An Examination of the Constraints to Teaching and Learning Outdoors in Public Elementary and High Schools in Winnipeg, Manitoba

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ABSTRACT

Alternating traditional classroom-based teaching techniques with hands-on learning activities outdoors is beneficial for children of all ages. The purpose of this thesis was to explore whether and how teachers may negotiate the constraints to facilitating hands-on learning opportunities outdoors. A snowball sample was used to identify twelve outdoor educators for semi-structured interviews documenting their characteristics, skills and experiences, perceptions of the constraints to outdoor education and recommendations for building interest in and supporting outdoor education. The findings suggested that participants' childhood experiences outdoors were influential on their decisions to start teaching outdoor education, and that the participants' perceptions of the constraints varied dependent on their experiences, objectives and attitudes. The participants' recommendations were focused on what teachers could do to help themselves and each other to succeed. Altogether, the participants' experiences suggest that passionate and engaged outdoor educators can have a lasting impact on students' relationships with the natural world.

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To my parents I would like to say thank you for setting high expectations and challenging me to meet them – I pursued graduate school because you raised me to believe higher education is essential, and that I could achieve it. Finally, I would like to thank my husband, Geoff, who spent hours listening to my worries, calming my nerves, and reminding me that I would finish someday.

DEDICATION

To my Grandma Liz,

Who inspired her family to achieve more

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CHAPTER I: INTRODUCTION

Background

Following the work of Wilson (1984) and Kellert and Wilson (1995), Richard Louv (2008) coined the term "nature deficit disorder" to describe the profoundly negative effects of children's increasing alienation from the natural world. My personal interest in this issue developed, through reflection on my own experiences playing and learning outdoors as a child and facilitating wilderness activities for children at YMCA-YWCA camps in Alberta and Ontario as a young adult. When I was introduced to Richard Louv's (2008) book *Last Child in the Woods* I was in the final year of a political science and religious studies undergraduate degree and unsure how to proceed. Louv's work inspired me to reconsider how I could integrate my competing interests in policy and the value of personal and societal connections to nature. Eventually this process led me to pursue a master's degree at the Natural Resources Institute and to write this thesis.

Louv, Wilson and Kellert have inspired many others, sparking a movement to reconnect children to the natural world (Charles 2009). The Canadian education system could be a significant partner in this movement. The benefits of increasing student's exposure to natural areas converge with many of the goals of educators: positively impacting attention capacity (Katcher and Wilkins 1993; Taylor, Kuo and Sullivan 2001; Wells 2000), cognitive development (Kellert 2002; Kellert 2005) and environmental knowledge (Pyle 2002). In addition, recent research has documented the positive impacts that time spent outdoors can have on children's mental (Kellert 2005; Thomashow 2002; Wells and Evans 2003) and physical health (Fjortoft 2001; Frumkin and Louv 2007; Grahn et al 1997; Strife and Downey 2009), emotional well-being (Kellert 2002; Kellert

2005) and cognitively important play behaviours (Bell and Dyment 2000; Clements 2004; Malone and Tranter 2003; Taylor et al., 1998; Waller 2007).

At school children may engage with the natural world during informal play periods or non-formal, teacher-led hands-on learning activities. Informal play in naturalized school grounds is of particular value for student learning (Malone and Tranter 2003; Titman 1994). Children that attend schools with naturalized grounds behave more positively in and towards school and each other (Tranter and Malone 2003); participate in more open-ended, non-competitive play, encouraging cooperation, civil behaviour and a sense of belonging (Bell and Dyment 2000; Coffey 2001; Malone and Tranter 2003); engage in more moderate and light physical activity (Bell and Dyment 2000) and; have greater attention capacity and motivation to learn (O'Brien 2009; Taylor, Kuo and Sullivan 2001; Wells 2001) than students that attend schools with grounds designed based on the dominant 'surplus energy model'.

Teachers, counsellors and other staff members may facilitate non-formal, hands-on learning opportunities for students outdoors. Non-formal teaching strategies include, but are not limited to outdoor, environmental, adventure, experiential and place-based education. Students that participate in non-formal hands-on learning outdoors are more motivated and engaged in the learning process (Bell 2001; Dyment 2005; North American Association for Environmental Education 2002; O'Brien 2009; Powers 2004; Raffan 2000; Skamp and Bergman 2001), perform better academically (Lieberman and Hoody 1998; National Environmental Education Training Foundation 2000) and have better relationships with their peers (Lieberman and Hoody 1998; North American Association for Environmental Education 2001; O'Brien 2009) than students taught using

traditional classroom-based techniques. Teachers that facilitate hands-on learning outside of the classroom setting tend to be more enthusiastic about and committed to teaching, have superior curriculum planning skills, are better collaborators and leaders and are better equipped to meet the varying needs of their students (Lieberman and Hoody 1998; Powers 2004; Raffan 2000; Skamp and Bergman 2001). Finally, when teachers and students engage in hands-on learning outdoors opportunities arise to strengthen school-community ties and reduce teacher isolation (Bell 2001; Cramer 2008; North American Association for Environmental Education 2001; Powers 2004; Raffan 2000; Skamp and Bergman 2001).

Despite the demonstrated benefits of reconnecting children to nature and non-formal learning few teachers incorporate opportunities for hands-on learning outdoors into their teaching plans (Charles 2009). Logistical constraints including natural impediments (Dyment 2005; Skamp and Bergman 2001), lack of funding, transportation and administrative support (Dyment 2005; Ernst 2007; Ernst 2009; Skamp and Bergman 2001), the increased difficulty of managing classes outdoors (Dyment 2005; Skamp and Bergman 2001) and the amount of time needed to adjust to new teaching methods and to plan and carry out curricular activities in the community (Dyment 2005; Ernst 2007; Ernst 2009; Powers 2004; Skamp and Bergman 2001; Waller 2007) are commonly cited as constraints to taking students outside. Pre-service and in-service training programs that treat subject areas in isolation and focus on using the local environment as a tool for teaching science only influence teacher's confidence and ability to use the environment as a context for teaching core subject areas (Dyment 2005; Ernst 2007; Ernst 2009; Ham and Sewing 1998). Finally, and perhaps most perniciously, underlying perceptions of

outdoor learning as lacking relevance to the curriculum stifle teacher's desire to take their students outside of the classroom context (Dyment 2005; May 2000; Ernst 2007; Ernst 2009; Skamp and Berman 2001).

