like Algonquin Park, or in the row of cedars separating my urban home’s backyard from my neighbours. In these places – poking, prodding, lifting and magnifying – perceptions of time and space were subject to the interplay of curiosity, discovery and imagination. Would her words resonate with me in the same way if I had not had these childhood experiences? Puk’s (2012) review of neurobiological research on learning and ecological consciousness suggests not. Would I be as motivated to act in an environmentally responsible manner if I had not had these childhood experiences? Research linking adult environmental activism with childhood time spent exploring nature under the guidance of a mentor (Chawla, 2006) suggests not. These experiences are an important component of a citizenry that understands the ecological impacts of its behaviours and is motivated to behave in a manner that does not put at risk the ecological systems that support human’s existence.

Unfortunately, experiences such as these seem to be disappearing (Kellert, 2002; Orr, 2002; Pyle, 2002; Pyle, 2003), perhaps more quickly than the places in which these experiences occur. There are many reasons to explain this decrease of direct experience: perceptions of value, constraints of time, perspectives on safety and the development of these ‘natural’ places (Kellert, 2002; Louv, 2008). Perhaps an assumption can be made that these direct experiences of nature, in nature, are being replaced by more indirect experiences with a manufactured ‘nature’ evidenced by increased attendance at zoos, aquariums and natural history museums, and by increases in nature’s representation in media. However, it is unlikely that these indirect experiences can benefit cognitive and affective development as effectively as direct experiences (Kellert, 2002).

Williams (1980) argues that nature is a complex term, and the contemporary belief that nature is separate from humans is misleading: “ideas of nature, but these are the projected ideas of men” (p. 83). For Williams (1980), nature is paradoxical; he states, “all at once nature is innocent, is unprovided, is sure, is unsure, is fruitful, is destructive, is a pure force and is tainted and cursed” (p. 73). A manufactured nature, found in a zoo or a museum, is often designed for a specific purpose. This control of variables may reduce exposure to nature’s paradoxes, and potentially reduces the cognitive and affective developmental reward from experiences in non-manufactured nature. Manufactured environments often separate humans from nature as these visitors stand outside of natural enclosures looking in.

Perhaps a projection of nature that is inclusive of humans can be illustrated through systems theory. According to Capra (1996), living systems “arise from the interactions and



relationships among the parts. These properties are destroyed when the system is dissected, either physically or theoretically, into isolated elements” (p. 30). Applying general systems theory to ecological systems, Capra (1996) describes how “ecosystems have organized themselves in subtle and complex ways so as to maximize sustainability”, a process he calls the “wisdom of nature” (p. 298). There is an aesthetic appeal to nature’s wisdom. Kay and Schneider (1994) illustrate this wisdom through an eloquent analogy to complex ecological systems:

Ecosystem behaviour and development is like a large musical piece such as a symphony, which is also dynamic and not predictable and yet includes a sense of flow, of connection between what has been played and what is still to come, the repetition of recognizable themes and a general sense of orderly progression.... Some behave in a very ordered way as does a Baroque suite, while others are full of improvisation as in modern jazz. (p. 8)

This nature is perpetual – the music does not end. Complexity and diversity of nature are maintained or increased through nature’s ability to self-organize (Meadows, 2008, p. 159). Nature has an intricate system of balancing feedback loops where, over different time scales, destruction and renewal are harmonious processes (Capra, 1996). In the same way that one cannot fully appreciate a piece of music by reading its review, one cannot fully appreciate ecological systems without experiencing them.

## **Background**

The importance of valuing ecological systems and working to preserve the integrity of these systems cannot be understated. Stapp et al. (1969) recognized a “vital need for an

educational approach that effectively educates man [and woman] regarding his [or her] relationship to the total environment” (p. 33). Their work, in part, was instrumental in spawning the global environmental education movement. The Ontario Ministry of Education (OME) has decided to adopt a framework in which environmental education (EE) is infused into all aspects of the curriculum (OME, 2009). This framework, called *Acting Today, Shaping Tomorrow* (ATST), requires all teachers to deliver EE, no matter their speciality. There is no distinct course in the Ontario curriculum that focuses on the complexities of the interdependence of humanity and the maintenance of ecological systems. One of the principles of this framework is to provide experiences outside of the classroom that engage students in learning about the environment (OME, 2009).

### **Statement of the Problem and Research Questions**

Currently, many Ontario school teachers seek outdoor education centre (OEC) experiences for their students. Programming at these centres can vary dramatically in focus, from EE, to character education, to skill development, to recreation or to a blend of any of these. OECs may operate all year round, running school programs through the fall, winter and spring, then running a camp program in the summer months. Typically a teacher will approach the OEC to book a trip for students and justify this trip using curriculum objectives. Arguably, the most common curricular tie to the OEC is through a physical education and outdoor education curriculum. Thus, most OEC trips are sought for the purpose of character education, recreation and (or) skill development.

OECs are recognized by the OME as a valuable resource for EE, but there is little consistency in OEC programs and no framework to guide teachers in appropriate use of OEC centres. The OEC experience is subject to the way that that experience is socially and culturally constructed by the organizing teacher. Also, because teachers only organize the trip and do not deliver the programming, there might be a discrepancy between what organizing teachers expect from the programs and what is actually delivered. The use of OEC experiences as an avenue to provide direct experiences of nature is relatively unexplored in the Ontario context (see Fine's 2005 doctoral dissertation for experiences of nature through Ontario summer camps). My experiences as a former OEC staff member and a student in the Ontario education system suggest to me that teachers and OEC staff have different perspectives on the purpose of the OEC experience. A differing cultural context may explain this difference.

This study attempts to shed light on the following questions: 1) do these teachers and OEC staff have similar intentions regarding the OEC experience? 2) what characteristics of EE, identified through a review of the literature, are most prominent in the OEC experience? 3) how do the staff and teachers view the integration of EE, delivered through the OEC experience, into the overall school experience?

### **Focus of the Study**

YMCA Wanakita, situated in Haliburton Ontario, provided programs for over 2000 students during the 2011 spring season. This facility functions as a camp during the summer months and an OEC during most of the school year. The OEC is situated in 900 acres of mixed forest and wetlands, with a large waterfront. Accommodations are basic cabins with five to six

bunk beds and electricity. A separate wash house takes care of personal hygiene needs. Meals are conducted as a community affair in a dining hall. In the immediate vicinity of the dining hall and accommodations runs a human built creek where some species of frog, turtle, aquatic vegetation and insects are found. A five minute walk on a hilly, rock and dirt path through a mixed forest with hemlock, balsam fir, ironwood and varieties of maple, brings one to the closest of a handful of wetland areas (see Appendix 1). There is an abundance of flora and fauna which vary according to the ecosystems that are experienced. One can experience a freshwater lake ecosystem, a mixed coniferous-deciduous forest ecosystem and a wetland ecosystem. The OEC delivers a variety of programs according to the needs of the visiting group and the season. In the spring and fall seasons, activities range from canoeing and kayaking to archery. In the winter season the centre offers programs such as cross-country skiing, snow-shoeing and quinzee experiences. All seasons run high-rope and low-rope elements, wilderness and environmental pursuits, night hikes and a variety of games and activities. The teacher organizing the trip to the OEC usually chooses the activities that will be a part of the OEC experience, with the help of the OEC program co-ordinator.

Through a case study method, this study focuses on one school's visit to YMCA Wanakita's OEC during the spring season. Teachers brought Grade Eight students for their year-end trip. This was the first time these teachers had organized an outdoor education trip for this school. The teachers have between five and twenty years of teaching experience. This school is an urban school with students, as identified by their teachers, coming from the lower to middle end of the economic spectrum. The OEC staff have been at the OEC for over a month running

programs for schools that come up about every three days. The OEC staff interview participants had two to six years experience instructing outdoor education and were trained in all of the activities offered by the OEC.

### **Limitations and Assumptions of the Study**

This study's focus on one elementary school's single visit to one OEC limits the generalizability of this study's results to other schools' utilization of OECs. When reflecting on the results of this study, one must keep in mind the social, economic and cultural diversity found between schools' local contexts, and how these contexts may affect the use of OECs. For example, an urban school may have much different access to natural settings than a rural school. Thus, the results of this study serve to impact the shape of the mirror through which the reflection occurs rather than shaping the image being reflected. With that said, there are similarities between OECs, and Wanakita is assumed to be representative of a typical multipurpose OEC contracted by Ontario schools to run outdoor experiential programs. Many OEC experiences in Ontario are provided by a close community of outdoor education professionals. These professionals communicate with each other through organizations such as the Ontario Camping Association, the Council for Outdoor Educators of Ontario, and Environmental Education Ontario about the industry and industry directions. There is a degree of industry standard established through these conversations. Wanakita is also run through the YMCA and is one of many YMCA outdoor centres across Canada. YMCA camp leaders meet regularly to discuss operations of these sites and this process may strengthen the commonality of experiences provided by these centres.

Students' perceptions of EE programs will not be considered in this study. The potential for the outdoor context to enhance students' learning has already been established (see Ballantyne & Packer, 2009; Dillon et al., 2006; Leiberman & Hoody, 1998). Other authors have focused on the application of experiential, outdoor learning in the delivery of EE (see Bogner, 1998; Dillon, J., Morris, M., O'Donnell, L., Reid, A., Rickinson, M., & Scott, W. 2004; Russell & Burton, 2000). Exclusion of students' perspectives is based on the assumption that learning about the environment through experiences in the outdoors can enhance EE.

Beyond the scope of this research, but still a relevant factor in the utilization of OECs, is the financial cost and the pre and post-experience logistics associated with OEC experiences. This study starts at the development stage of the OEC experience and assumes the school has already received financial approval and that logistic challenges, such as parental permission forms and transportation, have also been accomplished. While these issues may come up in interviews, it is not the purpose of this study to analyse these perspectives.

### **Definitions of Key Terms**

The following words are used throughout this study with a specific concept in mind:

#### **Environmental education.**

For purposes of discussion, the definition of EE as outlined by the ATST framework is used. The ATST defines EE as:

... 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:

The Earth's physical and biological systems

The dependency of our social and economic systems on these natural systems

The scientific and human dimensions of environmental issues

The positive and negative consequences, both intended and unintended, of the interactions between human-created and natural systems. (OME, 2009, p. 4)

**Outdoor education centre.**

OEC is used to refer to a general or multipurpose use centre situated in a rural or remote setting. It also refers to a residential program of at least two nights. Programming that is offered is usually chosen by the leader of the group visiting the centre based on the recommendations of the OEC program coordinator. A mix of recreational, personal/interpersonal development and environmental programs can be offered. This type of centre is most often staffed by a small number of full time staff and a compliment of seasonal staff based on programming needs. The seasonal staff are usually generalist outdoor educators possessing necessary qualifications to deliver a range of outdoor education and environmental education programs. These institutions are separate from school boards and may be private for-profit or not-for-profit organizations.

## Chapter 2: Literature Review

### Introduction

The Ontario Ministry of Education's EE framework, called *Acting Today, Shaping Tomorrow*, reflects two early concepts of EE that were developed by Stapp et al. (1969) and Lucas (1972). Stapp et al. (1969) is often credited with developing the first conceptualization of EE (Gough, 1997). The need for EE, according to Stapp et al. (1969), came from the emerging realization about the environmental crisis and the responsibility of citizens to carry out solutions to this crisis. Upon seeing a demographic shift of people moving from rural environments to urban environments, Stapp et al. (1969) began to consider the consequences of having a majority of citizens who are less likely to directly experience human's dependency on natural systems. From these realizations came a strategy to provide citizens with *Environmental Education*. Stapp et al. (1969) define EE as "producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems, and motivated to work toward their solution" (p. 34). This definition permeates the current ATST framework, which states that "this framework will enable Ontario's young people to develop the skills, knowledge, and perspectives they will need to become engaged and environmentally responsible citizens" (OME, 2009, p. 25). Lucas (1972) presented another early definition of EE that is also used in the ATST framework (OME, 2009, p. 4). Jickling (1997) suggests that Lucas attempted to clarify EE "by characterizing program goals as being 'in,' 'about,' or 'for' the environment" (p. 91). Lucas (1980) describes the 'in' component as a



method of instruction that takes place outside of the classroom, ‘about’ as directed towards understanding the environment, and ‘for’ as directed towards preserving the environment.

This literature review explicates some of the concepts presented by Stapp et al.’s (1969) and Lucas’s (1972) definition, and shows the diversity now possible within EE. Descriptions of content in EE are followed by a discussion of the use of outdoor experiential education for EE. Finally, the current status of EE in Ontario is described and the barriers to implementation of EE in Ontario are discussed. The aim of this review is for the reader to gain an appreciation for the complex and dynamic character of EE and feel encouraged to further explore these dynamics in both theory and practice. The broader picture of EE and its many variations need to be considered to ensure that OEC experiences are best applied towards achieving meaningful EE.

### **Representations of EE Content**

This section elaborates on the conceptualization of EE content, including knowledge outcomes, affective outcomes and cultural considerations, as currently depicted in the broad base of the literature. First however, it must be recognized that there are disagreements between researchers over what content to emphasize and through what frame the content should be viewed. For example, after reviewing EE literature, Robertson and Krugly-Smolka (1997) identified six different conceptions, of which researchers may emphasize one or more: “utility..., aesthetics..., ecology..., environmental ethics..., deep ecology..., socio-cultural criticism” (p. 312). According to Robertson and Krugly-Smolka (1997), a utility frame is regarded as a means for learning about resource management, conservation or preservation; an aesthetics frame focuses on exposure to natural settings and to wildlife in hopes of building an appreciation

for these attributes; an ecological frame uses scientific approaches to study relationships between plants, animals and energy; an environmental ethics frame considers how far the rights of species reach; a deep ecology frame takes a holistic approach by including the spiritual dimension in discussions of interconnectedness to nature; a critical socio-cultural frame recognizes the impact predominantly Western-caused environmental degradation affects people and species whose lives are dependant on those environments. Variations of focus cause EE to become what Gonzalez-Gaudio and Buenfil-Burgos (2009) call an “empty signifier” (p. 102). However, an empty signifier is not viewed as detrimental and they suggest that such an empty signifier has the benefit of being open to various meanings according to the contexts of those wishing to fill it. Many concepts discussed in the literature can be seen as threads which, when woven together can create a stronger cord with which to pull the force of change.

### **Knowledge outcomes of EE.**

Bogner (1998) states that it is common sense that “only what one knows does one protect” (p.11) and follows this by citing Barry’s (1990) contention “that most adverse actions emanate not from malice toward the environment but from lack of knowledge about it” (p. 11). Many forms of knowledge are associated with EE. Orr (1996) and Puk (2011) suggest that the education system should provide future generations with ecologically literate students. Jordan, Singer, Vaughn and Berkowitz (2009) describe ecological literacy as pertaining to three core areas. First, ecologically literate people must understand the process of scientific inquiry so that they may be able to assess levels of uncertainty in science concepts. Second, they must be able to understand core concepts of ecology such as an “understanding of evolution across scales, an

appreciation of feedbacks and constraints, and an ability to explain and predict basic patterns of population dynamics” (p. 497). Third, they must understand cause and effect relationships of human interactions with their ecosystem to inform future decision making. Puk and Makin (2006) described how a curriculum intent of fostering ecological literacy “would focus on understanding how complex, global ecological systems work, as well as the human relationship in these systems” (p. 275-276). Such a focus requires a shift in the worldview of educators “from the mechanistic and reductionist paradigm to a complex adaptive systems worldview, which acknowledges the dynamism of systems, possibilities for non-linearity, and likelihood of emergent outcomes” (Krasny, Ludholm & Plummer, 2010, p. 463) and allows students to be able to recognize and adapt to feedback received from systems as opposed to trying to implement prescribed pro-environmental behaviours. Duailibi (2006) provides an example of ecological literacy learning through a vegetable garden,

... where the cycles and flows of ecosystems can be observed; where people learn that in nature the residues of a species feed other species; where people can see that energy comes from the sun, where people can see the metabolism, the networks are recognized, as well as the systems that are part of other systems, and so forth. (pp. 67-68)

Orr (1996) and Puk (2011) do not discuss ecological literacy as if it were relegated to the confines of a science discipline; a social dimension is also inherent in it. Stables and Bishop (2001) expand the concept of literacy, suggesting that the way we describe and understand the biophysical world is through a culturally constructed system of signs. They argue that if we understand ecology through a socially/culturally ascribed system of signs, then ecological

literacy must not only include ecological understanding, but also social/cultural understanding through “an exploration of cultural, aesthetic, personal and even irrational views of the environment” (Stables & Bishop, 2001, p. 96). Where ecology focused programs find difficulty addressing environmental issues, social and culturally focused programs can engage students in understanding political, social and economic systems, consumption patterns and poverty (Dale & Newman, 2005).