The body of existing literature on the constraints to hands-on learning outdoors, briefly discussed above, treats constraints as non-negotiable (Ernst 2009). Leisure constraints research, a distinct sub-field of leisure studies (Jackson 1991), has demonstrated that constraints to leisure may be negotiated (Kay and Jackson 1991). The application of leisure constraints theory to the study of constraints to hands-on learning outdoors opened the academic discussion to the possibility that the constraints to hands-on learning may be perceived and experienced differently by different groups of teachers, that some teachers may be capable of and motivated to negotiate the constraints, and that the alleviation of constraints may not result in an increase in participation. Leisure constraints theory was the appropriate choice for expanding the discussion on the constraints to hands-on learning as both leisure and hands-on learning activities are undertaken by choice.

Research Questions

The purpose of this research is to explore the possibility that constraints to taking students outside for hands-on learning might be perceived and experienced differently by different groups of teachers and to determine the conditions under which those constraints might be negotiated.

1) Do teachers that take their students outside for hands-on learning opportunities have any characteristics, skills or experiences in common?

2) Do all teachers that take their students outside have a similar perspective on, and experience of the constraints to taking students outside?

3) What could be done to get more teachers interested in using the outdoors as a context for teaching?

4) What, if anything, could be done to help teachers that are interested in getting their students outside to succeed?

Study Area

The public education system in Winnipeg, Manitoba Canada was selected as the study area primarily for logistical reasons. The city of Winnipeg is divided into six public school divisions: Winnipeg School Division; River East Transcona; Louis Riel; Pembina Trails; St. James-Assiniboia and; Seven Oaks. The participants were currently employed at eight different schools, in three of the six divisions. Private schools were eliminated from the sample because of differences in funding structure, hierarchy and regulations.

General Methods

A constructivist worldview forms the philosophical basis of the qualitative research design utilized to answer the research questions. The target population for the study was defined as teachers, employed at publicly funded elementary or high schools within Winnipeg city limits, that use the outdoors to facilitate hands-on learning experiences on a regular or semi-regular basis. A non-probability snowball sampling technique was used to identify participants of this population. The snowball sample referral chain began with a single contact provided by the thesis advisor and resulted in a total of twelve participants from three of the six public school divisions in Winnipeg. Semi-structured interviews, focused on understanding the experiences and characteristics that led participants to begin teaching outdoors; the participants' perceptions and experiences of the constraints to taking students outdoors and; the participants' recommendations for overcoming those constraints, were conducted over a two month period.

The verbatim record of each interview was captured using an audio-recording device and supplemented by notes. Transcripts were created the day of the interview whenever possible and supplemented by both personal and analytical logs. Finally, the interview data was analyzed for codes on topics expected based on the literature review, surprising or unanticipated topics, unusual topics of conceptual interest and topics addressing a larger theoretical perspective in the research. The qualitative computer software Nvivo was used to assist the coding process.

Thesis organization

The thesis is organized into seven chapters. Following the introduction, the pertinent literature outlining the long and short-term implications of children's increasing disconnection from the natural environment, the potential for primary and secondary schools to reduce that disconnection and, leisure constraints models and theories are reviewed. Chapter three outlines the study methods, including the study area, sampling design and data collection and analysis techniques. The thesis findings are divided into two chapters (Chapters IV and V). Chapter four documents the experiences and characteristics influential on participant's decisions and ability to pursue hands-on learning outdoors with their students, the types of hands-on experiences facilitated by the participants outdoors, and the participants' understanding of the value of hands-on learning outdoors. Chapter five documents the constraints to hands-on learning outdoors perceived, experienced and negotiated by participants, the supports shared by participants and the participants' advice to their colleagues for negotiating the constraints to facilitating meaningful hands-on learning experiences outdoors. The sixth chapter outlines how leisure constraints theory guided the structure and development of the thesis, especially the discussion of the negotiation and/or alleviation of the constraints, and offers explanations for the variations in the reporting and ranking of constraints amongst participants, and the participants decision to begin facilitating hands-on learning experiences outdoors. The seventh and final chapter draws conclusions and makes two recommendations for supporting educators interested in facilitating hands-on learning outdoors in Winnipeg.

Chapter II: Literature Review

Generational Change

Children are increasingly becoming alienated from the natural world (Louv 2008; Tranter and Pawson 2002). Today, children play outside less often and for shorter periods of time than children of any previous generation (Clements 2004; Flom et al. 2011; Louv 2008). The only outdoor activities in which children today participate more often than children of previous generations are organized youth sports (Clements 2004; Louv 2008).

In 2002 Kellert outlined three types of interactions children may engage in with the natural world: direct, indirect and vicarious. Direct interactions involve the experience of familiar or ordinary habitats and creatures that function largely independent of human control (Kellert 2002). These activities are unplanned, unstructured and are freely chosen by the child (Kellert 2002). Direct interactions extend to children the possibility of uncertainty, risk and failure, facilitate the formation of intense connections with nature and are essential for children's healthy development (Kellert 2002). Of the three types of interactions outlined, direct interactions are in the most significant decline (Pyle 2002).

Natural areas ideal for direct interactions include children's yards, the yards of other children in the neighbourhood and neighbourhood public spaces (Kellert 2005; Pyle 2002). In previous generations, these areas were generally included in children's home ranges – areas established during mid-childhood where a parent decides a child may explore largely unsupervised (Bixler, Floyd and Hammitt 2002; Huttenmoser 1995; Louv 2008). Neighborhoods increasingly designed to promote individualism and privacy and greater crime and safety concerns have caused parents to restrict children's home ranges and with them opportunities for direct interactions with nature (Clements 2004; Louv

2008). Time spent outdoors with parents and organized play dates are poor compensation for the freedom of exploring local natural areas alone or with peers (Huttenmoser 1995; Orr 2002). In addition, direct interactions are becoming more difficult to provide on a regular basis as more families become dependent on two-wages and children are placed in daycare or other extra-curricular activities (Huttenmoser 1995; Orr 2002).