Stone (2008) argues that the environmental movement is fraught with questions of boundaries, such as environmentalism’s involvement in human health issues, or its involvement in peace and justice issues. Conflicting ideals are also apparent, such as conservation for hunting and fishing versus conservation based on animal rights (Stone, 2008). Environmental ethics can bridge together topics including “the mistreatment of animals, corporate polluters, famines overseas” and students’ consumptive life-styles (Andre, 2007, p. 302). Explorations of social and cultural aspects of EE may also include environmental justice. According to Cole (2007), “environmental justice poses questions about the environment like: ‘who determines what happens here? At what cost? To whose benefit? Why not somewhere else?’” (p. 38). She states that race and class are factors that influence meaning and impact policy formation about the environments in which people find themselves, and that it is necessary for environmental educators to address these factors (Cole, 2007). Environmental justice engages in the complexities of environmental problems, such as pollution, recognizing that these issues are not subject to political boundaries and that their resolution requires negotiation through multiple political processes governing the areas effected and the institutions at the issue’s source

(Clements, 2006). Clements' (2006) description of environmental justice issues freely crossing geo-political boundaries in some sense necessitates the obligations of citizenry to be free from these boundaries (Dobson, 2004). EE's inclusion of environmental justice further points to a form of education that challenges the status quo. Put into the Ontario context, EE needs the education system to reach beyond simply supporting the current economy and providing skilled workers if EE is to change the current paradigm.

#### **Attitudes and values-based outcomes of EE.**

Since ecology is inclusive of human influence and is imbedded in human social structure, ecology should be understood not only on a cognitive level, but also on a behavioural and value-based level (Duailibi, 2006). Shephard (2008) describes the affective domain as relating "to values, attitudes and behaviours and involves the learner emotionally" (p. 88). The affective domain is hierarchical and is made up of five components: being open to receiving information; reacting, often through discussion, to the information; attaching value to information; building a value system based on the value given to the information; and committing to live by the value system and having it form a worldview or life philosophy (Kellert, 2002; Shephard, 2008).

Pyle (2003) argues that people need to be reconnected with nature so that they can value nature. Arguing a theory of the 'Extinction of Experience', Pyle suggests that when something has been removed from someone's everyday experiences, that person slowly becomes accustomed to its absence. As the richness of diversity declines, so does the richness of experiences. The ensuing apathy towards one's environment further perpetuates the decline of diversity and a positive feedback cycle is created. In other words, lack of experience leads to

lack of caring; lack of caring leads to lack of diversity; lack of diversity leads to lack of experience, and the cycle continues. Pyle (2003) extends Bogner's (1998) position of 'one protects what one knows' to include an aspect of caring, stating "those who know and recognize less, care less, and therefore act less, leading to still more losses" (p. 209). Pyle suggests that declines in butterfly populations within cities exemplifies the extinction of experience because the outcome of such an extinction is a reduction in pro-environmental behaviour such as young people choosing to become naturalists or voting in favour of conservation.

Values people ascribed to nature are perhaps related to their perceptions of human uniqueness. Midgley (2012) challenges humanity's commonly assumed superiority over the animal kingdom. She describes these assumptions as being derived from either a belief in God's will that we should look after the rest of the animals or through a misunderstood conception of evolution in which humans are superior because of the extent of human intelligence. She suggests that the value of our own importance and, by extension our actions, which have caused the environmental problems humanity faces today, prevent us from recognizing the seriousness of these problems. A dimension of EE is therefore concerned with re-conceptualizing our view of the uniqueness of humanity as one uniqueness among an array of other uniqueness in the natural world (Midgley, 2012).

#### **Cultural sensitivity of content.**

Shephard (2008) suggests that the affective domain is often disregarded in EE; a focus on the cognitive domain may be insufficient because "it is quite possible for learners to learn about their subject and be able to describe, comprehend, apply, analyze, synthesize and evaluate to the

extent that they can pass their exams, without actually changing their attitudes as indicated by the way they respond or behave afterwards” (p. 89). Learning about environmental issues in the manner presented by traditional schooling may even cause students to actively resist change towards pro environmental attitudes and behaviours. Puk (2012) describes this phenomenon from a neurobiology perspective. He summarizes neurobiological research, suggesting that the development of neurological structures in pre-pubescent children is created predominantly through assimilation of culturally constructed interpretations of external experiences; as the individual gets older, these structures become more rigid, and development of new structures is mediated by the interpretation of these experiences through existing neurological structures. When an ecologically illiterate adult encounters knowledge about environmental issues, this knowledge is interpreted through the existing neurological structures formed during pre-puberty (Puk, 2012) and may result in a cognitive dissonance (Aronson, 1997; Thøgersen, 2004). The resolution of cognitive dissonance generally takes one of three paths: changing neurological structures to accommodate the new information; ignoring the new information, or changing the perception of that information to fit existing structures; or a mix of both of these (Aronson, 1997). The result of this resolution can be resistance to changing towards pro-environmental behaviours (Puk, 2012; Thøgersen, 2004).

Zeyer and Kelsey (in press) review research on Swiss students’ apathy towards environmental issues in spite of their exposure to a progressive environmentally based curriculum. They contend that the gap between students’ awareness of environmental issues and their desire to engage in action towards the resolution of these problems is founded in a cultural

conflict between students' cultural identities and the culture of science learning. The result of this conflict is a post-ecological ideology in which students are able to recognize the destructive path on which society currently walks, but instead of altering course, students' "'normalize' the environmental crisis by adopting the paradox assumption that unsustainability is here to stay, and that they, as individuals, are powerless to do anything about it" (Zeyer and Kelsey, in press, p. 6). Zeyer and Kelsey (in press) conclude that the acculturation attempts of the science subculture causes the many students whose cultural identity do not align with western science to play "the school game" (p. 4) by passing science courses, but not achieving any meaningful learning and perhaps not even understanding the content. Their conclusions offer the following recommendations for EE practice:

Environmental education teaching should be a form of "cultural brokering" in which the teacher attempts to understand the life world cultures of his or her students, and to effect change by bridging, enlinking or mediating between those cultures and the dominant culture of environmental education inherent within the school curriculum. Students would not be assimilated to eco-scientific culture [faith in science knowledge's exclusivity in creating pro-environmental norms], but rather the teacher would serve as a culture broker between the school culture of eco-scientism and the students' post-ecological home and peer culture. (Zeyer & Kelsey, in press, pp. 12-13)

Cultural brokering requires curriculum writers and teachers to carefully consider their choice of content. Cole (2007) suggests that it is, unfortunately, uncommon for environmental educators to "examine the ideological discourses underlying the educational projects they are



putting into practice” (p. 101). Her own experiences delivering EE to a school in Northern New Mexico serves as an example of an adherence to an eco-scientism paradigm. Through self reflection on her ecologically focused, experientially based curriculum, and on the pressing thought that “something was missing” (p. 36), she realized that her curriculum was not contextualized in the social and cultural histories of her students and her curriculum devalued by omission the traditional knowledge embedded culturally in her students. She suggests that if her curriculum took into account such histories that shaped the land she was teaching about and shaped the students she was teaching, then her lessons would have been more meaningful.

Karrow and Fazio (2010) describe the implementation of a citizen science program called *NatureWatch* in select Ontario elementary schools. The *NatureWatch* program, developed by Environment Canada and Nature Canada, was used to engage students in collecting data on earthworms in and around their school grounds. While many good outcomes came from this program, Karrow and Fazio questioned the transformative aspect of EE delivered through this program. They suggest that the *NatureWatch* program perpetuates adherence to a socio-economic status quo by failing to engage students in interpreting meaning behind the data they gathered and therefore limiting action-oriented outcomes. The process whereby data is collected by non-scientist public, then sent to the ‘experts’ for analysis, then policy-makers make decisions based on expert analysis, limits direct involvement of the public in environmental planning (Karrow and Fazio, 2010). Thus, “NatureWatch programs and the operating contexts within schools seem mutually compatible and self-sustaining yet antithetic to transformative EE practices” (Karrow and Fazio, 2010, p. 169). Hodson (2003) also argues against the

disconcerting “link between science education, economic globalization, increasing production and unlimited expansion” (p. 645) suggesting that such a link puts “the freedoms of individuals, the spiritual well-being of particular societies, and the very future of the planet” (p. 652) at risk. He urges that the science curriculum, with EE at its base, be put into a socio-political context that activates the attitudes of students. Thus, the context is the content.

Tsevreni (2011) seems to put this ‘cultural brokering’ into practice by involving students in an action research project aimed at emancipation from a cultural dogma that constructs urban planning as a process restricted to a privileged few. She views the majority of the public as playing “a passive role in an environment imposed by a dominant elite” (p. 54). Although she describes her research through an emancipation frame, her process of emancipation can arguably be seen as deconstructing her students post-ecologicistic ideology through affective domain-focused outcomes intent on changing students’ perception of their locus of control. She encouraged students to look in-depth at their community and environment and express their perspectives of their surroundings now, and how they wished their surroundings to be. These perspectives were drawn out in three phases using different mediums (creating short stories, taking pictures and describing their meaning, and a collaborative drama) followed by reflection exercises focused on students’ perceptions of their involvement with the urban planning process. Through this process she tracked students locus of control moving from external control towards the self resulting in students feeling empowered to voice their perspectives of urban planning (Tsevreni, 2011). In this case, Tsevreni effects change by choosing not to emphasize dominant eco-scientism ideologies and by challenging the passivity resultant from students perceptions

that they cannot influence urban planning. She seems to gently broker between the students, the dominant culture (post-ecologism) and a culture of action through a political and social-based curriculum balanced by affective outcomes.

The content potentially covered in EE is extensive and can seem overwhelming. Researchers ask EE practitioners to teach about the global impacts of environmental issues, such as pollution and consumerism, affecting disadvantaged populations. Researchers also suggest to EE practitioners that EE is ineffective unless it is rooted in the cultural context in which students find themselves. These two requests may seem paradoxical; however, both are necessary. Using a sustainable development literacy nomenclature, Dale and Newman (2005) state that one must “master the ability to understand these problems as global phenomenon but also to engage these problems at the local level amid changing and unpredictable circumstances” (p. 355). This is a tall order for teachers, who, at the moment, receive little training in EE (Puk & Makin 2006; Robertson & Krugly-Smolska, 1997), and who work under an education system that is intent on preserving the same economic and political systems that have allowed problematic behaviours, which impact Canadian natural capital, to continue (Hodson, 2003). As Bogner (1998) states, “all serious environmental education aims to motivate individuals to take responsible action” (p. 12).

### **Outdoor Experiential Education**

In a review of 150 research articles published between 1993 and 2003, Dillon et al. (2006) “found substantial evidence to indicate that fieldwork, properly conceived, adequately planned, well taught and effectively followed up, offers learners opportunities to develop their

knowledge and skills in ways that add value to their everyday experiences in the classroom” (p. 107). A study conducted in Australia by Ballantyne and Packer (2009) looked at pedagogies used in outdoor centres and suggested that experiential education was more beneficial than teacher directed learning strategies in natural environments. As with Dillon et al. (2006), they suggested that a solid integration of the programs at the outdoor environmental education centres and school programs was important. Outdoor experiential education is a valuable process through which meaningful learning about EE can take place.

#### **A brief overview of experiential education.**

According to Itin (1999) the philosophy of experiential education is rooted in the ideas of John Dewey, Kurt Hahn and Paulo Freire. These theorists see education as a process that is inseparable from an individual’s socio-political environments and view its purpose as equipping people with the ability required to knowledgeably participate in democracy (Itin, 1999). Carver (1996) identifies four key principles to experiential education. These are:

Authenticity: Activities and consequences are understood by participants as relevant to their lives ...

Active learning: students are physically and/or mentally engaged in the active process of learning ...

Drawing on student experience: Students are guided in the process of building understandings of phenomena, events, human nature, etc. by thinking about what they have experienced ...

Providing mechanisms for connecting experience to future opportunity: Students develop habits, memories, skills, and knowledge that will be useful to them in the future... (p. 152)

These principles guide educators in choosing an experience that is “structured to require the learner to take initiative, make decisions, and be accountable for the results, through actively posing questions, experimenting, being curious, solving problems, assuming responsibility, being creative, constructing meaning, and integrating previously developed knowledge” (Itin, 1999, p. 93). According to Carver (1996), teachers should facilitate experiences using “the ABCs of student experience” (p. 154). The teacher encourages the development of *agency*, by shifting the locus of control to the individual, increases a sense of *belonging* as valuable members in a community, and develops *competence* which is inclusive of skill development, knowledge and action (Carver, 1996). Itin (1999) contends that through experiential education, the student’s mind, body and spirit are challenged in unfamiliar environments where the potential for failure is embraced as a valuable part of the learning process; through such challenges the learners “explore issues of values, relationship, diversity, inclusion and community” (p. 93). Experiential education use combinations of sensorial, emotional, physical and cognitive process in learning and falls under the constructivist paradigm (Carver, 1996). Teachers need to attend to students’ physical and emotional safety, ensure access to necessary information and establish parameters around the experience (Itin, 1999). Higgins (2009) contends that “a deep understanding of any issue approached experientially demands effort on behalf of the students and the teacher/facilitator, and their willingness to seek understanding rather than just experience” (p. 57). To

achieve this deeper understanding, critical reflection and review of the experience are necessary (Carver, 1996; Higgins, 2009; Itin, 1999).

### **Experiences in the outdoors.**

Experiential education can be especially powerful when combined with the outdoors. This outdoor context is supported by numerous authors and is also included in the Ontario Ministry's ATST framework (OME, 2009). Lieberman and Hoody (1998) analysed what they called *Environment as Integrated Context* (EIC) programs. EIC programs "attempt to provide students with the opportunity to connect and integrate what they are learning to their surroundings" (p. 7) and "involve: cross-disciplinary instruction, thinking and problem-solving, hands-on experiences, community-based learning, and integration of diverse viewpoints, perspectives, and approaches" (p. 8). Lieberman and Hoody were not specifically looking at EE outcomes. However, Russell and Burton (2000) compared integrated environmental studies programs (ESPs) found in Ontario, to the EIC program findings of Lieberman and Hoody (1998). According to Russell and Burton, both studies reveal effective learning fostered through experience, greater student engagement through ownership and pride, awareness of relationships to others (including the natural environment) and a holistic educational approach using cognitive as well as "kinesthetic, affective, and sensory learning" (p. 298). Students in ESPs were separate from the bulk of school and thus were able to spend significant amounts of their time outside of the classroom (Russell & Burton, 2000). Environment, in Lieberman and Hoody's report, is a broad term inclusive of both natural ecosystems surrounding the schools and students' socio-

cultural environments. They define the boundaries of an ecosystem by ideas of community suggesting that

... the term ‘environment’ may mean different things at every school; it may be a river, a forest, a city park, or a garden carved out of an asphalt playground. ... educators have the opportunity to define the local environment broadly, to encompass natural ecosystems and the socio-cultural systems in their community. (p.1)

Similar outcomes to those above were found in the United Kingdom. Dillon, Morris, O’Donnell, Reid, Rickinson, and Scott (2004) looked at the benefits of learning in an outdoor classroom where outdoor classroom is defined as “spaces where students can experience familiar and unfamiliar phenomena beyond the normal confines of the classroom” (p. 53). The outdoor classroom purposefully included a variety of outdoor contexts such as remote nature centres, local farms and school’s grounds with the intent of addressing students’ growing disconnection from food, farming and land management practices (Dillon et al., 2004). Dillon et al. (2004) observed students connecting the experiences with knowledge and values, where students, through engaging with the environment, gained awareness of natural ecosystems and society’s interactions with these ecosystems, and learned practical conservation skills. Dillon et al. (2004) also noted the effect these programs had on teachers’ subject-specific knowledge and on teachers’ insights into new pedagogies that encouraged them, “to think outside ... curriculum” (p. 32).

Speaking specifically of residential outdoor ecological education centres, Bogner (1998) suggests that “the green surrounding provides a more intrinsic basis for fostering the monitored

values than perhaps ‘normal’ school can do” (P. 6). Bogner (1998) studied the ability of an experiential residential outdoor education program to deliver affective EE outcomes on the basis that “a very important aspect of outdoor ecology education can and should be the development of attitudes, responsibilities, and appreciation toward nature and the environment, which may be best achieved by means of affective rather than cognitive methods” (p. 11). He concluded that such immersion based residential programs increase students’ ecological knowledge and also promote pro environmental behaviours. He states that “this fact should encourage educators to emphasize hands-on activities at outdoor biology sites and to promote week-long programs that can shift attitudes and behavior” (p. 10).