Indirect interaction, in less serious decline than direct interaction, involves actual physical contact with the natural world but in a more programmed or managed context (Kellert 2002). Indirect experiences tend to be passive, require little feedback and often emphasize entertainment over education (Kellert 2005). Examples of indirect interactions include visiting the zoo or nature museums, interacting with domesticated animals and working in the garden (Kellert 2002). Indirect experiences can have positive effects on learning but they tend to be transitory and unlikely to affect character and personality development (Kellert 2002).

Finally, vicarious interaction is the experience of nature through television, movies, books, advertisements and other simulated formats (Kellert 2002). Vicarious interaction is not new, but it is now for the first time being purposefully used to substitute for direct and indirect natural experiences (Pyle 2002). Television and computer games, for example, are increasingly replacing time spent with family and friends in the outdoors (Clements 2004; Louv 2008; Nabhan and Antoine 1993).

Vicarious experiences may convey facts, but they have changed the nature of learning from doing to absorbing (Kellert 2005; Nabhan and Antoine 1993). Watching television discourages children from making their own observations and forming their own opinions about the natural world (Nabhan and Antoine 1993). In addition, the

intensity and excitement packed into technological substitutes may make the local environment and direct experiences seem mundane or uninteresting to children (Nabhan and Antoine 1993).

The gradual generational shift away from direct interactions with nature and towards increasingly indirect and vicarious experiences has had a significant impact on childhood development and human fulfillment. Biophilia, a term coined by E.O. Wilson in 1984, and life course research provide the philosophical basis for understanding the implications of this shift. Scientific research has documented the social, emotional, cognitive, and mental and physical health implications of the decline in direct interactions with the natural world during childhood.

Biophilia

Wilson (1984) defines 'biophilia' as humanity's innate tendency to focus on life and lifelike processes. Humanity, according to Wilson (1984), is constantly subconsciously seeking to connect with other living things and is inherently drawn to the possibility of continuous discovery offered by the natural world. Nine "weak" biologically based values reflect this profound craving for affiliation with nature (Kellert 1993). The nine values – utilitarian, naturalistic, ecologistic/scientific, aesthetic, symbolic, humanistic, moralistic, dominionistic and negativistic – develop at different life stages and have evolutionary significance (Kellert 1993; Kellert 2005). Biophilia, Wilson (1984) argues, has existed universally since the beginning of humanity.

In contrast, biophobia is humanity's tendency "to readily associate, on the basis of negative information or exposure and then retain fear or negative responses to certain

natural stimuli" (Ulrich 1993). Fear and negative responses are mechanisms for avoiding or coping with danger in the natural world (Heerwagen and Orians 2002). Examples of fear evoking natural stimuli include snakes and spiders (Heerwagen and Orians 2002; Verbeek and Waal 2002; Wilson 1984) and spatially restricted settings (Ulrich 1993). Aversive responses may also be conditioned to modern dangerous stimuli, but conditioned responses to natural fear-evoking objects are typically acquired faster and are more resistant to extinction (Heerwagen and Orians 2002).

Biophilic and biophobic responses are partially predisposed by genetic factors (Ulrich 1993; Wilson 1984). Evolution predisposed humans to easily and quickly learn and retain associations or responses to natural elements that encourage survival (Ulrich 1993). To be consistently expressed biophilic and biophobic responses must also be conditioned by conventional learning, experience and culture (Nabhan and Antoine 1993; Ulrich 1993). Children especially require appropriate environmental triggers – exposure to and engagement with a variety of organisms – for the biophilia gene to be expressed (Nabhan and Antoine 1993).

Expressions of Biophilia

Human's consistent and cross-culturally demonstrated preference for natural environments over densely urban environments supports the biophilia hypothesis (Heerwagen 1993; Kahn 2002; Kaplan and Kaplan 2002; Wilson 1984). Human's deliberately seek out and design natural landscapes where they can understand what is going on, explore safely and feel comfortable (Heerwagen 1993; Kaplan and Kaplan 2002). Preferred environments typically resemble those common to human's evolutionary

history (Heerwagen 1993; Wilson 1984).

Biophilia is also reflected in human's symbolic and physical treatment of animals (Katcher and Wilkins 1993; Lawrence 1993; Shepard 1993). Animal symbolism is biophilia in that it represents another step in the age-old search for "man's place in nature" (Lawrence 1993). Propensity to consider animals kin and domestication of animals reflect human's affinity and urgent need for other life (Katcher and Wilkins 1993; Shepard 1993). Creating a kinship with animals also made the world a more comfortable place, decreasing human isolation and increasing human well-being and health (Katcher and Wilkins 1993).

Biophilia and Human Fulfillment

In *Biophilia: The Human Bond With Other Species* Wilson (1984) argues that the resolution of human issues, including global hunger and poverty, is the means not the purpose of conservation. The purpose of conservation is the protection of the human spirit, which, because of human's innate tendency to focus on life and lifelike processes, requires the conservation and stewardship of the natural world (Kellert 1993; Wilson 1984). Human identity and fulfillment depend on the satisfactory expression of the nine-biophilic values and thus the protection of the natural world and humanity's relationship to it (Kellert 2002). Orr (2002) argues that society must protect children's right to biophilia in particular, as it is a vital dimension of experience, essential for their healthy development.

Life Course Research

Life course research examines individual lives as sets of interwoven pathways or trajectories that together tell a life story (Wells and Lekies 2006). The life course perspective suggests that early life experiences may set a person on a particular trajectory that will persist unless a turning point occurs resulting in a shift to a different trajectory (Wells and Lekies 2006).

Early life experiences in nature are commonly cited by adults as emotionally critical experiences, influential on their decisions to adopt environmental attitudes, behaviours and values (Kellert 2005; Palmer et al. 1998; Strife and Downey 2009; Wells and Lekies 2006), to choose and mitigate constraints to outdoor recreation activities (Asah, Bengston and Westphal 2011; Bixler, Floyd and Hammitt 2002) and to choose environmentally oriented occupations (Bixler, Floyd and Hammitt 2002). Childhood experiences in "wild" nature are cited more often than interactions with "domesticated" nature (Wells and Lekies 2006). Experiences in "wild" nature include camping, hiking and playing in the woods and are generally spontaneous and unstructured (Wells and Lekies 2006). Interactions with "domesticated" nature include picking flowers and planting, caring for or harvesting plants (Wells and Lekies 2006).

Other important influences on individuals' environmental values include exposure to media, especially those which focus on environmental issues (Concoran 1999; Ewert, Place and Sibthorp 2005), witnessing of destructive environmental events (Ewert, Place and Sibthorp 2005; Palmer et al. 1998), social actors including family, peers and professionals (Concoran 1999; Ewert, Place and Sibthorp 2005; Palmer et al. 1998), and feelings of place attachment (Ewert, Place and Sibthorp 2005).

Benefits of Direct Experiences with Nature

Following the work of Wilson (1984) and Kellert and Wilson (1993) Richard Louv (2008) coined the term "nature deficit disorder" to describe the profoundly negative effects of children's increasing alienation from nature. Below, literature on the effects exposure to natural elements during childhood has on a variety of developmental areas is reviewed.

Play Behaviours

Youth and adults both use outdoor spaces with trees and other forms of vegetation more heavily than either built environments (e.g. play structures) or barren natural landscapes (e.g. open fields) (Coley, Kuo and Sullivan 1997). In 1998 Taylor and colleagues observed nearly twice as many children playing in the heavily vegetated areas than in the barren natural areas included in their study. A similarly higher incidence of non-play activities in these spaces was not found, discounting the theory that children are simply attracted to greener landscapes (Taylor et al. 1998).

The type, quality and diversity of children's play environments also directly affects the type, quality and diversity of children's play behaviours (Malone and Tranter 2003). Interesting and diverse spaces that include natural elements increase the intensity of play and the range of play behaviours (Bell and Dyment 2000; Malone and Tranter 2003). Creative and imaginative forms of play and thought are especially more frequent in natural areas (Clements 2004; Malone and Tranter 2003; Taylor et al. 1998; Waller 2006; Waller 2007). Creative play contributes to a range of developmental virtues including communication, cooperation, interpersonal problem solving, creativity, appreciation,

responsibility and imagination (Malone and Tranter 2003).

Attention Restoration

The 'theory of attention' introduced by James (1892/1962) posits that human's have two types of attention: voluntary and involuntary (as cited in Taylor, Kuo and Sullivan 2001). Voluntary attention is used when an individual is deliberately paying attention and can become fatigued after prolonged and intense use (Taylor, Kuo and Sullivan 2001). Involuntary attention does not require effort and thus allows for the rest and recovery of fatigued voluntary attention (Taylor, Kuo and Sullivan 2001). 'Attention restoration theory' introduced by Kaplan (1995) proposes that natural environments draw on involuntary attention and allow for the recovery of fatigued voluntary attention.

Taylor, Kuo and Sullivan (2001) tested Kaplan's hypothesis by comparing the influence of activities in natural areas and indoor environments on the attention capacity of a group of children with attention-deficit-disorder (ADD). Activities identified as helpful in reducing children's ADD symptoms were disproportionately likely to take place in green outdoor settings (Taylor, Kuo and Sullivan 2001). The greener the child's play environment was, the less severe the child's symptoms were (Taylor, Kuo and Sullivan 2001). Wells (2000) reported similar results – finding that natural elements within children's home environments profoundly affect their cognitive functioning and attention.

Katcher and Wilkins (1993) compared the effects on the attention capacity of an all-male group of children with ADD and conduct disorders of an outward-bound program involving rock climbing, canoeing and water safety and a zoo program where children

were expected to care for and interact with domesticated animals. While both programs were found to positively impact the children's attentional functioning, the zoo programs impacts were greater (Katcher and Wilkins 1993). The results of Katcher and Wilkins (1993) study suggest that animals, brought into human contexts, may also reinforce human attention.

Cognitive Development

Limited evidence suggests that experiential contact with nature can have a direct influence children's cognitive development (Kellert 2002). For example, naming, classifying and learning about the natural world can enhance children's developing capacity for restoring and retaining information and ideas (Kellert 2002; Kellert 2005). Nature also offers unique and nearly limitless opportunities for developing and practicing the arts of comprehension, critical thinking and problem solving (Kellert 2002; Kellert 2005).

Environmental Knowledge

Knowledge of local biodiversity has declined since the beginning of the twentieth century (Pyle 2001). In the early 1900s it was generally expected that an educated person would have a basic acquaintance with local flora and fauna (Pyle 2001). In primary and secondary school, children were regularly given the opportunity to learn about their environments through direct experiences outdoors (Pyle 2001). By the 1950s, those direct experiences had been replaced by classroom-based methods focused on "big picture" environmental issues (Pyle 2001). Pyle (2001) suggests three developments to account

for this shift: The World and Cold Wars; the mass migration of families from the countryside to cities and suburbs and; the replacement of natural history academics with quantitative, experimental and highly specialized scholars in universities across North America. The cumulative effect of these developments has been a steady decline in individuals capable of cataloguing the bio-diversity around them and teaching others this basic knowledge (Pyle 2001).

Children's changing play habits and environments have also contributed to the decline in local environmental knowledge. Play in wild environments, more common amongst children of previous generations, has been shown to foster nature literacy (Pyle 2002). By contrast, increased time spent watching TV, playing games and using the internet has resulted in a generation of children that can name more corporate logos than plants (Orr 2002; Louv 2008).

Mental Health

Nature helps people to understand and manage tension, pain and stress (Kellert 2005; Thomashow 2002; Wells and Evans 2003). Wells and Evans (2003) found that nature close to the home protects children from the impacts of life stress, reduces symptoms of psychological stress and improves feelings of self-worth. Maas and colleagues studied 300,000 Dutch medical records and concluded that anxiety and depression levels, especially amongst children, are reduced when there is accessible green space in proximity to their living quarters (as cited in Flom et al. 2011).

Social support and attention restoration moderate the function of nearby nature (Wells and Evans 2003). Natural areas draw youth together, providing a context for

making friends and developing a network of social supports that can help to buffer the impacts of life stress (Wells and Evans 2003). Nature's ability to bolster attention resources enables children to think more clearly and cope more effectively with life stress (Wells and Evans 2003).