Farmer, Knapp and Benton (2007) also support experiences delivered through field trips as an effective method for meaningful learning and promotion of pro-environmental attitudes. They took a phenomenological approach interviewing students who, a year prior, had completed a field trip to the Great Smoky Mountains National Park. Here, the students were actively engaged in programs ranging from air quality and pollution to invasive species. The students’ recall of specific cognitive goals and descriptions of pro-environmental attitudes a year after the experience point to the long term impact this experience had on students’ cognitive and attitudinal development.

These studies show outdoor and experiential education’s ability to create meaningful learning related to cognitive, affective and behavioural aspects of EE. Arguably, since field centres are generally outside of the students’ community, they are also outside of the cultural schema of students and could therefore create a maladaptive cultural dissonance. However, the



above mentioned programs' successful use of outdoor centres suggests otherwise. Perhaps the context of these centres and the experiential pedagogy can be seen as part of the brokering between current worldviews of students and worldviews that are more receptive to change. One consistent dialogue between these authors is that while such experiences are still meaningful when in isolation from the rest of education, the most successful use of these programs occurs when they are included in the bigger picture of education.

### **Current Status of EE in Ontario**

Calls have been made at the global (UNESCO, n.d.) and local Ontario education system levels (Puk & Behm, 2003) to shift the focus of the education system towards developing the knowledge, critical thinking, and skill-sets appropriate for the environmental challenges that exist today, and will be faced in the future. The Ontario government, in responding to these calls, began revisiting the topic of environmental education (OME, 2007). A cyclical curriculum reform began in 2007 as part of a larger educational system reform implemented by the Ontario government. EE was the first curriculum chosen to undergo an extensive review. The Working Group on Environmental Education was created with Dr. Roberta Bondar acting as the group's chair. This group produced a report called *Shaping Our Schools, Shaping Our Future: Environmental Education in Ontario Schools* (OME, 2007), or colloquially, the Bondar Report. Outlined in this report were recommendations for educational change that promote EE as a corner stone of the education system (OME, 2007).

In 2009 the Ontario Ministry of Education responded by accepting all 32 of the Bondar Report's recommendations and adopting them into the recent *Acting Today Shaping Tomorrow* (ATST) policy framework (OME, 2009). According to the framework:

The future of environmental solutions ultimately rests with students.... More than ever, it is vitally important that our education system not only prepare students academically but also provide them with the skills, perspectives and practices they will need to meet the societal and environmental challenges of the future. (OME, 2009, p.7)

The ATST framework is based on an infusion model. According to Sue Durst, director of Ontario's Ministry of Education Curriculum and Assessment Policy Branch, "environmental education expectations and opportunities will be included in all subjects, disciplines and grades and model an embedded, action-oriented approach" (personal communication, November 3, 2010). The implementation of this infusion model is guided by the vision of EE offered by the Bondar Report (2007):

Ontario's education system will prepare students with the knowledge, skills, perspectives, and practices they need to be environmentally responsible citizens. Students will understand our fundamental connections 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. The education system will provide opportunities within the classroom and the community for students to engage in actions that deepen this understanding. (p. 4)

The OME suggests that EE should be a shared responsibility between the school and community stakeholders. These local community members are to assist the school board in

developing its own interpretation of the ATST framework that recognizes the local needs of the community. A set of general goals are suggested to guide in the formation of this local EE plan, including learning about environmental issues and solutions, actively participating in environmental stewardship, and establishing the school system as an organization that leads by example through which other members of the community can follow. The ATST does not outline what constitutes a local community. The Bondar Report describes outdoor education as a critical part of the students' environmental education because of its ability to provide "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" (OME, 2007, p. 6). One of the Bondar Report's thirty-two recommendations that was adopted by the OME states that the government, alongside education partners, should "ensure the adequate funding of outdoor education in Ontario" (OME, 2007, p. 21).

However, Ng-A-Fook (2010), among others, is skeptical of this framework, suggesting that the framework serves to greenwash its recipients. He describes greenwashing as promoting actions or behaviours that, on the surface, are environmentally friendly, but still serve to perpetuate economic gain (Ng-A-Fook, 2010). This criticism seems apt when the ATST framework is interpreted through the four key priorities of the education system identified by the OME (2010). One of the main goals of the Ontario education system is to generate citizens who can function effectively in the job market and foster economic growth. The OME's (2010) *Results-based Plan Briefing Book 2010/11* shows this economic focus in two of its four key priorities of the education system. For example, the Success for Students priority states that "the

overall skill and knowledge level of Ontario's students must continue to rise to remain competitive in a global economy" (p. 8). The Strong Students, Strong Economy priority states that "a strong publicly funded education will help ensure the long-term success of the province's economy" (p. 11). None of these priorities mentions or makes reference to EE or ecological education as a priority, raising the question of how the education system has answered the calls of reform, thereby permitting a vision of EE that is able to challenge the economic paradigm and the associated consumerism.

However, while Ontario's education system still seems grounded in an economic development paradigm, the ATST provides a justification for teachers to encourage knowledge about, and action towards, sustaining the balance of forces that ensure humanity's future. One of the tenants of this framework is providing students with the opportunity to experience natural ecosystems (OME, 2007).

### **Gaps in Theory and EE Practice**

Tan and Pedretti's (2010) recent research suggests that the ATST has yet to take hold in the education system and that teachers are facing significant challenges implementing EE, including a low priority for EE in schools and difficulty providing outdoor education. To a certain extent, teachers are constrained by a prescribed curriculum. Hart, Jickling and Kool (1999) suggest that "often, educational guidelines are prescriptive documents that lay out a means by which teachers can plan programs, prepare lessons, and develop learning materials without any necessity for examining their own educational philosophy" (p. 107).

This curriculum often serves to perpetuate the social norm, rather than challenge it (Tan & Pedretti, 2010). Blenkinsop and Egan (2009) would agree and further critique the education system suggesting that foundational ideas of curriculum development are problematic for “congruent and deeply rooted curriculum in environmental education” (p. 92). These foundational ideas are: socialization of a citizenry by use of a curriculum intended to teach a pre-established set of societal norms; Platonic Truth, which suggests that curriculum should only be concerned with engaging the mind because the mind is the organ through which we will reach an objective truth; and Rousseauian development, from which comes the model of education being applied to a universal sequence of learning development (Blenkinsop & Egan, 2009). The curriculum’s emphasis on teaching norms and engaging the mind is often driven by the needs of industry, as described by Hodson (2003): “in order to design, develop, optimize, produce and market goods and services for the global marketplace, industry claims to need a flexible, ‘just-in-time’ and compliant workforce, which it is the education system’s job to provide” (p. 3). He suggests that this corporate influence on curriculum is evidenced by the Ministry of Education’s focus on students’ successful competition in the global economy. It would seem as though the Platonic Truth to which the education system teaches is economic growth.

Both Tan and Pedretti (2010) and Hacking, Scott and Barrett (2007) refer to Stevenson’s Gaps when discussing barriers to the implementation of EE within the school system. Stevenson identifies four gaps which, as presented by Tan and Pedretti (2010), are

(a) *philosophical intent*—schools have had a stable structure almost globally for over two centuries as the primary agent of social reproduction, whereas environmental education

demands a (politically) revolutionary approach; (b) *classroom pedagogy*—schools are biased toward individualistic, lecture-styled approaches of synthetic material, whereas what is required is a focus on cooperative, real-world problem solving of current situations; (c) *school organization*—is biased toward mass credentialing and the efficient processing of students, which is anathema to problematic inquiry, ambiguity, contradictory stances, and associated psychological unease; and (d) *curriculum ideologies*—where the high status, “public” knowledge being taught in schools is at odds with the “private” knowledges like aesthetic appreciation and other intangible emotional connections to nature. (p. 63, original emphasis)

These gaps highlight the difficulty of EE implementation from a school system perspective. To fill out the complexity of these difficulties, Puk and Makin (2006) and Robertson and Krugly-Smolkska (1997) suggest that, while teachers may have a desire to provide EE, they may not be knowledgeable enough to deliver many of the core EE concepts, such as understanding ecosystems. Puk and Makin’s (2006) Ontario-wide study of elementary school teacher’s perspectives on ecological literacy found four reasons explaining its relative absence from the classroom: “1. Lack of time in the current curriculum... 2. Lack of resources... 3. Lack of teacher training... 4. Lack of support” (p. 247). Some teachers are able to overcome all of these barriers, but in doing so “find themselves put in the position of trying to subvert the curriculum to include environmental education” (Russell, Bell & Fawcett, 2000). Russell, Bell and Fawcett (2000) also suggest that successful environmental education programs stem from the

initiative of one or two dedicated environmental educators and that those programs often die with departure of those teachers.

A study out of Scotland conducted both a survey on schools' and pre-schools' delivery of formal outdoor learning and on interviews with young people (three to 18 years) on their general perceptions of outdoor experiences (Mannion, Sankey, Doyle & Mattu, 2006). Of interest are their findings that: outdoor experiences described by young people were more frequently obtained outside of formal schooling; that young people had difficulty discussing their relationship with nature; that programs focused on EE delivered in the outdoors improved young peoples' understanding and valuing of the environment, and their action for the environment; and that it was the combination of an EE program and the outdoors, rather than simply being outdoors that created meaningful learning (Mannion, Sankey, Doyle & Mattu, 2006). While outdoor learning was viewed by young people as meaningful, they received little outdoor education from the school system. A lack of connection between the school and the provider of outdoor classroom experience limits the potential of outdoor education benefits. As Hacking, Scott and Barratt (2007) note,

... the ways that children make sense of the relationship between home, school, community and environment, and how they interact with the children and adults who live and work there, rarely seem to be of interest to schools, which tend to have their own centrally mandated views of what is important to study both within and outside the institution. (p. 226)

Despite the difficulties presented by the school system, dedicated teachers work hard to make use of OECs for learning in the outdoors. However, these experiences can be expensive for the schools and for their students, making it even more important to get as much value out of these experiences as possible.

### **Summary**

EE is a complex concept to fully appreciate. However, it is a critical component to solving the ecological crisis faced by humanity. While there are many emphases placed on EE, these should not be seen in competition. If anything, these multiple emphases allow educators the freedom to critically explore topics of EE within their expertise. Such explorations are perhaps best sought through an experiential education design. Outdoor experiential environmental education has been shown to be an effective process for delivering affective, cognitive and behavioural outcomes of EE. However, in using this pedagogy, the educator must consider factors such as the students' cultural context, the context provided by the experience and the emphasis of EE that is intended, and how this method of learning relates to and enhances more traditional classroom learning. Despite the challenges presented by the education system, successful initiatives are possible. Educators, both traditional and outdoor-experiential, can capitalize on current uses of outdoor centres to maximize their learning potential for students.



## **Chapter 3: Methods**

### **Introduction**

This study was based on my previous experiences with OECs. My concern was that the programming I was being asked to carry out was more recreational than educational. From my own perspective, our relationship with nature has been diminished by a predominantly urban lifestyle that fosters an ideology of humanity separated from ecological processes. This disconnect creates a feedback loop in which lack of understanding leads to the devaluing of nature, which in turn further reinforces the separation from nature. The education system has the potential to break this cycle through developing in its students an understanding and a valuing of ecological processes. OEC's can be an important part of this education. They are typically situated in a setting in which nature is a prominent feature to explore and from which to learn. The current study explored the use of an OEC for the delivery of EE from the perspectives of OEC staff and classroom teachers.

In this chapter, three paradigms of case study methodology are contrasted, followed by theoretical considerations of focus group interviews and observation. Grounded theory's use in case study methodology is explained with an outdoor education research example. An outline of the methodology of this study is then presented. A rationale for using a critical/interpretive case study methodology is provided, followed by descriptions of the participants involved and the setting in which the study was conducted. Next, the process for implementing the focus group interviews is outlined followed by the analysis of the interview data. Finally, peripheral

membership observation methods and the analysis of the data which was generated from this method are explained.

### **Case Study Paradigms**

Yin (2003) describes case study methodology as best applied to contemporary issues that cannot be separated from their real-life context; such situations require multiple sources of evidence that can be triangulated towards a conclusion or conclusions. Three paradigms of case study methodology are identified by Stevenson (2004). From Stevenson's perspective, Yin promotes a positivist/postpositivist paradigm, by advocating the development of a theory or hypothesis prior to the research. Through this positivist approach, Yin (2003) suggests that reliability is improved with a multi-case case study and therefore the case study's predictive ability is strengthened.

Stevenson (2004) suggests that case studies can also be approached from an interpretive paradigm, which "is concerned with illuminating the sense that participants make of their experiences" (p. 43) and is considered constructivist. He suggests collecting data through "vignettes, or mini-cases... in which the professional is engaged in reflecting on a recent episode of practice" (p. 44). Stevenson describes the third paradigm as a combination of interpretive case study and critical theory. He suggests that the case study's purpose is "not just to understand or explain social reality, but to transform it" (p. 45). The interpretive case study can focus on professionals' perceptions of their practice compared to their goals, while critical theory questions the findings as they may relate to unjust, oppressive societal norms.

Corcoran, Walker and Wals (2004) look at case study research as it applies to teaching sustainability in higher education institutions. They suggest that case study methodology has been improperly applied to research insofar as it “has not lived up to its potential to transform practice” (p. 7). Corcoran, Walker and Wals (2004) are interested in applications of case study to sustainability-in-context, suggesting that there is no universal depiction of sustainability and that its definition “takes shape and meaning by the active involvement of all relevant actors in a transparent and highly reflective process that is firmly rooted in the social realities of a given context, but sensitive to emergent realities in other contexts” (p. 9). Similar arguments of context-based education and critical reflection in order to transform practice can be made for the practice of EE in the elementary school system. A case study involving educational practice should stimulate its readers to reflect on their own practices and re-construct their own knowledge which may lead to change (Corcoran, Walker & Wals, 2004; Stevenson, 2004).

#### **Focus group interviews.**

Focus groups are effective for collecting a large amount of data in a relatively short time period (Kirby, Greaves & Reid, 2006) and can capitalize on the interaction between participants to enrich the data (Asbury, 1995; Kirby, Greaves & Reid, 2006). While some researchers argue that it is best practice if focus group participants do not know each other (Asbury, 1995), Kitzinger (1994) considers participants’ close relationship to be an advantage because “pre-existing groups ... provide one of the social contexts within which ideas are formed and decisions made” (p.105). Asbury (1995) also advocates that focus group participants should share common experiences and some form of common culture.

Kirby, Greaves and Reid (2006) use a guideline of “four to five questions for four to five people for approximately two hours of interaction” (p. 145). Asbury (1995) suggests audio recording a semi-structured interview when conducting focus groups. A semi-structured interview format is a list of primary questions, each with “probes” that can be used either to clarify the meaning of the primary question, or to further explore answers provided by the research participants (Asbury, 1995, p. 416).

### **Participant observation.**

Participant observation is another method common in case study research (Kirby, Greaves & Reid, 2006; Yin, 2004). Participant observation is conducted by observing social interactions as they occur in a particular setting with the purpose of describing and explaining behavioural patterns (Baker, 2006; Kirby, Greaves & Reid, 2006). Such observation is beneficial in gathering first hand data in real-time and in natural situations; triangulation of observations with other methods, such as interviews, can increase the understanding of the overall situation (Cotton, Stokes and Cotton, 2010).

The researcher can take many observer forms ranging from covert and non-participatory to overt and participatory (Baker, 2006). Baker suggests that where the researcher places him or herself on this continuum “depends on the problem to be studied, on the insiders’ willingness to be studied, and on the researcher’s prior knowledge of or involvement in the insiders’ world” (p. 173, 2006). Baker (2006) describes the researcher’s role as trying to balance participation in the group as an ‘insider’ and observing the group as an ‘outsider’. The advantage of gaining ‘insider’ access to the group is that more potential data becomes available. The advantage of

being an ‘outsider’ is that the data is less likely influenced by the researcher’s involvement. The literature does not provide much guidance as to where the fulcrum should be placed. For example, Baker sites Pearsall (1970), who suggests that ‘insiders’ may be more forthcoming with valuable data to an ‘outsider’ researcher. However, Cotton, Stokes and Cotton (2010) suggest that the researcher as an ‘insider’ may reduce the influence of observation to cause behaviour changes in the research participant. Kirby, Greaves and Reid (2006) suggest that “researchers are seekers, analysers, and interpreters as well as data gatherers. Any events described and thoughts recorded by the researcher become observations and reflections respectively” (p. 149). Thus, it is impossible for a researcher to take a purely objective, or outsider, stance. Observation is generally recorded by way of field notes, but technology such as audio and video recordings can be helpful. Field notes and transcribed audio and video recordings can be analysed using grounded theory (Cotton, Stokes & Cotton, 2010).