Physical Health

More children exhibit the effects of bad diet and lack of exercise than ever before (Orr 2002). The U.S. Centre for Disease control links childhood obesity to serious and long-term physical health risks including "coronary heart disease, hypertension, Type 2 diabetes, stroke, sleep apnea, respiratory problems and some cancers" (as cited in Strife and Downey 2009). This trend is directly related to the replacement of vigorous outdoor activities with passive indoor activities (Frumkin and Louv 2007). Childhood myopia (Deng, Gwiazda and Thom 2010) and Vitamin D deficiency (Bener, Al-Ali and Hoffman 2008) are also related to children's decreasing exposure to the outdoors.

Second, natural environments represent dynamic and rough playscapes that challenge the development of motor skills in children (Fjortoft 2001). In a 2001 study Fjortoft found that children who regularly used forested areas as play environments had significantly more advanced motor skills than children who used traditional playgrounds (Fjortoft 2001). The most significant differences were found in balance and coordination abilities (Fjortoft 2001). Similarly, Grahn and colleagues (1997) found that daycare children given regular opportunities to play in naturalized outdoor spaces had better concentration and motor skills than children who used traditional play structures (as cited in Wells and Evans 2003).

Parent-Child Relationships and Social Development

Natural elements facilitate social interaction and encourage adults to supervise the children present (Coley, Sullivan and Kuo 1997). In Taylor and colleagues 1998 study, children playing in natural areas with high levels of vegetation were found to have twice as much access to adult attention as children playing in barren natural landscapes.

Domesticated animals also influence social interactions, acting as social lubricants, reducing social distance and facilitating social encounters (Katcher 2002). The effects of interactions with animals are transient however, and there is no evidence that they can be generalized to situations in which animals are not present (Katcher 2002).

Emotional Development

Nature is an unfailing source of both positive and negative emotional stimulation (Kellert 2005). The emotive power of encounters with nature derives from their dynamic, varied, unique, surprising and adventurous character (Kellert 2002). Emotional salience may also derive from nature's role in fantasy and imagination (Kellert 2002). Finally, emotional interests may motivate children to seek and understand information and ideas, enhancing their cognitive maturation and development (Kellert 2002; Kellert 2005). The emotional effects of the natural world cannot be reproduced using built alternatives (Kellert 2002).

Environmental Values

Environmental generational amnesia describes the tendency of each generation to use the natural environment they encountered during childhood as the norm against

which to measure environmental degradation later in life (Kahn 2002). Environmental generational amnesia allows environmental problems to be described as equally serious across generations, even while they worsen, and for ideas about what constitutes "wilderness" to change (Kahn 2002).

Environmental education and exposure to pristine natural areas may stop environmental generational amnesia from progressing (Kahn 2002). Experiences in pristine natural areas give children an appropriate baseline of ecological health from which to judge future environmental degradation, and form environmental targets and values (Kahn 2002). Environmental education is needed to make children aware of the conditions that existed before them and to create a long lasting, deeply held environmental ethic (Kahn 2002; Pivnick 2001).

The Role of Schools

At school children may engage with the natural world during unregulated informal play periods on the school grounds or non-formal, teacher-led, hands-on learning opportunities. The informal or 'hidden' curriculum, learned through unregulated play, varies by school (Malone and Tranter 2003; Titman 1994). Non-formal learning also varies significantly.

The Informal Curriculum

Children spend approximately 20 - 25% of the their time at school in the school grounds, making school grounds one of only a few places where children can still engage with the natural world on a regular basis (Barros, Silver and Stein 2009; Cheskey 2001;

Malone and Tranter 2003; Tranter and Malone 2003). Previously identified and undervalued as 'filling in time' or as a 'break' from formal learning, this time is now recognized as essential for student learning (Malone and Tranter 2003; Titman 1994). Unregulated play in the school grounds impacts children's attitudes and behaviours in and towards school, each other and the staff (Titman 1994). Whether these impacts are positive and productive or negative and counterproductive depends largely on the design and management of the grounds (Malone and Tranter 2003).

The 'surplus energy model' is the most common and influential model applied to the design of school grounds (Malone and Tranter 2003). School grounds designed based on this model are built for play, sport, letting off steam, surveillance of students, avoidance of litigation and ease of maintenance (Cheskey 2001; Malone and Tranter 2003; Tranter and Malone 2003). Dominated by play structures and open fields or tarmac, grounds designed based on the 'surplus energy model' promote vigorous, rule-bound play and favour physically competent children (Bell and Dyment 2000; Cheskey 2001; Herrington and Studtmann 1998; Titman 1994). In addition, research has shown that traditional grounds exacerbate discipline problems and result in 'knock and bump' injuries (Cheskey 2001; Coffey 2001; Raffan 2000; Titman 1994).

By contrast, naturalized school grounds, collaboratively built by students, teachers and parents and often administrators and community volunteers are designed to address the healthy physical, social, emotional and intellectual development of students (Raffan 2000). In naturalized school grounds children are allowed the freedom to explore and manipulate the environment, choose their own play activities, create their own play spaces and have sensory-rich natural experiences (Tranter and Malone 2003). Well-

designed grounds offer a variety of play environments to meet the needs of children with different preferences and children in different states of mind and developmental stages (Tranter and Malone 2003). Detailed choices regarding what school ground naturalization projects will embrace are made by each school and are largely determined by site-specific drawbacks and advantages (Coffey 2001).

Positive and Productive Impacts of Play in Naturalized School Grounds:

Play in naturalized school grounds may have a range of positive and productive impacts on students of all age groups. First - naturalized school grounds convey positive messages about the ethos of the school to students and positively influence student's attitudes and behaviours in and towards school and each other (Titman 1994; Tranter and Malone 2003). Where the school grounds meet the students' needs, students read it as a reflection of how the schools value and understand their needs (Titman 1994).

Second, naturalized play environments promote more cooperative play and civil behaviour (Bell and Dyment 2000; Coffey 2001; Malone and Tranter 2003). Naturalized school grounds provide ample opportunity for non-competitive, open-ended play, tempering behavioural problems and helping to make the environment seem fun, peaceful and welcoming (Bell and Dyment 2000). Children who feel emotionally safe are more interested in play and physical activity than children who feel out of place or threatened (Bell and Dyment 2000).

Third, school ground design influences the pattern, quality and level of children's participation in active play (Bell and Dyment 2000). School grounds designed according to the 'surplus energy model' promote vigorous rule-bound play (Bell and Dyment 2000).