### **Data Analysis – Grounded Theory**

A grounded theory data analysis can compliment interpretive and critical case study methodology because grounded theory can also be viewed through a constructivist lens. Mills, Bonner and Francis (2006) reference Charmaz’s work describing grounded theory as constructivist because the results are generated through collaboration of the researcher and research participant as equal partners in the research process. This process is often described as an inductive approach in which theories emerge from the data (Bowen, 2006; Kirby, Greaves & Ried, 2006; Mills, Bonner & Francis, 2006). Since induction is used by the researcher, the researcher's interpretations are part of the core category. Thus, the researcher must be

acknowledged in the process of the development of the core category (Mills, Bonner & Francis, 2006). The core category is the result of the inductive coding process. A core category is the theoretical sum of “all of that theory’s various aspects” (Mills, Bonner & Francis, 2006, p. 6). While there may be some differences between various interpretations of grounded theory, a common message is to be explicit about the process of collecting and analyzing data (Corbin & Strauss, 1990; Mills, Bonner & Francis, 2006).

To initiate the process of grounded theory analysis, Bowen (2006) suggests the use of what he calls sensitizing concepts. These are concepts that form some initial thoughts about the study and are used to form a foundation for the study (Bowen, 2006). Sensitizing concepts are the beginnings of a study and are windows through which the data may be seen; however, they do not set the path for the analysis to follow. In Bowen’s (2006) work, he generates sensitizing concepts through a review of the literature. This may seem counter to grounded theory, but is becoming more practised in what is termed evolved grounded theory (Mills, Bonner & Francis, 2006).

Kirby, Greaves and Ried (2006) are strong supporters of grounded theory and outline a procedure for analysis of text. Their process involves looking at the data for the purpose of “building properties, then categories, and, if the data are strong enough, substantive theory and, possibly, grand theory” (p. 224). Thus, “the researcher is the essential element of the coding activity; this alone reaffirms the interpretive nature of research” (Kirby, Greaves & Ried, 2006, p. 226). According to Kirby, Greaves and Ried (2006), the grounded theory procedure starts by first identifying “bits of data” (p. 224) which should make sense independently from the context

from which they were taken. They then suggest applying a code or codes that represents an “idea, event, theme, or common property” (p. 226) within the bit. Similar bits are put together and their properties are described and labelled with a word or phrase. Categories of common properties can then be established. They describe this process as iterative because of the constant revisiting and re-categorization of the data. Bowen (2006) suggests that this style of analysis can be applied to a range of data including interview transcripts, field notes, and text documents.

Davidson (2001) used a similar method of analysis to explore students’ experiences of an outdoor education program in New Zealand. He divided text from transcribed interviews into “units” (p. 15) of meaning. These units were then categorized based on common themes associated with the units. The categories were given “titles” (p. 16) representative of their commonality. These titles were continually refined by comparing emerging themes to existing titles. The result of this process was the emergence of three major themes that could be used to explain meaning behind the study group’s experiences (Davidson, 2001).

### **Outline of the Study**

For this study, a case study methodology was chosen because of its ability to best address the research questions. As mentioned above, case studies are applied to contemporary issues that cannot be separated from their context. The style of education at the OEC is experiential and thus not separable from the setting in which it occurs. Arguably, context is important in EE. EE, as suggested earlier, is highly interpretable and varies according to context. The context surrounding EE can include the physical setting of the OEC, the perceptions and actions of the OEC staff and the teachers, curriculum documents, school board policy and the students’

engagement with the OEC experience. The multitude of methods a case study affords is therefore a desirable way to assess EE in the context of an OEC.

This case study has been designed with Stevenson's (2004) interpretive/critical inquiry approach in mind. It is interpretive because it is trying to illuminate the meaning the research participants ascribe to the OEC experience. It is critical because it questions these ascribed meanings as they relate to educational practice and the attempt of the education system to infuse EE into all aspects of the curriculum. EE has not been well institutionalized in the school system, yet education is a key component to producing a citizenry capable of living within the limits of nature (Orr, 1996; Puk, 2011; Robertson & Krugly-Smolska, 1997). It is important, therefore, that EE be viewed as a topic on critical theory's radar.

With Corcoran, Walker and Wals (2004) criticisms in mind, this study uses a case study design to look at the in-context application of EE while being sensitive to the other contexts in which students and teachers find themselves. I hope that this paper will provide a platform for educators to reflect upon their own practice and stimulate teachers to seek opportunities to further their own education in regards to the environment and ecology, and to disseminate this knowledge to their students.

This single case case study uses focus groups and observation as the methods of data gathering. Focus group interviews were chosen to offer the teachers and OEC staff a platform to talk about their goals and intentions behind their practice. Observation focused on the delivery of lessons by the OEC staff with the intent of assessing whether the product matched the goals and intentions expressed by the teachers and OEC staff. These methods were then analysed



using a grounded theory design. The themes generated from these analyses were then triangulated to inform the discussion. Below are descriptions of the participants and the data collection and analysis methods.

### **Participants.**

Recruitment was initiated through YMCA Wanakita's OEC. As I had worked with this OEC before, I knew they would fit the parameters of the study and would also be helpful with recruitment. The school board and the schools within its jurisdiction did not want to be identified in this study. The school board was also protective of the names of the schools attending the OEC. To comply with the school-board's privacy requests, I asked the OEC to contact the school board with a list of schools within that school board that were visiting the OEC during the spring season. The school board then contacted the individual schools to see which principals were interested in allowing their school to participate. The school board then contacted me and the OEC with this information so that the OEC could inform me of the dates the potential schools were attending. This process narrowed the selection group to only two schools. One school was attending the OEC for three days while the other school was attending for four days. Both of these schools were attending the OEC at the same time (although using two separate sections of the OEC) which made using both schools logistically too difficult. The school attending for four days was chosen based on their longer stay because it provided more time to collect data and conduct the study. By the time this process was complete, there was no time to contact the teachers about their potential involvement in the study prior to their arrival at the OEC.

Six teachers from a grade six to eight school attended the experience with their students. The six teacher participants taught grade seven and eight students. They specialized in either math, physical education, or art and music, but also taught other subjects such as science over their careers. The length of their careers ranged from four to fifteen years. One of the teacher participants was an education assistant who focused mostly on students with special needs. At the time of this research, the teachers taught at a school that is situated in a residential section of a city in southern Ontario.

The school bus arrived at the OEC during the middle of the first day. The teachers were approached shortly after and were asked to participate in the study. They were given information sheets outlining the purpose of the research, their involvement and confidentiality (see [Appendix 2](#)), and asked to sign the research consent form (see [Appendix 2](#)). Five teachers and one educational assistant agreed to participate.

The choice of school dictated the potential OEC staff research participants since certain staff were scheduled to work with particular schools. The OEC had scheduled five staff to work with this school over the course of their four days. These staff were approached and asked to participate with no prior notice because it was not known which staff were potential participants until the participating school was known. They were also given information sheets (see [Appendix 3](#)) outlining the purpose of the research, their involvement and confidentiality, and asked to sign the research consent form (see [Appendix 3](#)).

Seven different OEC staff cycled into the programs at different points (one staff member fell ill and was replaced at different times by two other staff members). These participants were

in their early twenties and had either graduated from university or were currently studying in university. One was an Ontario accredited teacher having completed teachers college one year prior to working the spring season. All had more than three years previous experience working in the outdoor field, mostly working in the residential summer camp industry. None of the OEC participants had been employed as a classroom teacher.

### **Focus group interview.**

Focus group interviews were chosen for two reasons, one logistical and the other theoretical. One of the benefits of focus group interviews for this study is the ability of focus group interviews to collect significant amounts of data over a short time frame. This study could only be conducted over a three day time span. Interview time was limited by participants requirements to run programs and supervising students, as well as by my need to be in the field with the participants in an observatory role.

The theoretical reasoning behind choosing focus group interviews stems from the cultural construction of EE and the OEC experience. One of the topics to be discussed in the focus group interviews was defining EE. As noted above, EE can be considered culturally constructed and contextual. It was thought that a group interview might be more beneficial in exploring the construct of EE within the OEC context. Since the definition of EE is culturally constructed, interviewing a grouping of the members of that culture may provide more valuable data than one on one interviews. The OEC staff group and the teacher group were separated into their respective groups for the interview because each group shares its own culture and has its own

common experiences. It is this culture and these common experiences that play into their cultural constructions.

Since this research is about teachers' and OEC staffs' perceptions of the OEC experience, it seemed reasonable to conduct the interviews during the OEC experience. A quiet area, removed from the excitement of the OEC programs was chosen to conduct the interviews. The following describes the interview process as it was conducted with the teacher and the OEC staff group.

#### ***Teachers' interview.***

The teachers' focus group was conducted on the second night of the experience during which students were under the supervision of the OEC staff, though, on two occasions, two separate teachers excused themselves from the focus group to check on the students. The teachers' interview lasted just under two hours and was audio recorded, then transcribed by an independent transcription service. The transcription was then sent to the teacher participants so that they could review their comments and add, change or omit data. There was no response from the teachers in this regard.

The teachers' interview questions were designed to allow EE to emerge as a possible benefit of the OEC rather than to direct teachers' attention to EE as a purpose for the OEC experience. First, teachers were questioned about the logistics of bringing students to the OEC. I was not familiar with the specifics of arranging a field trip and wanted to know some of the particulars of the process of organizing the trip. These preparations included: the process of gaining permission from the school board, the school and parents; organizing buses; contacting

the OEC; and developing the program. The teachers were then asked about their purpose in selecting this particular OEC experience. These questions centred around what they wanted students to come away with as a result of the OEC experience and were intentionally open ended so that there was room to discuss a variety of concepts. The next question block asked teachers to suggest how they thought the OEC experience achieved the purposes outlined in their responses to the first group of questions. Lastly, teachers were asked how the OEC experience supported classroom learning. If teachers did not discuss EE as a purpose for the OEC experience, the end of the interview was devoted to discussing what EE is and how teachers implement EE in their classes. This question format was designed to provide teachers an opportunity to bring EE into the conversation under their own conditions. [Appendix four](#) shows the interview guide used during the teacher interview. There were six key questions in the teacher interview guide, each supported by probe questions. The probe questions were useful in allowing the teachers to discuss the same topic multiple times, thus increasing the likelihood of saturation in the coding process.

***OEC staffs' interview.***

Of the seven OEC staff participants, five participated in the focus group. One of the focus group participants had only one day of experience with the school group because he was a replacement for another member of the staff team who became ill. This focus group was conducted following a clean-up of the site on the fourth day after the school group had left. I felt it was important to interview the OEC staff after the OEC experience because they could reflect on their experiences with the program, potentially providing insight into their desires for the

program and how they accomplished these desires. The OEC staff interview lasted approximately one hour and fifty minutes. This interview was also recorded and transcribed by an independent transcription service, then sent back to the interviewees for their review. The OEC staff were also given the opportunity to add, change or omit data from the transcript, but no response to their transcript was received.

The questions asked to the OEC staff focused on the program that they delivered to the students. The first question asked them to describe their objectives for the OEC experience. This question focused on change they wished to see in students, key messages they were trying to deliver and how they wanted the OEC experience to affect students. The second question asked the OEC staff to describe how they delivered the outcomes they identified in the first question. Like the teachers, the next question asked specifically about EE and the OEC experience. This question was concerned with defining EE. The last question asked how the staff thought the OEC experience played a part in the delivery of EE. If aspects of EE were raised before these last two questions, the topics of EE would be discussed then. This question format was designed to provide OEC staff an opportunity to bring EE into the conversation under their own conditions. [Appendix four](#) shows the interview guide used during the OEC staff interview. There were four key questions used in this interview which were each supported by probe questions. The probe questions allowed the staff to visit the key question multiple times, which, during data analysis, facilitated the saturation of categories.

**Focus group interview data analysis.**

A grounded theory approach was used in the data analysis. Sensitizing concepts were developed both from the literature and from my own experiences working with OECs. These concepts formed the research questions and focused the analysis of the data. For example, one of these concepts coupled the importance of context in experiential and environmental education with the natural setting of the OEC, thus directing attention to data which was related to how the natural setting is used in the OEC experience. Other sensitizing concepts included the conceptualization of EE within the teacher and OEC staff groups, and the pedagogies used to deliver the experience. These sensitizing concepts were used to guide the data gathering and inform the iterative analysis of the data. The teacher and OEC staff focus group interviews were each treated independently in the coding process, because each group was considered to have its own distinct story about the OEC experience. After the audio recordings of each interview were transcribed, the text was coded, then categorized based on similarity, and finally grouped into thematic significance. The following describes the coding process for the OEC staff and teacher focus group interviews. These two groups had a slightly different iterative path.

***Development of OEC staff themes.***

As with the teacher transcript, the OEC staff transcript was reviewed with the intent of applying a code to a key word or phrase that signified a bit of significance. When this process was finished 196 bits of coded data were identified. These bits of data were then analysed for their relationship to each other; bits of data that were similar were categorized together. A descriptive statement was applied to each of the categories. This process resulted in 110

categories. Some of these categories were duplicate because categories were formed within the question from which the data originated (see the OEC staff focus group question guide Appendix 4) and sometimes the OEC staff revisited comments from previous questions. There was a clear delineation between EE related data and data that was describing other aspects of the OEC experience. Since this research project is specifically looking at EE, only the EE related data were used for the remainder of the coding process. This reduction left 86 categories. These categories were then grouped into possible themes. A phrase or short paragraph that described the new group was applied. Changes to the themes and to the categories were made as the themes, categories and bits of data were revisited. The result of this process was six themes explaining the OEC staffs' perceptions of the OEC experience.

#### ***Development of Teachers themes.***

The teacher themes were developed in a similar fashion to the OEC staff themes, however, some slight differences in the process did occur. The teacher transcript was coded after the OEC staff transcript and was informed by the experience gained from analyzing the OEC staff transcript. Thus, the teacher coding process was more streamlined. First, sections of data that did not pertain to teachers' perspectives of EE were removed from the analysis. These sections included discussions about teachers' rapport with students, problems facing the school system, such as student attendance and engagement, and character education. The remaining data was then coded resulting in 83 bits of code, significantly fewer than the OEC group. These bits were categorized into 30 categories, each with a descriptive statement. Six groups emerged through the categories which were further condensed into two themes. The first theme



concerned definitional aspects of EE: the teachers presented a much broader definition of EE than the OEC staff. The second theme highlights the challenges teachers face when implementing the OEC experience. Once again, the narrative below presents these themes as much through the voice of the teachers as possible. Their comments are presented in bold with the speaker identified in brackets.

### **Peripheral membership observation.**

In this study, the method I used for observing the OEC staffs' delivery of the OEC program was based on Baker's (2006) description of moderate or peripheral membership observation. I wanted to see if the OEC staff delivered environmental messages in their programs and what these types of messages would have been. Because of the time needed for setting up the interview space, preparing myself for the interview, and the programs happening in rotations, I was forced to choose between observing one OEC staff as he or she went through each activity, or focus on one activity and see how each staff member conducted the activity. I chose the latter and decided to focus most of my attention on the beaver dam hike activity. During this activity the OEC staff member took a group of students to a marsh created by a beaver dam. Students were given free time to explore the dam and ask questions.

I felt that focusing attention on the beaver dam hike activity would allow me to get a cross section of OEC staffs' knowledge about ecosystems and their comfort level in delivering such a program. I was also able to observe some of the other programs, such as shelter building and initiative tasks, and meal-times during which some environmental messages could occur. After each activity, I recorded my general impressions of the focus of the activity and what type

of experience was being provided by the OEC. I did not conduct any observations of the teachers because they were not involved in the delivery of the OEC programs. The teachers role during the programs was to deal with behavioural issues and discipline if the need arose.

To enhance the contextuality of this study, Wanakita's physical site was also observed. Pictures were taken of program areas and of poster-boards that were accessible to students. Of primary interest to me were the differences between the outdoor learning context of the outdoor centre and the school from which the students were from. Descriptions of the school's physical setting were limited to the exterior because the school was only visited virtually through use of Google maps.

#### **Analysis of the observation data.**

The data gathered through observation was also subject to a grounded theory analysis. I was not able to record the OEC staff delivering their programs because the school board did not want students involved in the study. For this reason I relied on field notes which were made for each staff member as soon as possible after they completed delivery of a program. These field notes were coded, then the codes were grouped into themes.

Pictures were also taken to supplement the field notes. These pictures focused on the setting of the OEC and were grouped into themes according to their content. Observations of the OEC staff align with many of the perceptions offered by the staff regarding their delivery of EE within the OEC context. However, some differences were noted. The observations of the OEC setting provided examples of EE initiatives taken by the OEC and depicted some of the ecosystems to which students have the potential to be exposed.

### **Trustworthiness and Credibility**

In accordance with the qualitative paradigm of research, certain strategies were employed to maximize the trustworthiness and credibility of this study. Trustworthiness and credibility is, in part, established through the researcher's experience conducting research and their experiences with the phenomena being studied (Krefting, 1991; Morse, Barrett, Mayan, Olson, & Spiers, 2002). As a new inductee into the realm of research, I must recognize the limitations that my level of experience places on this research. I have attempted to prepare myself as much as possible through reading relevant literature on research methods and on EE and outdoor education; however, I have not conducted formal research prior to this study. A researcher's credibility is also determined by his or her familiarity with the phenomenon being researched (Krefting, 1991). I have a significant amount of experience working in the outdoor and environmental education field and I am also familiar with Wanakita, having worked at their OEC during previous fall and winter seasons. This experience allowed me to gain insider status quickly, which was important given the time constraints surrounding the data gathering period.

To counteract my limited research experience, some other measures were taken to increase the trustworthiness of this study. As noted earlier, the participants of the focus group interviews were given the opportunity to check their statements and make any changes they felt necessary. None of the interview participants chose to do so. This member checking helps ensure that the data accurately reflects the experiences of the research participants (Krefting, 1991). The interview results are also presented using direct quotes from the transcript of the

focus group interviews. These quotes put the research participant's voice into the results and help ensure that their experiences are at the forefront of the research.

According to Krefting (1991), "triangulation is a powerful strategy for enhancing the quality of the research, particularly credibility." (p. 219). This study triangulates three data sources to enhance the credibility of the results. The teacher focus group interview provides perspective from the education system; the OEC staff focus group interview provides perspective from the OEC, and the participant observations provide a blended perspective influenced by my own experiences in the OEC community and by my exposure to outdoor and environmental education research. As noted earlier, the interview questions were revisited during the focus group interviews. The credibility of the interviews can be increased when interview questions are revisited, reframed or repeated (Krefting, 1991).

### **Conclusion: Successes and Learnings**

I came away from the interviews with a significant degree of interviewer's remorse, feeling that some questions could have been explored more deeply and some responses could have been cut-off sooner to allow time for other areas of discussion. This remorse could have been reduced if I had been able to pilot test the questions in the focus group format. Such a pilot test would have required interviewing another group of elementary teachers, but by the time approval for the study was granted, my window of opportunity for interviewing any teachers was nearly closed. One wonders if the participants experienced a similar respondents' remorse.

Coming from the constructivist paradigm of research, I must view myself not apart from the research, but as a part. Richardson (2001) states that writers are unable to write about

something other than their own lives. She contends that no matter how hard writers try to separate themselves from their writing and write from an objective stand point, their choice of imagery and of subject is a reflection of themselves. She also states that writing is a method in which we discover the world. As I write this thesis, I am continuing the discovery process. I am still constructing meaning. This discovery process is framed in a social-historical context and rejects the notion of a universally right and privileged knowledge.

## **Chapter 4: Results**

### **Introduction**

This chapter presents the results of the focus group interviews and the peripheral membership observations. The OEC staff interview analysis revealed six themes that describe their perspectives on EE in general and on how EE is delivered through the OEC experience. It is clear from the data that the OEC staff have a desire to provide experiential EE based programming. However, they identify difficulties with the implementation of EE in the OEC context. Two prominent themes regarding EE emerged from the teacher data. The teachers define EE more broadly than the OEC staff, including character development benefits. Difficulties implementing EE into the school system are also discussed. The teachers' perspectives provide a rationale for why EE in the OEC context is not enhancing EE within the school context. The results of the peripheral membership observations provided perspective on the OEC staffs' reflections of EE in the OEC context. Observations of the OEC staffs' practice aligned with the OEC staffs' perceptions of their ecological knowledge. Observations of the setting revealed a rich context for learning about the natural environment.

### **OEC Staff Results**

Six themes emerged from the OEC staff interview. First, EE was identified by the OEC staff as a fundamental objective of the OEC experience. Secondly, the OEC staff provide a focused concept of EE within the OEC context. Third, the OEC staff discuss how EE is lacking in the school system and they feel a responsibility to fill this void. Fourth, the OEC staff identified three barriers to implementing quality EE in the OEC context. Themes five and six

describe, from the OEC staffs' perspective, what EE content is being taught and how it is being taught at the OEC. The narrative below presents these themes as much through the voice of the OEC staff as possible.

**Theme one: EE as a fundamental objective for the OEC experiences.**

It is apparent that the OEC attempts to make EE a fundamental objective for the OEC experience. This desire is portrayed both in the OEC staffs' comments about their own teaching objectives and in their perception of support for EE from the OEC management. As one respondent suggests about her management staff,

They always encourage us ... to add those few extra things in. You know, if we know any plants, add them to the hike. If we want to go to the wetland and talk about wetlands on the kayak and things like that. [R3]

When asked specifically about EE's inclusion into the OEC experience, one responded that "it starts as soon as they get off the bus" and is the result of being exposed to "the setting we're in and then all the frameworks and everything that we do in our presentations" [R4].

Another respondent followed up those comments describing where the staff try to integrate EE into the OEC experience:

We usually start with a community greeting. We talk about respecting the environment. We go on to having our meals which talks about where our food comes from and not wasting food. And then we have specific environmental education programs but we've got all the sort of recreational ones where we try to fit [EE] in something, you know. So whether it's a boating lesson and you go to the wetland and you learn about it... [R3]

**Theme two: A focused description of EE.**

The OEC staff describe a basic understanding of nature as a goal of EE. One respondent uses the term ecological literacy rather than EE and describes ecological literacy as being aware of the basic concepts of nature and how everything's working ... and how all the systems are working so that you can actually understand ... if you are damaging something, how it's being damaged and ... how to change something if you want to change it. [R3]

The idea of action was also prevalent in the staffs' discussions of EE. One respondent distinguished between being environmentally educated and being environmentally conscious, suggesting that "someone could be well educated, whether it be structured schooling or whatever, and still not ... practice those ... methods" [R4]. Therefore, another goal of EE is for students to want to act based on their understanding of how nature works. For such behavioural change to happen EE should be relevant to students, as described through R5's memories of EE:

...what I remember the most about environmental education that I was taught was like stuff that I learned in school because it related to my every day life, I guess. And once I understood why you shouldn't do things, I was a lot more likely to change my behaviour because it wasn't just like, oh, turn off the lights, oh, recycle that.

These ideas of understanding nature from a systems perspective and of promoting action and relevance to the student permeated the discussion of the OEC experience. The OEC staff demonstrate a perceived distinction between EE programming and other programming found at the OEC. They discuss adding EE into more recreationally based programs such as canoeing. In



this sense, a canoeing program in which students do not learn about the ecology of the setting, or in which value of the setting is not explicitly expressed, is not considered EE. They also gave a basis from which to compare their perceptions of EE as it is delivered by the school system.

**Theme three: EE is lacking in the school system.**

Frustration is expressed when the OEC staff talk about EE within the education system because EE is not “working as well as it could be working” [R3]. Some of this frustration has to do with the broader concept of environmentalism and some is more specific to the EE system. There is a perception that “environmentalism in general has been pretty diluted in the last decade” and that environmentalism can be seen “more as a profit motive than actually [a] protective or stewardship motive.... Everyone’s making money off different plastic bags or compostable garbage bags.” Students see “all this consumerism around it [rather] than the actual facts” [R4].

The OEC staff are also concerned with the amount of EE and the quality of EE that is in the school curriculum. R2 remembers “an ecology section of our Science class but, that was probably the smallest unit of the six ... we actually did get to go out on a trip to ... go pretty much dip netting in Grade 9 which was amazing.” However, he is now concerned that EE has been “bumped into a smaller section now, from what I’ve heard, in Grade 10” and that it is “getting bumped around and squished so much that you don’t actually get the appreciation for it in that class.” R3 shares a similar concern about the elementary curriculum: “we used to have an environmental studies class and ... now, it’s sort of lumped into Social Studies and Geography and then brushed over with ... a Social Studies brush and it doesn’t even get touched on a lot.”

The OEC staff suggest that students seem to be aware of large scale issues, but are not aware of their local environment. As R5 explains, “nobody encourages ... the other things that they learn here, like ... going out and learning about the plants and animals and the area.” Instead, EE is “focused on sustainability and ... resources but on a very large scale.” The staff is concerned that large scale issues do not foster action. As R5 describes, “they’re like, ‘Okay, we’re running out of oil, what do I do about that?’ or like, ‘Oh, tar sands, ... okay, I know what those are. ... Oh, well this is a big world issue and I know it exists.’” R3 suggests that EE is not in the curriculum as much as it should be, and is not represented in the curriculum as it should be:

The teachers are like ‘Oh, this is so amazing. They’re learning so much,’ and then they go back to school and, sometimes the teachers will add it into English or other things, but, I think it needs to be a specific class in order for kids to get the proper appreciation that we’re sort of aiming for.

These concerns brought forth by the OEC staff help explain why the OEC staff want to include EE into the OEC experience. They feel that they have the opportunity to expose students to a type of EE that they would otherwise not be exposed to. However, the implementation of this EE, even within the confines of the OEC, is met with some barriers.

#### **Theme four: Barriers to EE within the OEC.**

While the OEC staff believe they have an understanding of what EE is and have a desire to implement EE into the OEC program there are certain barriers that limit their ability to deliver EE with the quality they envision. These barriers, identified by the OEC staff, are externally

imposed by teachers and internally imposed by the OEC staffs' knowledge base and limited ability for training. A somewhat surprising, but also logical third barrier to EE learning, was the setting.

***External barriers.***

This school group visited the OEC for four days. During these four days the students were engaged in programming that was determined by the teachers in consultation with a program director at the OEC. From the OEC staffs' experiences, teachers generally are not as interested in EE programs as other programs offered. As R1 notes,

... we have the ability to reach people with environmental education but its not necessarily the priority right now because that's not what is being sought all the time. Especially in the spring season. ... in the spring, it's trips for fun, just to kind of celebrate being done Grade 8.

Wanakita offers a specific EE program called *Sunship Earth* for grade six students; however, as R3 laments,

... it's dying because a lot of teachers in my experience, and a lot of schools – from what I've heard from other people that have run the program in the past and other similar environmental programs – they just want to come up and have fun with their kids. And they understand that the kids are learning and there's all kinds of stuff that they're learning but in terms of environmental education and learning about ecology, it doesn't seem to be as important as it could be.

From the OEC staffs' perspective, teachers seem to frequently request programs that focus on team building and building social skills. R2 suggests that "groups get loaded with ... high ropes elements that in the long run, yeah, they're kind of fun to go up but it takes maybe two minutes to get to the top, then you're done." R3 observes that some teachers see benefit to high ropes, but "don't want any environmental education. They're like, 'I don't really know what the kids would be like on a beaver dam hike or a wetland study.'" She suggests that it is, in part, the OEC's responsibility to be more active in "getting into the schools and selling environmental education to teachers, and saying, 'Your kids will like this, and they'll gain a lot from it and it's really beneficial.'"

Such programming requested by teachers can inadvertently limit the amount of EE delivered by the OEC staff. There is only so much time during the OEC experience and the OEC staff feel that sometimes the programming requests from the teachers take away from their abilities to deliver EE properly. The concern of an overloaded curriculum experienced by teachers in the school system is also apparent in the OEC programs: "we already have a lot of program areas at camp so ... it would definitely mean not doing some of the other ones if you want to do more environmental programs" [R1]. It seems as though all the programs at the OEC hold value for the OEC staff, because when asked which programs they would remove they stated, "I don't know" [R1] and "I think that – yeah, that's the catch 22" [R4].

Despite the lack of time, the OEC staff "always have the intention to add environmental aspect to our programs" [R3]. However, they are concerned that there is no follow up of EE when students return to the classroom, thus limiting the effectiveness of the EE messages. There

is an agreement that EE is “something that needs to be encouraged at home too, not just when they’re here” because “while they’re here they might remember ..., but they might not necessarily keep remembering” [R5]. R3 suggests that it is up to teachers to continue EE in the classrooms because when students “get on the bus to go home they go back to their normal lives, they don’t really get a chance to process it a lot, unless they’re asked to think about it or remember it” [R3]. R3 also puts the onus on the OEC to support teachers continuing students EE in the classroom by creating simple work sheets or activities that teachers can take home and use in the classroom. Such activities can perhaps “plant the seed in the teacher’s head, [to] make sure you follow this stuff up at school and keep talking about it” [R3].

### ***Internal barriers.***

While the OEC staff recognize barriers to EE presented by education system, they also recognize their own limits in delivering EE. R3 suggests that EE throughout the OEC experience is not “as visibly apparent as it could be” despite encouragement from management for its inclusion. She continues, “we need to think about it a little more.” One of the difficulties is the OEC staffs’ range of comfort levels teaching EE. R3 suggests that she has “been doing this for a while” and feels “very comfortable” whereas some staff who perceive themselves as less knowledgeable may be “scared to teach environmental education programs, whether its ecology or fire building or some sort of survival skill because they’re not necessarily used to it.” R5 readily expresses her apprehension teaching EE within the OEC context: “I personally don’t feel like I have a lot of knowledge in ... stuff like plant identification, especially because I don’t live here. ... I come here for two months and I can’t just learn all the plants.” Instead she focuses on

knowledge she is more comfortable with: “Like I’ll point something out if I do know what it is or if I see something interesting. But then I try and focus more on the things I do know more about, like sustainability.” R2 also describes how his knowledge base causes him to focus on some things but exclude others: “I might not be completely comfortable with pointing out a bunch of different trees but I am comfortable with ... most of the insects.... So instead of focussing on more of the surrounding environment, focussing in on the one thing.” The consensus is that OEC staff “have strengths in different areas, and go on their strengths to give, whether it be the same message, or a similar message” [R4]. However, to what extent are these messages similar? Also, how do these potential differences in messages within the same program, such as a hike to the beaver dam, affect the continuation of EE back in the classroom? These questions will be expanded on later in this section and further explored in the discussion section.

There seems to be a disconnect with the OECs desire to integrate EE into its programs (such as canoeing) and the training received by the OEC staff. An expectation exists that the OEC staff is taught “the basic essentials” of the beaver dam hike for example, “but then everybody adds their own little twist to it” [R3]. This expectation does not seem to work for everyone. R5 suggests there should be “specific things integrated into our lesson plans that people who maybe don’t have a vast knowledge ... would learn ... and know that they should deliver.” She does not suggest getting rid of the individual’s little twists, but would just like to “have things that are integrated so that everybody does have something they could fill in.”

Since it is unrealistic to discard programs like “canoeing because it doesn’t have anything to do with environmental education” and there are ways “you can always fit it [EE] in” to such

programs, some of the training may be better focused on “not necessarily what programming we have but on how the instructors deliver it” [R3]. In some cases the OEC staff use what R4 refers to as a “trial and error” approach in which he experiments with different ways of giving lessons for different groups. While the OEC staff may learn how to deliver EE more effectively through this approach, he suggests that students in one group “might not get very much out of that beaver dam lesson [compared to] ... the other group.” He suggests using experienced EE teachers during training so staff can broaden their repertoire of EE methods.

*A distracting setting.*

In general, the setting of the OEC is viewed as “a very easy place to be and to explore, and that ... opens up a lot of opportunities for education” [R1]. Surprisingly, however, the OEC setting proved to be a distraction in some instances. The staff experienced difficulties keeping students engaged in EE programs because of outdoor factors such as hot days and insects: “I remember hiking to the beaver dam. Within five minutes of getting on the trail, I had two or three people complaining, wanting to go back because of bugs” [R2] and “I found that when we’re at the climbing wall, it wasn’t bugs, but it was heat and there was the sun and it was really hot” [R5]. Word of mosquitoes spread within the student body making it more difficult to manage this problem:

[Students] went in with this expectation and they really latched on to the bugs more than they latched on to the hike for a lot of the time – until we actually stopped and did some dip netting and stuff. But yeah, it can be so much of a distraction that they can’t take in what they’re supposed to be learning – or what we would like them to be learning. [R1]

Despite these barriers, the OEC staff suggest EE occurs during the OEC experience. The next two sections look at the OEC staffs' perceptions of the EE they are able to provide students.

**Theme five: EE in the OEC context – a starting point.**

The OEC staff view the OEC experience as an introductory course into the natural environment and environmental issues. For example, they describe the OEC experience as a starting point for instigating behavioural change, saying that “as long as we build that solid foundation here of respecting nature, or doing all the small things, that that would click for something else later on” [R4]. R2 also describes EE in the context of the OEC as a starting point that will lead to later change:

It's like planting the seed of ... appreciation, or learning about the responsibility, maybe, that you can't affect the whole oil running out type thing, or the big world issues, but you can have your own effect in own your community, be it at home, at school or wherever, that will actually, in the long run, help out.