While vigorous activity is important for children, Canada's Physical Activity Guide for youth also recommends an increase in moderate activity (Bell and Dyment 2000). Naturalized school grounds promote vigorous, moderate and light activity levels amongst children of all ages (Bell and Dyment 2000). In addition, "obstacles" on naturalized school grounds have a child-calming effect, decreasing the number of "knock and bump" accidents common during vigorous activity in more traditionally designed school grounds (Coffey 2001).

Fourth, play in naturalized school grounds improves children's performance throughout the school day (Taylor, Kuo and Sullivan 2001). Attention capacity, a crucial factor impacting the performance of all students, is positively associated with exposure to natural environments (Taylor, Kuo and Sullivan 2001; Wells 2000). In addition, exploratory learning and play activities based on children's interests motivate learning (O'Brien 2009).

Other student benefits of naturalized school grounds differ based on the child's age (Raffan 2000). Amongst young children naturalized school grounds facilitate more creative, imaginative and constructive play activities (Bell and Dyment 2000; Raffan 2000). In middle school they help children establish ethical standards, understand delayed gratification and build the language and social skills needed to negotiate a place in the world (Raffan 2000). In high school naturalized school grounds increase students' sense of pride in and ownership of the learning process, improve academic performance, and help students to establish a sense of place (Raffan 2000).

Finally, greened school grounds invite greater use by the community and promote an increased sense of community, community satisfaction and community health (Bell

and Dyment 2000; Raffan 2000). Naturalized school grounds also provide parents and other interested community members with opportunities for direct involvement in the school (Bell and Dyment 2000; Raffan 2000).

The Non-Formal Curriculum

The non-formal curriculum describes all learning facilitated by trained educators in natural or built settings outside of the classroom (Tranter and Malone 2003). Educational fields encompassed by the non-formal curriculum include, but are not limited to outdoor, environmental, experiential, adventure and place-based education. Facilitated outdoors, each of these educational fields offer students and teachers an opportunity to re-connect with the natural world. In the succeeding sections, outdoor, environmental, experiential, adventure and place-based education are defined, followed by a brief description of the similarities amongst the fields.

Outdoor Education:

Outdoor education has evolved since the field's inception more than a century ago (Dyment and Potter 2014; Quay and Seaman 2013). In North America, the evolution of outdoor education can be divided into three periods (Quay and Seaman 2013). In the first period, beginning in the early 1900s, outdoor education emerged as an initiative focused on fitness training, expeditions, service and the development of personal and social skills (Dyment and Potter 2014). Notable pioneers from this period include Lord Baden-Powell (the Scouting Movement) and Kurt Hahn (Outward Bound, the Duke of Edinburgh Award, Round Square Schools) (Dyment and Potter 2014). Many contemporary

programs, including the National Outdoor Leadership School, Outward Bound and Project Adventure, continue to draw on the traditions and philosophies established during this period (Dyment and Potter 2014).

In the second period, beginning in the mid-nineteen hundreds, outdoor education gained prevalence as an alternative strategy for teaching the core curriculum (Lewis 1975; Quay and Seaman 2013). The primary advantages of this understanding of outdoor education, as compared to the understanding that developed in the final period, were that it did not limit the field to a specific subject area (Smith 1966 as quoted in Quay and Seaman 2013), or contribute to the persistent problem of the over-crowded curriculum (Quay and Seaman 2013). The purpose of outdoor education during this period was to enable a different way of teaching and learning the core curriculum (Quay and Seaman 2013).

In the final period, outdoor education was defined as a distinct subject area (Quay and Seaman 2013). This shift in understanding — from an alternative strategy for teaching the core curriculum to a distinct subject area — can be explained, in part, by the growth of the environmental movement in the 1960s (Dyment and Potter 2014). As public concern for the environment grew, so too did outdoor educators commitment to teaching students about the natural environment and human's responsibility for stewardship of the land (Dyment and Potter 2014; Ford 1986). Many in this period argued that outdoor educators have an obligation to teach students about the environment (Schatz 1996).

The most recent shift in understanding of outdoor education was also precipitated by Donaldson and Donaldson's 1958 definition of outdoor education as education *in, about* and *for* the environment (Dyment and Potter 2014; Quay and Seaman 2013). The

Donaldson's (1958) definition, which acknowledged both method and subject matter (Quay and Seaman 2013), emphasized an understanding of the 'outdoors' as the natural environment, rather than as a place for recreation (Quay and Seaman 2013). This combination of factors resulted in the shift away from an understanding of outdoor education as method, focused primarily on being outside, to one oriented towards subject matter, focused on teaching students about the natural environment (Quay and Seaman 2013).

More than a century after its inception, outdoor education remains a heavily scrutinized field (Dyment and Potter 2014). Academics and practitioners have criticized the field for marginalizing nature or using it as a backdrop for scripted learning (Cosgriff 2011; Greenwood 2013; Nicol 2014). Others have criticized outdoor education programs, founded on anthropocentric assumptions and practices, for their tendency to ignore geographical location and treat nature as an "arena" or obstacle course for personal development (Cosgriff 2011; Wattchow and Brown 2011).

Environmental Education:

Environmental education traces its lineage to nature study, conservation education, outdoor education and the environmental movement of the 1960s (Adkins and Simmons 2002; Lee and Williams 2001). Encompassing a wide array of strategies and content environmental education has been ascribed many different definitions (Lee and Williams 2001). One of the most commonly referenced frameworks defines environmental education as education *about*, *for* and *in* the environment, the same terminology used by Donaldson and Donaldson (1958) to define outdoor education (Lucas 1980/1 as quoted in

Lee and Williams 2001). Others have argued that environmental education is only education *about* the environment and that it may be taught in a formal classroom setting (Adkins and Simmons 2002; Bierle and Singletary 2008).

Environmental education is of international significance (Adkins and Simmons 2002). Amidst growing public concern for the health of the planet, environmental education was defined and promoted in the 1972 United Nations (UN) Belgrade Charter and in the 1978 UN Educational, Scientific and Cultural Organization/Environmental Protection Tbilisi Declaration (Adkins and Simmons 2002). The UN identified the purpose of environmental education as creating an environmentally conscious population, knowledgeable about the natural and built environments, and committed to working towards solutions for current environmental issues and strategies to prevent future environmental problems (as quoted in Adkins and Simmons 2002).