That foundation or seed is a very general awareness of, and value for, the natural environment, and of environmental issues on which students can have a direct impact. Awareness and value of the natural environment is delivered through experiencing the natural setting of the OEC. There is a perception that many students do not get the opportunity to experience such a natural setting and that “when they come up here, compared to what they're used to, this is pristine.” It is “amazing, to come up here and there are trees and birds and flowers and frogs” [R3]. The OEC staff want students to “acknowledge that this is a really



special place, being, I guess, ‘in nature’” [R4] and to understand what is at stake if environmental issues are not addressed:

We often get a lot of students who haven’t experienced anything like this before – an idea of why they should do some of the things we promote. Because, you know, [if] they’ve never seen a lake before, they don’t really care for water pollution or [if] they haven’t seen a forest, they don’t really care about how much paper they’re using. [R1]

An appreciation of the natural environment is emphasized in the OEC context: “once you actually start to learn what tree is which, you’re kind of a little bit more appreciative of the diversity” [R2].

Also emphasized at the OEC is a basic awareness of environmental issues on which students can have an impact. It is important for the issues they present to be “put into context for [students]” [R1]. Meal times were especially valuable for introducing concepts like compost, food waste and general EE related food awareness. The staff describe how the students are given three buckets to separate food waste, liquid waste and compostables, then how each bucket is measured so the students see how many pounds of each they created. Doing this gets students “minds going a little bit. ‘Well, I’m not really sure what [compost] is’, or ‘What [is] the detrimental impact of producing more waste’ or ‘Getting more food than I need’. But, we usually talk that through” [R4]. This particular school group canoed to an area and had the opportunity to cook their own lunch. This experience allowed the staff to build in messages of Leave No Trace camping. They described being able to discuss how students’ desires such as having a large fire may effect others by “taking that piece of wood away from someone else, or

something else” [R4]. According to the OEC staff, awareness of the natural environment and of environmental issues stimulates students to “want to learn more” [R3].

The OEC staff hope that the seeds they sow in students will grow when the students are back in their home community and that students will “start spreading awareness themselves, which kids do a lot of the time” [R3]. They also hope that such an awareness, through the students’ experiences, will have a lasting impact on students, even if that impact is not immediate: “I think there’re so many things that they take in when they are here that they don’t know, they don’t understand, or they don’t appreciate until later” [R3]. As R2 suggests,

it could be some kid who’s never really got to experience or walk to a beaver dam or hiking and they learn that they love that activity or type of thing and that message is kind of put forwards in maybe what they decide to do as a career down the line.

R4 hopes that his canoeing lessons may get students interested in canoeing and, in time, one of them may become “a steward for not damming rivers.”

### **Theme six: EE pedagogy.**

It is important to the OEC staff for students to interact with the natural environment. The idea of exploring, finding and seeing interesting aspects of nature permeates the OEC experience. In specific programs, such as the Beaver Dam Hike, the students have the opportunity to explore using “dip nets to pull out different insects and bugs from the swamps or marshes” [R2]. R2 has observed students getting “really excited about what they found and then ... really want[ing] to learn about what that is.” When walking from one area of the OEC to another R3 encourages students to find her “something interesting, or stop[s] the group when

they see something cool.” R1 is also keen to “just find things and then look at them as a group.”

The captivating power of the natural environment to engage students is shown through R2’s experiences with his group:

... the majority of the group just completely forgot about the bugs and were completely distracted by the tadpoles and were so amazed by how many tadpoles were in that small area, and it was the same with the salamanders that we found on the way back.

In this way, the OEC staff view EE in the OEC context as being “a little bit more tangible”, where students can “see the environment and they can learn a little bit more” [R3]. These experiences are in contrast to the urban context in which there is no connection between the action of “putting stuff in the garbage, throwing an empty water bottle out and not [using] a reusable water bottle” [R4] and the effect that action has on the environment. At the OEC, the staff are “careful with the frogs and salamanders and minnows and the tadpoles ... so [students] can actually see those things as opposed to [educators] just saying, ‘Your paper is going to that recycling plant that you’ve never seen before’.” This interaction is one part of the awareness, discussed above, that the OEC staff hope to develop in students.

The second part of this awareness is the student engagement fostered directly by the OEC staff with these experiences. The OEC staff use a couple of techniques to keep students engaged in the natural environment. They use hooks to stimulate curiosity, they question students, and they alter their methods so that there is an emphasis on fun. A certain amount of flexibility with program is reported to make these programs more successful. Primary to the OEC experience is that students are having fun. The OEC staff find that some groups respond better than other

groups to particular programs and that sometimes they need to alter their programs to balance the engagement of the group with the learning outcomes desired. R3 describes running programs where she knows students are “not going to sit through a nocturnal speech about ‘these are all the animals that are in the forest’, but instead they just want to go and look for tracks” and suggests that “sometimes you have to alter your programs” to make sure students “are actually enjoying it.”

Sometimes the OEC staff will use simple facts to engage students. On hikes, R2 will try to “throw out different fun facts at them” with the intent of getting the students “engaged and excited to see what they’re going to see.” When students find something interesting through their explorations, the staff will also “go and find out a little bit more” for the students because “that keeps their curiosity about it ... just letting your kids know that you’re excited that they’re excited, ... that helps them a lot” [R3]. The OEC staff hope that “when they find one thing out” students will “want to find more about that one thing” [R4]. In this sense, basic knowledge hooks students onto the pursuit for more knowledge. Part of this hook is providing some knowledge, but also leaving the students with questions. There is no expectation that the OEC staff know everything about the ecosystems at the OEC. R3 recommends exploring the OEC setting with the students “and, if you find something and you don’t know what it is, talk about it, and ask the kids questions about it. ... just make it more open ended than ... spitting out facts. ... that’s more valuable to the kids.” The OEC staff contend that “you don’t need a lot of specific knowledge. ... you can just find things and then look at them as a group” [R1]. There seems to be a conflict here with the OEC staffs’ perception that specific knowledge is not

necessary and the value of knowledge to draw in students curiosity. This conflict raises the question of what knowledge should an OEC staff have to most effectively deliver EE in the OEC context. This question will be looked at in more depth later.

### **Teacher Results**

Where the OEC staff spontaneously provided comments related to EE, the teachers' comments were prompted by EE specific questions. Two themes that related to EE emerged from the analysis of the teacher focus group interview. First, teachers described EE more broadly than the OEC staff. Secondly, the teachers suggest that EE is failing to be implemented and therefore integration of EE between the OEC context and school context is not occurring. The narrative below presents these themes as much through the voice of the teachers as possible, with the speaker identified in brackets when otherwise unidentifiable.

#### **Broad definition of EE.**

When specifically asked about EE, the teachers were able to describe a specific concept of EE and point out examples of EE they were observing throughout the OEC experience. T3 suggests that EE is about generating a “greater awareness of where they’re at in this world” and developing an appreciation of how the “decisions that not only they make but what we make as a community, and ... as a province and a country” impact their future. Technology such as cell phones is presented as a distraction from the awareness they want to generate because “they spend more time holding the iPod than they do the turtle, the frog or anything else” [T5]. Modelling responsible behaviours is important to T1 because “they have to see that you have that respect. They have to see you modelling that.” From the teachers' perspectives, students do not

appreciate the environment. Teachers see students “throwing stuff on the ground – it’s second nature. They don’t even think twice that that’s wrong. They don’t think that they’re polluting. They don’t care that they’re polluting” [T3]. The teachers hope to give students an appreciation for these issues and the OEC experience “is kinda where it starts” [R2].

When asked, teachers point out specific instances of EE that students receive at the OEC. They observe students learning “a healthy respect for their environment” [T1]. T4 suggests that students think garbage looks natural in the city “But when you see garbage out here, it doesn’t.” Teachers see students also learning about food waste at meal times. The OEC staff tell students to “take what you need, but eat what you take, and they’re abiding by that” [T1]. Teachers were impressed by students’ answers about the food on their plates showing their understanding that “you have to transport it. Well, that’s sending gases and carbon dioxide into the environment. Well, you know what? Respect the environment and let’s start. Here, you put it into action” [T1]. T3 suggests that “their attention is drawn to those things and forced to think about it. So, you hope there’s this transfer back when you get back. ‘Oh yeah, I’m not going to throw that on the ground.’” T1 sees students’ respect for the environment while watching them interact with the fauna:

I’m watching girls taking a look at frogs and it’s kind of neat. You know, I’ve never seen this. They were catching them and they were like, “No, be nice to them.” You know, “don’t disturb them. ... You can’t go on over there because that’s their sanctuary and you can’t disturb them so you got to leave them.” You know? They’re getting it.

T2 is excited to see “the one student who can’t put down her cell phone to come over to me not to say, ‘Look at the text I just got!’ But to say, ‘Look at the painted turtle that I have in my hand!’” He also hopes for a transference, when “those moments, when she then went off to show other people what she had found, leads to some kind of interest that she may have. It might be ‘I like animals.’ Or, ‘I’m interested in biology or zoology.’” The teachers seem to appreciate that these experiences are not overly scientific and instead focus on “physical interaction with the setting... It’s practical, it’s tangible, so when we’re talking environmental education, here’s where they get it. And, they understand it here because, as I said, it’s very tactile” [T2].

While the discussion above provides descriptions of EE in a similar vein as the OEC staff, the teachers also include aspects described as EE which the OEC staff did not, thus broadening the definition of EE. These additional aspects seem to be incongruent with the scope of the definition provided in the literature review. For example, when T3 suggests that “environmental education can be maybe a little bit better promoted in the city and to boards and the schools”, he is recommending rock climbing as an appropriate field trip, rather than learning about the escarpment ecosystem. When discussing EE, T4 refers to an alternative school that uses experiences outside, such as hiking, to provide opportunities for students who are struggling with literacy and numeracy. She suggests that these experiences are used “to get them to be better people” and because this program is outside, “it’s very environmentally based.” T3 uses Project DARE<sup>1</sup> as an example of programming that should be available to all students and that “a

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<sup>1</sup> Project DARE is a juvenile detention facility that uses adventure therapy in the rehabilitation process.

goal for an environmental education person, that would be to plan for that. Try and get that to work. ... work with our Boards so that it's more accessible." These two examples refer to beneficial aspects of being outside, but are not specific to EE as earlier defined. T1 describes how "environmental education or just any sort of outdoor education... [is] so much different these days". With both parents working until late, children are forced to stay inside for safety reasons. "Well what are they going to do in the house? They're not learning about the outside world. They're texting, playing "Call of Duty", you know, whatever. It's different. It's a much different environment." Here, the word environment is non-specific, simply referring to 'the outside world'. The implications of the broad definition of EE provided by the teachers and the lack of specificity regarding the term 'environment' will be discussed later.

### **Difficulties integrating the OEC experience into the school system.**

The teachers seem unsure if EE is in the curriculum and, if it is, where one would find it. To the agreement of most of the teachers T4 suggests "well, I mean I taught Science years ago and it wasn't in, but I mean there's tons of changes in Science and I wouldn't be surprised if some of it would show in there." T5 suggests that the newer ATST framework is "not even in the curriculum." The teachers complain of already being overloaded with continually changing frameworks within the education system: "Every year, it's something new that we have to adapt, change, do things differently, teach things differently, look at it from a different point of view" [T1]. This overload means that "the only way you're going to have everybody on board, and to have that change, is if its written in a curriculum" [T1]. The teachers justified their trip to the OEC through two mandates. First, the OEC experience "fully fits with the outdoor education



part of the curriculum” and second, “since the [school board] is now focusing on character education this fits so perfectly with character education. ... This is about the best avenue.”

Perhaps EE’s absence from the curriculum makes it difficult for teachers to justify a trip to the OEC for EE.

These teachers suggest that EE is in their programs and in their school. For example, they tell students not to throw things on the ground, but, admittedly, the students don’t listen. They have “a recycling crew that goes around every nutrition break and cleans up.” These are examples of teachers trying to “do as much as we humanly possibly can within our own subject area” [T1]. They also suggest that the school is trying to become more environmentally friendly: “they’re trying to improve the school building ... I mean new windows to help things, you know, cut down the costs” [T4].

With this OEC experience behind them, the teachers are considering possibilities of integrating the OEC experience into the school environment. T2 suggests developing a program for art that uses the OEC context. He has seen this before where students “did a ‘look-see-paint’ kind of thing where every kid has a paint kit and were directed to go out and find something, ... and when you see something you like, try and paint that.”

However, for the OEC experience to be further embraced by the school system it needs to be promoted more effectively to teachers and the school boards. These teachers can see the value of this experience “because we’re up here. Well, 99% of staff members don’t come up here. They don’t see this.” This movement is “going to go from the bottom up, right. I think it’s

the teachers that will make it happen. Unfortunately, the reality seems to be that if EE and the OEC experience is not tied to curriculum then “it won’t move anywhere” [T1]. As T3 states,

... without a clear direction as a teacher, you’re leaving too much in the air. Some are going to chose this, some are going to chose that and then it’s not going to be done effectively. You’re held accountable for certain curriculum expectations to be met. So unless you say, okay, and we want you to do this too, and somehow build it in so its doable, it’s going to be hit and miss.

### **Observations of the OEC Experience**

The observations of the OEC experience included observation of both the staff delivering the OEC program and the OEC setting to which students are exposed. Some challenges were faced observing the staff during the OEC experience. For example, there were only two and a half days in which to observe as much of the OEC programs as possible and to conduct two two-hour interviews for the OEC staff and the teachers. Also, the programs were spread around OEC grounds and moved around the site according to the discretion of the OEC staff delivering the program. During a canoe trip and lunch cook out, one of the OEC staff fell ill and was replaced by a staff who was not involved in the research group, thus eliminating the possibility for observation of that program. Despite these limitations, observation data was helpful in bringing perspective to some of the perceptions brought forth by the OEC staff and of the overall OEC experience.

**Observations of the OEC staff.**

Observation of the OEC staff was important because it provided the ability to match their perceptions of their practice to their actual practice of EE. In some cases, their perceptions were in line with observations of their practice. However, there were some instances where their perceptions were perhaps over-inflated versions of their practice. In the interview, the OEC staff emphasized the importance of taking opportunities to explore nature. In practice, keeping to the OEC program schedule overrode the staffs' desire to capitalize on nature explorations. For example, students in separate groups came across a toad and a baby painted turtle during transition times between scheduled programs. In both these instances the OEC staff members did not recognize the opportunity to experientially learn about these organisms and, instead, hurried their group to the next rotation. An example of how that exchange may have happened differently was displayed by another staff member. This staff member and her group also came across a baby painted turtle during such a transition. However, instead of hurrying the group to their next program, this staff member took time to have the students hold the turtle while she asked them questions, generating interest and stimulating students' questions. Care was taken when holding the turtle to make sure, for example, that it was held close to the ground. As well, students had previously discussed the risks that interactions such as this pose to the Wanakita wildlife, such as oils from sunscreen and bug spray being absorbed by amphibians.

These two divergent emphases indicate the range of comfort levels the OEC staff have in delivering EE. Observations of the staff during an EE-specific program called *wetland ecology and beaver dam hike* also teased out this comfort level range. For the most part, the OEC staff

provided a consistent program focused on basic beaver facts. They all provided the same information by prompting students to consider the difference between beaver dams and beaver lodges, but most staff did not venture past this subject. Students were also given the opportunity to explore the wetland. While for most students these explorations were engaging, in many cases, they were not supported by interesting facts from the OEC staff. The potential educational value of these experiences is perhaps limited by this lack support.

Further exemplifying the range of knowledge observed was the reliance on one OEC staff member to deliver specific EE content. She was asked by another OEC member to assist on the beaver dam hike because she was more comfortable delivering such a program. She came across as knowledgeable during the beaver dam hike and was able to engage more actively with the students on a variety of discoveries. For example, she found a Sundew plant (see [Appendix 1](#)) and was able to discuss this plant with students. Her comfort in engaging students in EE related content was also noted when she explained the survival game. This is a fairly complex game that provides the opportunity for students to role play animals engaged in an ecosystem. During the introduction to this game she discussed topics such as distinctions between herbivores, omnivores and carnivores and their relative biomass, and energy transfer through the food pyramid. She was able to deliver this information by drawing answers from students. The discussion section will consider the advantages and disadvantages of a dedicated EE staff member.

**Observations of the Site.**

Observations of the site revealed two conclusions. First, the site provided evidence of the OEC's desire to bring awareness to the natural setting and to environmental issues. A range of displays are available to students in the form of poster boards and tactile displays that increase students' awareness of ecology, astronomy, environmental issues, including activities students can do at home (see [Appendix 5](#)). Unfortunately, most of the displays were in areas which were not visited by the OEC staff with this group. One exception, the Wetland Interpretive Centre (see [Appendix 6](#)), was visited by one of the groups during the beaver dam hike. The main reason for using this facility was because many of the hikes to the beaver dam were cut short due to the distractions presented by the bugs, and the Wetland Interpretive Centre would be less buggy but still have access to similar opportunities for learning.

The second conclusion revealed the possible avenues for exploration of the natural environment that are easily accessible to students. The staff describe the OEC as an amazing place with birds, frogs, salamanders and other interesting organisms that present valuable learning opportunities. There was significant learning potential within a five minute walk from the centre of the OEC. Readily visible are a variety of species of amphibians, unique insectivorous plants such, as the previously mentioned Sundew, a wide array of insects, snails, different bird and reptile species, and stars. Arguably, species diversity can be found within urban limits; however, the concentrated richness of the OEC's multiple ecosystems make them easy to explore.

## Summary

The OEC staff show a keen interest in providing EE for students attending the OEC. They have a grasp of EE that is in line with the definition provided in the literature review; their definition provides a clear distinction between EE and other experiences that may be included in EE, such as the teachers' inclusion of character education. The OEC staff identify both internal and external factors that limit the quality of EE delivered. Despite these barriers, the staff perceive that they are able to provide EE in the OEC context and suggest that such EE is a starting point for building both an awareness and appreciation of nature, and an awareness of, and desire to act on simple environmental issues. This EE is delivered using an experiential pedagogy in which the OEC staff facilitate student learning by asking questions and attempting to stimulate their curiosity. The OEC staff hope that the messages learned in the OEC context will cross over into the students' home context.

The teachers provide a description of EE that is not as specific as the OEC staffs' description. While the teachers highlight some of the same elements of EE as the OEC staff, such as awareness of the natural setting and environmental issues, they also expand the definition by integrating concepts such as outdoor education and using experiences in nature for interpersonal growth. The teachers also discuss the challenges facing EE in the OEC experience and in the context of the school system. The next chapter will discuss the implications of these results within the context of the OEC and the school system.

## **Chapter 5: Discussion & Recommendations**

### **Introduction**

Based on the findings in chapter four, OEC experiences may not be living up to their potential in the broader educational context. This discussion draws attention to issues that are limiting this potential. First, the interpretation of ‘local’ context as it is found in the ATST framework is looked at. Second, strengths and weaknesses of the OEC program are then discussed with the purpose of drawing attention to the potential abilities (and limitations) of OEC experiences. Next, issues of integrating the OEC experience into the wider school experience to enhance EE learning are raised from a school perspective. Finally, considerations for improving the delivery of EE in the OEC context are made. As a case study with an interpretive and critical design, the purpose of this study is to provide a picture to which readers can compare their own practices. Prompted by some of the critique presented below, readers are encouraged to examine their knowledge of EE and of experiential education in an outdoor setting. Such an examination will better serve the delivery of an OEC experience integrated with the school experience and thus assist in the infusion of EE into the curriculum.

### **Reading Into the ATST: Implications of a ‘Local’ Emphasis**

The ATST states that “environmental education must be implemented locally so that it is meaningful and relevant to our diverse communities” (OME, 2009, p. 25). The concept of ‘local’ is a recurring theme in the ATST framework and its emphasis may serve to limit important elements of EE. Goals and actions that are laid out in the ATST direct the OME, the school board and individual schools in implementing the framework and it is here where an emphasis on

local can be seen. For example, the OME is to “share tools for planning environmental education activities, including outdoor experiences, in local places” (OME, 2009, p. 19); the school boards are to “share information about local resources that support environmental awareness ... protection of the biosphere, and outdoor education” (OME, 2009, p.17); schools will “enrich and complement students’ classroom learning by organizing out-of-classroom experiences and activities (such as the naturalization of the school yard), as appropriate” (OME, 2009, p.17). This emphasis on local contexts can be seen to limit the OME’s ability to provide students with the perspectives needed for an environmentally conscious global citizenry. Numerous statements in the ATST refer to the provision of perspective, for example, “more than ever, it is vitally important that our education system not only prepare students academically but also provide them with the skills, perspectives, and practices they will need to meet the social and environmental challenges of the future” (OME, 2009, p. 6).

Using the OEC experience to compare and contrast systems found in a more rural context with systems found in the urban context may be of great benefit in broadening student’s cognitive perspectives of human and natural systems, and these systems interconnections. As stated in the ATST, “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: the Earth’s physical and biological systems” (OME, 2009, p. 4). Arguably, some perspectives are best built through active experiences outside of the local context. For example, if an urban school sets up a local experience to provide learning about water purification, the experience will most likely be



delivered through a visit to a water treatment plant. Very different learning is provided if the same urban school were to experience a wetland ecosystem outside of the local city setting.

As Pyle (2003) suggests, our urban students are facing an extinction of experience because of declines in bio-diversity evident within city limits. He links this extinction of experience to apathy towards valuing the natural environment. It follows that situating learning only in urban local contexts may be insufficient to provide students with broader values based perspectives that can encourage students to act for the environment. Both the OEC staff and the teachers suggest that through experiences in the OEC setting they see students display respect for the natural environment. These observations are supported by Bogner's (1998) study in which a five day residential outdoor environmental education program was linked to an increase in students' environmentally responsible behaviour. The teachers also suggest that a residential experience is more effective than a day trip. T3 comments about the choice between a residential experience and a day trip: "I don't think it would be as powerful as a four day trip because we slowly break down the city and bring out the north or the country as we go through this program." Perhaps the OEC experience can serve as a cultural broker between urban and rural ideologies and allow the student to form a broader base of perspectives regarding interactions with the environment.

### **Strengths and Weaknesses of the OEC Program**

In order for the OEC experience to be used effectively, its strengths and weaknesses must be identified. The following discusses the weaknesses and strengths of the Wanakita OEC's ability to deliver EE. Consideration such as the extent of staffs' cognitive and affective

knowledge, staff training and teaching methods are raised. By understanding these variables, teachers and OECs will be in a better position to develop experiences that optimize the OEC context, but are realistic in terms of its limitations.

### **Weaknesses.**

While some of the OEC staff were more knowledgeable than others, as a whole, the OEC staff exhibited some shortcomings concerning ecological knowledge. An explanation for this deficiency could be inferred from the results of studies showing significant inadequacies in elementary (Puk & Makin, 2006) and secondary (Puk & Behm, 2003) delivery of ecological education, of which the OEC staff are products. According to Puk and Makin (2006), 88% of the elementary teacher respondents reported spending less than two hours per week on ecological education. Puk and Behm (2003) also indicate that secondary public school teachers in geography and science spend little time on ecological concepts. The OEC seems to be in a difficult position when trying to secure staff with a sufficient degree of ecological knowledge because the OEC cannot rely on post-secondary education either. Only two of the five staff interviewed had a post-secondary background related to the environment (Environmental Studies and Environmental Education). The other staff had a range of post-secondary backgrounds (Political Science, Nursing and Recreation).

Two broader questions are raised here: 1) what is the general ecological knowledge a citizen should possess in order to participate in the democratic process, and 2) by what age should a citizen possess this knowledge? The result of staffs' limited ecological education is that the OEC must address it through training, which, as the OEC staff suggest, proves difficult. One

possible reason behind this difficulty is that the OEC hires staff on seasonal contracts with only a small portion at the beginning of the contract being devoted to training. As expressed by the OEC staff, once groups start to arrive, there is little time for further training. Also, it is possible that the seasonal quality of OEC work is generally associated with a high staff turn-over making it difficult to establish progressive training to address the shortcomings mentioned.

In this study, each OEC staff member was responsible for delivering multiple programs to his or her group of students. Because of the range of comfort with ecological content and because of the OEC staffs' ability to be flexible within the program, the cognitive outcomes delivered through these programs can be different from one staff to another. Inconsistencies of EE content may make it difficult for integration of the OEC experience back in the school context. Assuming that a teacher is expecting certain outcomes from the OEC experience, if those outcomes are not achieved, connection between the OEC experience and the school context is potentially compromised.

### **Strengths.**

As previously mentioned, the OEC staff have identified EE within the OEC context as a starting point to discovery about the natural environment and environmental issues. The staffs' strengths lie in delivering affective learning with an emphasis on the aesthetic and ethical realms through facilitating experiences in the natural environment and focusing on simple, actionable environmental issues. Students are able to experience the sights, sounds and smells of the natural setting, as well as guided tactile experiences with some of the flora and fauna found at Wanakita. Such experiences are important in the development of aesthetic and ethical values

towards nature and potentially serve to combat the concerns raised through Pyle's (2003) extinction of experience theory. Unfortunately, such development is difficult to articulate in a curriculum in which accountability is centred on measurable learning outcomes.

The primary issues that were discussed by the OEC staff were the energy involved in food production and the concept of compost. These were also presented in an experiential manner. Students measure how much food is being sent to landfills and are challenged to reduce this food waste through the statement 'take what you need, but eat what you take'. This activity seems exceptionally relevant considering the recently published statistic that Canadian's throw away 27 billion dollars worth of food each year (Bain, 2012). Such affective experiences can enhance the cognitive focused curriculum found in the classroom setting.

Another strength of the OEC staff is their infectious curiosity. The staff are just as eager to investigate the natural setting and to discover and to share new and exciting things, as their students. The perception of a hierarchy, with teachers situated above students, is reduced and a more co-operative learning takes place. This method of teaching seems to have two benefits. First, the OEC staff model genuine curiosity about the OEC's natural setting, thus validating knowledge about natural settings. They seem to project a message about learning which suggests that it is acceptable not to know things, but it is unacceptable to be comfortable not knowing, and one should always be actively seeking answers to questions. Second, is the possibility of authentic interactions between students. The OEC staff describe encouraging students to find items that interest them, and to share these items with the group. This simple task encourages many of the same attributes, such as communication, social skills, interpersonal relationship

skills and trust, that are promoted through activities like high ropes and initiative tasks. The OEC staff suggest that “some groups get loaded with ... high rope elements,” [R2] which, according to the teachers, are valuable for their character building abilities. However, exploring the natural setting and sharing findings promotes both valuing nature and achieving character building attributes. Often, the purpose of activities like high ropes is to build communication and trust through simulated challenges. Arguably, the authenticity of character building exercises fostered through experiences in the natural setting are more authentic than those fostered through a high ropes element. This is not to say that high ropes and initiative experiences are not valuable or authentic, but rather to question the apparent dogma surrounding such programming as exclusive to character development.

### **Issues Affecting Integration of EE Into the School System**

Both teachers and the school context play a significant role in the integration of OEC experiences into the classroom. The results of this study suggest that the OEC experience was not used as part of an overall EE education. Ambiguity surrounding the definition of EE provided by these teachers, and difficulties connecting the curriculum to the OEC experience are discussed by drawing on previous research which may help explain why these teachers are not incorporating the OEC experience into their classrooms.

#### **Ambiguity of teachers definition.**

The teachers' definition of EE is ambiguous. As mentioned by Gonzalez-Gaudio and Buenfil-Burgos (2009), EE is an ‘empty signifier’ and can be filled according to the specific context surrounding the delivery of EE. In the teachers' case, however, the definition of EE they

present is problematic because its breadth and its lack of specific outcomes fail to show how experiences in the OEC context should be formulated towards achieving meaning. Without these clear objectives, teachers will have difficulty integrating this experience into the classroom as part of a whole educational experience, and achieving the depth of learning possible. The ambiguous definition presented by the teachers could be construed as evidence of an ecological illiteracy cycle described by Puk and Stibbards (2010) in their study of pre-service teachers' understanding of ecological concepts. They suggest that if students are taught by teachers who do not have sufficient understanding of ecological concepts, then those students who become teachers will also have insufficient understanding of ecological concepts, continuing the cycle. Without a sufficient understanding of ecological concepts, it is difficult to use the OEC experience to promote ecological awareness at the cognitive level.

### **Connecting curriculum with the OEC experience.**

The importance of connecting curriculum objectives to the OEC experience is clearly expressed by these teachers. They see EE as either too difficult to identify or simply non-existent. They also state that the OEC experience's ability to link to curriculum objectives must be demonstrated to gain approval for the trip from the school board; the physical education curriculum links to the OEC experience most easily and is therefore used to justify these trips. Such statements explain the OEC staffs' observations that many schools request leadership and character development focused programs more frequently than EE-focused programs. Even if EE curriculum links were easily identifiable, research suggests that teachers would still have difficulty justifying the OEC experience through these links. In the Puk and Makin (2006) study,

Ontario elementary teachers report not being comfortable teaching ecological literacy and 74% of teachers felt they needed further training to feel comfortable teaching ecological literacy outside. The classroom teachers in the current study were not able to connect EE focused curriculum objectives with the OEC experience. If no such curriculum connections are made, it is virtually impossible for the OEC experiences to enhance meaningful learning of EE as a whole.

### **Considerations For Improving EE in the OEC Context**

Teachers and the OEC have an equal responsibility to provide effective EE. The results of this case study suggest that this experience was isolated from the school experience, thus limiting the effectiveness of learning potential. Opportunities for the teachers and the OEC to deliver quality EE are missed when the OEC experience is not orchestrated with purpose, including reflection upon the experiences. This section discusses how teachers and the OEC centre can improve the delivery of EE, which, according to the OME, is supposed to be infused into all aspects of the curriculum, through an integrated OEC experience.

#### **School considerations.**

Addressing all the issues identified earlier which limit EE infusion within the school context is beyond of the scope of this research. However, one such issue relates directly to the delivery of EE within the OEC context. Experiential EE is best used as part of an integrated whole learning experience, including learning in the classroom. There does not seem to be integration of the OEC experience into classroom learning, and lack of comfort in teaching EE and curriculum uncertainty were cited as reasons for the teachers not using the OEC experience

as well as they could. The infusion model is good in principle; as Orr (1996) suggests, “all education is environmental education” (p. 5). However, teachers’ lack of confidence in teaching ecological literacy suggests that the infusion model is insufficient. Puk, with various authors, has made a case for a compulsory, distinct curriculum that sequences ecological literacy in all grade levels (Puk, 2011; Puk & Behm, 2001; Puk & Makin, 2006). Infusion of EE into other curriculum could then be directed by this curriculum. Such a discrete curriculum could also serve to inform the experiences at an OEC and help to integrate these experiences back into the school context. The teachers suggest that an environmental educator should be responsible for planning OEC experiences. However, without discrete courses in EE, whose responsibility is this?

### **OEC considerations.**

One significant barrier to the EE in the OEC context is the staffs’ reported discomfort teaching ecological concepts. There are short term and long term considerations to be made to help solve this dilemma. Many of the OEC staff have risen through Ontario summer camps situated in natural settings. Because the staff have spent many of their summers in these natural settings, one might assume that the staff should have a greater understanding of these settings. However, as suggested by the OEC staff, the residential summer camps seem to have veered away from valuing nature immersion and the traditional camping skills that would build knowledge of natural settings. Many of these residential summer camps are running OECs in the non-summer months; they should therefore be mindful of their role in the development of



knowledgeable OEC staff that are comfortable teaching about the OEC setting. Establishing a culture within summer camps that supports EE can be something these institutions work towards.

A shorter term consideration is how staffing can influence the delivery of EE. As mentioned earlier, a staff member was assigned to a particular group of students and taught each program to that group. Another method is to have staff specialize in one programs and deliver that program to multiple groups. The first method allows for staff to interact more fully with students and potentially develop a more influential relationship with those students during their short stay. The second method limits the ability for relationships to develop between the staff and students, but allows staff to concentrate on the delivery of one program, potentially reducing the ‘jack of all trades, master of none’ phenomena. In this case, the OEC had a particular staff member that was more comfortable than other staff members teaching ecological concepts. She was used to a certain extent as a specialist when she assisted one of the staff with their delivery of the beaver dam hike program, and orchestrated the ecology based survival ‘tag’ game. Identifying staff with particular interests may also allow training to become more focused and give staff more time to develop their areas of interest. This model need not be rigid and the degree to which a specialist is used will be dictated by the specialities of the staff. Interestingly, this suggestion of moving from a generalist to a specialist model is opposite to the expectations of an infusion model such as the model used by the OME (2009).

The infusion model is not without merit, and the OEC can attempt to creatively infuse EE into all of its programs. Such creativity was demonstrated when the OEC staff described trying to incorporate EE themes into programs such as canoeing and kayaking by taking students to

explore marshy areas or by talking to them about wetlands. Perhaps initiative activities which focus on social interaction, team building and fun, can be fused with EE concepts. Puk (2011) describes the use of “ecological macro models” (p. 126) to engage students in meaningful learning of ecological concepts through challenging, team oriented activities. These activities serve the dual function of providing students with a strong analogous image of an ecological concept, as well as sharing the successes and failures of a challenge with a group of peers (see Puk, 2011). Eliminating the idea that initiative activities and high ropes elements are exclusive to character development was encouraged.