Despite the abundance of academic and public interest in environmental education the field is often marginalized (Lee and Williams 2001). Divisional and school environmental education policies tend to be voluntary and permissive, rather than mandatory (Centre for Education Research and Innovation 1995 as quoted in Lee and Williams 2001) and to minimize environmental education as a sub-field of science (Gruenewald 2005). Construed as political advocacy for the environment, environmental education is also commonly dismissed as environmentalist indoctrination (Gruenewald 2005). Where environmental education has infiltrated the standard school curriculum, it has succeeded because it has been re-defined as an instrument of student achievement (Gruenewald 2005).

Environment-Based Education (EBE):

The term environment-based education (EBE) has been used in the environmental education literature since 2000 (Ernst 2012). Sometimes considered simply "good environmental education" (Ernst 2012), EBE describes an approach that uses the environment as an integrating context for core subject areas and as a source of real-world learning (Ernst 2007). Key features of EBE include its interdisciplinary nature, provision of hands-on problem and issue based learning experiences, emphasis on learner-centered instruction, constructivist approach, use of team teaching strategies, focus on the development of critical thinking and problem solving skills and reliance on natural and socio-cultural environments for learning (Ernst 2007; Ernst 2009; Ernst and Monroe 2004; Lieberman and Hoody 1998; National Environmental Education Training Foundation 2000; North American Association for Environmental Education 2001; Powers 2004). Environment-based education programs use environments outside of the school to facilitate a significant share of students' learning experiences, distinguishing the strategy from field trip or study opportunities in environmental education programs (Ernst 2007; Ernst 2009).

Experiential Education:

Experiential education was recognized as a distinct field of education in the United States in the 1970s (Adkins and Simmons 2002). The Association for Experiential Education, a global network, defined the field as "challenge and experience followed by reflection leading to learning and growth" (as quoted in Adkins and Simmons 2002). Experiential education encompasses all forms of pragmatic or direct educational

experience in- or out-doors (Adkins and Simmons 2002; Ford 1986; Quay and Seaman 2013). Many experiential education activities are synonymous with adventure activities and outdoor pursuits (Adkins and Simmons 2002).

Adventure Education:

Adventure education flourished in the 1960s due to three cultural and educational trends: the emergence of widespread interest in outdoor sports; the adaptation of German educator Kurt Hahn's ideas to the American context and; the growth of the self-help ethos (Quay and Seaman 2013). Adventure education promotes self-improvement by including carefully-planned dangerous or challenging activities in outdoor pursuits (Ford 1986; Quay and Seaman 2013). The participants' ability to persevere and overcome when challenged has been shown to lead to a sense of empowerment and growth (Shellman and Ewert 2009). Adventure education has been criticized for promoting an adversarial relationship with the natural world (Bierle and Singletary 2008) and for using nature as a backdrop for self-discovery (Quay and Seaman 2013).

Place-Based Education:

Place-based education emerged in response to the increasing emphasis on abstract universal knowledge over practical local knowledge in schools (Gruenewald 2005; Quay and Seaman 2013). Advocates of place-based pedagogies contend that the abstract knowledge taught in schools devalues and detracts from the practical, local concerns that people have the most control over, and have the greatest stake in improving (Quay and Seaman 2013). Place-based education, explicitly focused on the past, present and future

of local environments and communities, is designed to strengthen children's connection to the regions in which they live (Gibbs and Howley 2000; Gruenewald 2005; Smith 2002).

In place-based pedagogies students' questions and concerns are central – the emphasis is on allowing students to become the creators of knowledge rather than the consumers of knowledge created by others (Smith 2002). Grounded in local phenomena, five potential thematic patterns of place-based education include: cultural studies, nature studies, real-world problem solving, internships and entrepreneurial opportunities and; induction into community processes (Smith 2002). Using the foundation of local knowledge and experience developed in a place-based education program, students may then expand their research to examine more distant and abstract knowledge from other places (Smith 2002).

The concept of place-based education is radical, as educational discourses remain focused on standardizing the experiences of students from diverse geographical and cultural places so that they may compete in the global economy (Gibbs and Howley 2000; Gruenewald 2003a). Seeking to justify their approach, some place-based educators have argued that when local communities are granted the freedom to define educational standards, they develop outcomes similar to regional standards (Gibbs and Howley 2000). To expand place-based education, others have argued that alternative statements of measurable purposes, objectives and goals that express the actual aims of place-based educators are needed (Gruenewald 2005).

Similarities Amongst the Fields:

Outdoor, environmental, experiential and adventure education are commonly confused, fused or otherwise integrated (Adkins and Simmons 2002; Bierle and Singletary 2008). Place-based education shares outdoor, environmental and experiential educations emphasis on engagement with local settings (Gruenewald 2003b). All five fields (if environmental education is defined as education *in*, about and for the outdoors) have two features in common: they call for hands-on experiences performed directly by the learner and; they place the learner at the centre of all tasks (Bierle and Singletary 2008; Gruenewald 2003b). Educators in any one of the five fields may expand the scope of their program to include elements of any of the other related fields (Bierle and Singletary 2008).

Outdoor education is also commonly integrated with physical education (Martin and McCullagh 2011). The two fields share a focus on teaching movement knowledge and skills, and a concern with the lifelong learning and social wellbeing of students (Martin and McCullagh 2011). In the Manitoba public school system, professional development and networking opportunities for outdoor educators are typically facilitated by the Manitoba Physical Education Teachers Association. The two fields differ in terms of their statements of purpose and the context in which they teach movement knowledge and skills (Martin and McCullagh 2001).