### **Integrated considerations.**

The mutual responsibility of teachers and the OEC to provide quality experiential EE necessitates an improved synergy between the two organizations. Teachers need to be able to approach the OEC with specific goals in mind for the OEC experience. The OEC needs to be realistic about its abilities to achieve these goals, but also be creative enough to break the mould of OEC programming. Perhaps OEC programs can provide experiences with human-built systems in the OEC context such as the OEC’s water treatment and septic systems. Authentic experiences with these systems create perspective, especially when compared to the scope of similar systems found within the urban context. Discussions between the OEC and teachers regarding the preparation of students for the OEC experience needs to go beyond logistical information and making sure students bring a hat and good shoes. These discussions should involve the units of study the students will be involved with, how the OEC experience can enhance these units, how these units relate to EE, and what previous exposures to natural settings

have students had. Discussions should also involve how this experience is going to be used back in the school context. OECs should be prepared for these discussions by having assessed their staffs' comfort in delivering ecological education. As suggested by the OEC staff in this study, the OEC could prepare follow-up activities or work sheets to encourage teachers to at least get students to reflect on their experiences. The OEC staff also suggested that they have the opportunity and responsibility to encourage teachers to embrace EE experiences within the OEC context. Teachers need to approach the OEC experience with an open mind and see the OEC as not only a recreational experience, but also, and more importantly, as a valuable experiential learning context that can be used to provide perspective on humans' place in nature.

### **Conclusion**

OECs find themselves in the interesting position of being able to meet teachers' expectations while at the same time integrating EE into all aspects of the experience. At a time when urbanization of society is creating less opportunity to experience and build a connection to the natural world, it seems essential to capitalize on the natural settings of OECs in order to re-establish links between humans and the natural settings that humans rely on. This idea goes back forty-two years to the ideology behind Stapp et al.'s original definition of EE. OECs should attempt to re-frame themselves as Outdoor and Environmental Education Centres, with a core of EE built into their programs. However, this role would put pressure on the OEC to take on the challenge of reducing some of the gaps between EE theory and practice; in doing so, OECs would likely face their own gaps, such as financial issues and staffing. Explorations of the relationship between OECs and schools, grounded in the need for EE, should continue. These

explorations may benefit from various action research approaches (see Stibbards & Puk, 2011, and Tsevreni, 2011) that assess the efficacy of programs ranging from simple unfocused explorations of the natural environment to more structured, but emergent, learning strategies such as the “ecological macro-model” (Puk, 2011, p. 126). Further, the education system needs to reconsider its foundational purpose. An education system that views education in a behaviourist paradigm with the purpose of reproducing current norms will likely see no progress or adoption of an integrated EE model. A system that embraces a constructivist approach and encourages teachers to be learners just as much as their own students, that allows teachers to interpret the curriculum and take it beyond the walls of the classroom, may see EE flourish.

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Routledge for the American Educational Research Association



## Appendices

### Appendix 1. Nature Within the Immediate Vicinity of the OEC Site



Clockwise from top left: one of the wetlands, sundew plant, great blue heron, tadpoles and a garter snake.

## **Appendix 2. Letter of Information and Consent Form – Teachers**

### **Letter of Information – School Teachers.**

To whom it may concern,

My name is Jamie Innes. I am a student enrolled in Royal Roads University's Masters of Environmental Education and Communication. As part of my thesis requirements for this program, I am planning to conduct research on school's use of outdoor education centres (OECs). This study will be supervised by Dr. Tom Puk, from Lakehead University's faculty of education. You are being contacted because of your involvement with your school's visit to YMCA Wanakita's OEC. I am writing to ask if you would be willing to participate in this study.

Purpose:

The study is titled: *Towards the re-conceptualization of outdoor education centre experiences for the delivery of integrated environmental education in Ontario*. The purpose of the study is to assess how OECs are being used by schools. Major goals of the study are to describe how OEC experiences are used to support broader education system goals and to identify ways in which OEC experiences can be used to support the Acting Today, Shaping Tomorrow environmental education framework put forth by the Ministry of Education.

Participant involvement:

The research will be conducted during your stay at YMCA Wanakita's Outdoor Education Centre. The study will involve approximately two hours of your time during your three day stay. You will be asked about your perceptions of the benefits and limitations of the OEC, how the experience affects the classroom environment and how you define environmental education. Your answers to these questions will be audio recorded for purposes of transcription later.

Risks to participant:

There are minimal risks associated with your participation in this study. Your participation will not effect your financial or professional standing. You are under no obligation to participate in this study. If you decide to participate in the study, you have, at any point through the process, the freedom to decline answering any questions you may feel uncomfortable answering or withdraw completely from the study. Withdrawing mid-study will also not affect your professional standing. You will also have the choice to withdraw from the study any information you have provided. After transcription of the information you will be asked to review your statements. At this time you will have the opportunity to remove or modify any statements you had made during the interview. My supervisor and I will be the only people who will have access to the raw data.

Anonymity:

Your anonymity will be preserved to the fullest extent possible. Please understand that the method of interview will be a focus group. This style of interview involves a group discussion with the researcher and four to five other members of your teaching staff. Thus, your anonymity

cannot be preserved throughout the interview process. Avenues that may be used to identify participants will not be included in any reports produced for public arenas. These avenues are participant's names and the name of the school and school board and the name of the OEC. Audio files will be deleted after transcription and transcribed files will be kept in a secure room. Questions and concerns:

If you have any questions or concerns about participating in this study please feel free to contact me at [REDACTED]. You may also contact my supervisor, Dr. Tom Puk at [REDACTED]. If you have any questions or concerns regarding the research ethics please contact Colleen Hoppins in the Royal Roads University Office of Research at [REDACTED].

### **Consent Form.**

The following conditions pertain to my participation in Jamie Innes' research project entitled: *Towards the re-conceptualization of outdoor education centre experiences for the delivery of an integrated environmental education in Ontario*. This project is conducted through Royal Roads University's School of Environment and Sustainability.

- 1) I have read the letter of information and was given the opportunity to ask any questions about my participation in this study.
- 2) I understand that the purpose of this study is to explore the potential use of the OEC for environmental education.
- 3) I understand that I will be required to commit a minimum of two hours during my time at the outdoor centre to a focus group with my peers.
- 4) I understand that this focus group will be audio recorded.
- 5) I understand that I will be given a copy of the transcribed focus group discussion and I have the opportunity to review the transcribed interviews. I may remove any comments I provided or add additional comments; the time I spend doing this will be additional to the previously mentioned two hour commitment.
- 6) I understand that confidentiality will be maintained to the best of the researchers abilities through use of pseudonyms and restricted access to data.
- 7) I understand that I will be sharing information with my peers and will do my utmost to respect their confidentiality and anonymity.
- 8) I understand that I may withdraw from the research project at any point during the process and can, if I so choose, withdraw any or all data I have provided during the research project.

If I have any questions or concerns throughout the project I am free to contact Jamie Innes by phone at [REDACTED]. I may also contact Jamie's research supervisor, Dr. Tom Puk, by phone at [REDACTED]. For queries, comments or concerns about the ethics behind this research I may contact Colleen

Hoppins in the Royal Roads University Office of Research by phone at [REDACTED]  
[REDACTED]

My signature indicates that I have read and understand the letter of information and the consent form and that I agree to participate in this study:

Name of Participant (pleas print clearly): \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Email: \_\_\_\_\_

(your email will be used to provide you a copy of your interview transcript)

### **Appendix 3. Letter of Information and Consent Form – OEC**

#### **Letter of Information – OEC representatives.**

To whom it may concern,

My name is James Innes. I am a student enrolled in Royal Roads University's Masters of Environmental Education and Communication. As part of my thesis requirements for this programs, I am planning to conduct a research study on school's use of outdoor education centres (OEC). This study will be supervised by Dr. Tom Puk, from Lakehead University's faculty of education. You are being contacted because of your involvement with YMCA Wanakita's Outdoor Education Centre. I am writing to ask if you would be willing to participate in this study.

Purpose:

The study is titled: *Towards the re-conceptualization of outdoor education centre experiences for the delivery of integrated environmental education in Ontario*. The purpose of the study is to assess how OECs are being used by schools. Major goals of the study are to describe how OEC experiences are used to support broader education system goals and to identify ways in which the OEC experience can be used to support the Acting Today, Shaping Tomorrow environmental education framework put forth by the Ontario Ministry of Education. This framework guides the integration of environmental education into all aspects of the education systems curriculum.

Participant involvement:

The research will be conducted at YMCA Wanakita's Outdoor Education Centre. The study will involve approximately two hours of your time after your involvement with the school also participating in this study. You will be asked about your perceptions of the experience you delivered to students, how you included environment education into the experience and how you define environmental education. Your answers to these questions will be audio recorded for purposes of transcription.

Risks to participant:

There are minimal risks associated with your participation in this study. Your participation will not effect your financial or professional standing. You are under no obligation to participate in this study. If you decide to participate in the study, you have, at any point through the process, the freedom to decline answering any questions you may feel uncomfortable answering or withdraw completely from the study. Withdrawing mid-study will also not affect your professional standing. You will also have the choice to withdraw from the study any information you have provided. After transcription of the information you will be asked to review your statements. At this time you will have the opportunity to remove or modify any statements you had made during the interview. My supervisor and I will be the only people who will have access to the raw data.

Anonymity:

Your anonymity will be preserved to the fullest extent possible. Please understand that the method of interview will be a focus group. This style of interview involves a group discussion with the researcher and four to five other members of your outdoor centre staff. Thus, your anonymity cannot be preserved throughout the interview process. Avenues that may be used to identify participants will not be included in any reports produced for public arenas. These avenues are participant's names and the name of the school and school board and the name of the OEC. Audio files will be deleted after transcription and transcribed files will be kept in a secure room.

Questions and concerns:

If you have any questions or concerns about participating in this study please feel free to contact me at [REDACTED]. You may also contact my supervisor, Dr. Tom Puk at [REDACTED]. If you have any questions or concerns regarding the research ethics please contact Colleen Hoppins in the Royal Roads University Office of Research at [REDACTED].

### **Consent Form.**

The following conditions pertain to my participation in Jamie Innes' research project entitled: *Towards the re-conceptualization of outdoor education centre experiences for the delivery of an integrated environmental education in Ontario*. This project is conducted through Royal Roads University's School of Environment and Sustainability.

- 1) I have read the letter of information and was given the opportunity to ask any questions about my participation in this study.
- 2) I understand that the purpose of this study is to explore the potential use of the OEC for environmental education.
- 3) I understand that I will be required to commit a minimum of two hours during my time at the outdoor centre to a focus group with my peers.
- 4) I understand that this focus group will be audio recorded.
- 5) I understand that I will be given a copy of the transcribed focus group discussion and I have the opportunity to review the transcribed interviews. I may remove any comments I provided or add additional comments; the time I spend doing this will be additional to the previously mentioned two hour commitment.
- 6) I understand that confidentiality will be maintained to the best of the researchers abilities through use of pseudonyms and restricted access to data.
- 7) I understand that I will be sharing information with my peers and will do my utmost to respect their confidentiality and anonymity.
- 8) I understand that I may withdraw from the research project at any point during the process and can, if I so choose, withdraw any or all data I have provided during the research project.

If I have any questions or concerns throughout the project I am free to contact Jamie Innes by phone at [REDACTED] I may also contact Jamie's research supervisor, Dr. Tom Puk, by phone at [REDACTED] For queries, comments or concerns about the ethics behind this research I may contact Colleen Hoppins in the Royal Roads University Office of Research by phone at [REDACTED]

My signature indicates that I have read and understand the letter of information and the consent form and that I agree to participate in this study:

Name of Participant (pleas print clearly): \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Email: \_\_\_\_\_

(your email will be used to provide you a copy of your interview transcript)



**Appendix 4. Focus Group Question Guides****Focus group question guide for teachers.**

Questions	Probes
1. Describe the events that brought each of you to the OEC.	<ul style="list-style-type: none"> <li>• Logistics?</li> <li>• Co-ordination between teachers?</li> <li>• Permission from stake-holder groups ie. Parents, school, school board?</li> <li>• Developing the program?</li> </ul>
2. What is the purpose of the OEC experience?	<ul style="list-style-type: none"> <li>• What is the primary focus of this trip? (Educational? Recreational?)</li> <li>• What are you hoping the students take away from the OEC experience?</li> <li>• What changes do you wish see in students as a result of this experience? (Awareness? Behaviours? Attitudes? Skills? Knowledge?)</li> <li>• What do you take away from this experience? (Greater understanding of students? Knowledge? Skills? Awareness? Pedagogy contrast to classroom?)</li> <li>• Can you accomplish the same outcomes back at school or through more local centres?</li> </ul>
3. How does the OEC achieve your needs/wants?	<ul style="list-style-type: none"> <li>• How does the OEC experience generate these changes? (Outdoor setting? Residential component? Programs? Staff?)</li> <li>• What makes this a _____ experience? (for broad terms such as educational, fun, social etc.)</li> <li>• How are these messages delivered?</li> </ul>
4. Does the OEC experience relate back to the classroom? If so, how?	<ul style="list-style-type: none"> <li>• What can the OEC provide that the classroom cannot?</li> <li>• What are the ties to curriculum?</li> <li>• Do you use the OEC experience back in the classroom? How?</li> <li>• What sort of pre experience set up do you provide?</li> <li>• What sort of post experience follow through do you provide?</li> <li>• Does curriculum inform your decisions when planning the OEC experience?</li> </ul>
If environmental educational themes do not emerge from the first set of questions, I intend to ask teachers specifically about EE and delivery of EE at the OEC.	

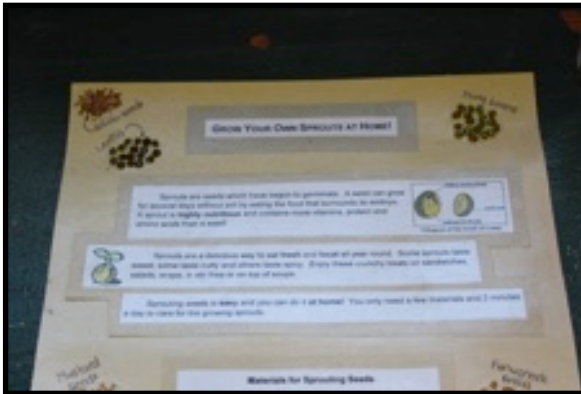
Questions	Probes
2a. What do you think EE means?	<ul style="list-style-type: none"> <li>• What is Environmental Education?</li> <li>• What is important for kids to know about the environment?</li> <li>• What should your students know about the environment?</li> <li>• How familiar are you with the ATST EE framework or the Bondar report?</li> <li>• What do you think of either or both of these reports?</li> <li>• How is EE accomplished in the classroom?</li> </ul>
3a. Does the OEC deliver EE? If so, how?	<ul style="list-style-type: none"> <li>• Is EE a part of the OEC experience? How?</li> <li>• How is EE incorporated into the programs delivered to students?</li> <li>• How does the OEC experience reflect the goals of EE according to the ATST?</li> </ul>

#### Focus group question guide for OEC staff.

Questions	Probes
1. What are you trying to give students through this experience?	<ul style="list-style-type: none"> <li>• Describe the experience that you provided to the students.</li> <li>• What are the key messages you are trying to deliver to students?</li> <li>• What kind of change do you hope to generate in students participating in OEC experiences?</li> <li>• What knowledge are you trying to give students?</li> <li>• What kind of effect are you trying to have on students?</li> </ul>
2. How do you deliver these messages/ knowledge/this effect?	<ul style="list-style-type: none"> <li>• How is the OEC unique from other opportunities the students may receive?</li> <li>• Does the environment help? How?</li> <li>• Does the residential component help? How?</li> <li>• Do the programs that are run here help? How?</li> </ul>
If environmental educational themes do not emerge from the first set of questions, I intend to ask OEC staff specifically about EE and delivery of EE at the OEC.	
2a. What do you think EE means?	<ul style="list-style-type: none"> <li>• What is Environmental Education? (definition?)</li> <li>• What is important for kids to know about the environment?</li> <li>• What should EE be about?</li> </ul>

Questions	Probes
<p>3a. How does the OEC deliver EE?</p>	<ul style="list-style-type: none"> <li>• What aspects of the OEC experience would you consider as EE? Why?</li> <li>• Is EE important to you?</li> <li>• Do you try to include EE in your programming? (describe)</li> <li>• How would you describe the environmental themes that the OEC experience is presenting? (knowledge based, values based?)</li> <li>• Are you comfortable with the programs you are delivering?</li> <li>• What are the program objectives?</li> <li>• Could you use more training in these programs?</li> </ul>

**Appendix 5. Examples of Wanakita's EE Visual Displays**



**Appendix 6. The Wetland Interpretive Centre**