Table 1: The Non-Formal Curriculum

	Individual Characteristics	**Shared Characteristics**		
Environmental Education (Education *about* the outdoors)	•Prioritizes teaching students *about* the environment •May be taught in a formal classroom setting			
Adventure Education	•Promotes self-improvement by purposefully including dangerous/challenging elements for participants to experience & overcome • Criticized for promoting an adversarial relationship with nature & using nature as a back-drop	•Call for hands-on experiences performed directly by the learner •Place the learner at the centre of all tasks		
Experiential Education	• Learning through reflection on direct experiences & challenges •Includes all direct educational experiences in *or* outdoors		•Emphasize engagement with local settings	

Environmental Education (Education *about, for* and *in* the outdoors)	•Encompasses a wide range of strategies & content •Purpose (as defined by the UN): create an environmentally conscious population committed to working towards solutions for environmental issues			
Place-Based Education	•Explicitly focused on local environments & communities •Designed to strengthen children's connection to where they live •Incorporates cultural/social learning as well as environmental			
Outdoor Education (OE)	•Definition has evolved through 3 periods; elements of each are evident in OE today. •1st Period (Early 1900s): focus on fitness training, expeditions, service & the development of personal & social skills. •2nd Period (mid 1900s): focus on teaching the core curriculum •3rd Period (1960s): focus on teaching students about the natural environment and humans' responsibility for stewardship of the land.			•Focus on teaching movement knowledge & skills •Concerned with lifelong learning and the well-being of students.
Physical Education				

Benefits of the Non-Formal Curriculum

The pedagogical benefits of providing children with regular opportunities to experience outdoor environments within school hours are extensive (Waller 2007). Below, literature on these benefits is reviewed.

Table 2: Influences of the non-formal curriculum on students, teachers and communities

Benefits of the Non-Formal Curriculum		
Student Benefits	**Community Benefits**	**Influence on Teaching Quality**
• Increased engagement in/ownership of the learning process • Increased motivation to learn • Enhanced sense of place • Improved academic achievement • Increased enjoyment of learning • Decreased disciplinary & classroom management problems • Decreased absenteeism/drop-outs • Decreased damage to school property • Improved critical, strategic, & creative thinking & problem-solving skills • Improved knowledge retention • Improved team-work skills • Increased exposure to alternative view points	• Closer school-community ties • Improved sense of community • Improved child-adult relations • Increased student engagement with the local community • Improved understanding of education as a collaborative venture	• Increased use of local resources • Increased willingness to collaborate with other teachers • Improved interdisciplinary teaching and curriculum planning skills • Increased enthusiasm and commitment to teaching • Increased use of innovative strategies • Improved leadership skills • Improved teacher-student relations • Decreased isolation • Increased access to local facilities

Motivation:

Grounding education in the local community helps children to understand the relevance of what they are learning (Powers 2004). Making learning relevant encourages

student engagement in and ownership of the learning process, increases student motivation to learn, leads to improved academic achievement and fosters a lasting sense of place (Bell 2001; Dyment 2005; North American Association for Environmental Education 2001; O'Brien 2009; Powers 2004; Raffan 2000; Skamp and Bergman 2001; Theobald and Curtis 2000).

Research by the National Environmental Education Training Foundation (2000) found that students generally like learning about the environment and that that enjoyment may further motivate them to learn the additional information and skills needed to explore their environmental interests. Similarly, O'Brien (2009) found that an emphasis on learner-centered instruction strategies allows practitioners to get to know their students' interests, base future projects around those interests and further increase student motivation (O'Brien 2009).

Amongst older students greater motivation to learn is reflected in decreased disciplinary and classroom management problems, absenteeism and dropout levels (Coffey 2001; Lieberman and Hoody 1998; National Environmental Education Training Foundation 2000; Raffan 2000). If the hands-on learning is focused on the school's grounds, damage to school property may also decline (Coffey 2001).

Academics:

In 1998 Lieberman and Hoody found, in one of the first studies to examine the relationship between environmental education and academic achievement, that the majority of students enrolled in environmental education programs earn higher grades and score better in reading, writing and math than students in traditional education

programs. The National Environmental Education Training Foundation conducted a similar study in 2000, adding social studies and science to the list of subjects students enrolled in environmental education programs out-perform other students in.

Ernst and Monroe (2004) found ninth and twelfth grade students enrolled in environmental education programs to have critical thinking skills comparable to or exceeding those of college students (Ernst and Monroe 2004). Lieberman and Hoody (1998) found that students in environmental education programs were better able to synthesize information and had higher-level critical, strategic, and creative thinking and problem solving skills. The North American Association for Environmental Education (2001) found that environmental education improves a student's conceptual understanding, retention, and self-directed learning abilities.

Measuring the efficacy of non-formal education strategies using achievement tests has been criticized for focusing on students' current or past achievements, rather than assessing their knowledge and skills in terms of how they may be used for further learning (Glasser 1990 as quoted in Ernst 2004). Lieberman and Hoody's (1998) study has been criticized in particular for framing environmental education as a vehicle for closing the achievement gap, rather than as a pathway to ecological literacy or to a more sustainable society (Gruenwald and Manteaw 2007).

Peer Relations:

Hands-on, student-led learning teaches children to communicate with their peers and work as a team, independently from adults, towards mutual goals (Lieberman and Hoody 1998; North American Association for Environmental Education 2001; O'Brien

2009). Students begin to recognize the value of diverse individual contributions, allow all that want to participate to do so, and act with greater civility towards each other (Lieberman and Hoody 1998; North American Association for Environment Education 2001). Time spent working as a team outdoors also improves children's awareness of the impacts that their actions have on others (O'Brien 2009).

Teaching Quality:

Teachers that employ hands-on learning strategies use more local resources, have better relationships and are more willing to collaborate with other teachers, and have superior interdisciplinary teaching and curriculum planning skills (Lieberman and Hoody 1998; Powers 2004). The facilitation of hands-on learning may also increase teachers' enthusiasm for and commitment to teaching, allow teachers to explore new subject matter and use innovative instructional strategies, and improve teachers leadership skills (Lieberman and Hoody 1998; Powers 2004; Raffan 2000; Skamp and Bergman 2001). Finally, hands-on learning allows more time for prolonged conservations between students and teachers than classroom-based teaching strategies, helping teachers to better understand their students and adjust their teaching styles accordingly (O'Brien 2009; Waller 2007).

Community Relations:

The non-formal curriculum's openness to community involvement fosters closer school-community ties and a greater sense of community, improves perceptions of youths and adults towards each other and increases community demand for student involvement

in local projects (Bell 2001; Cramer 2008; Powers 2004). Hands-on community experiences enrich the learning process and teach students about where they are from, the value of the local environment and the possibilities and constraints on citizen action (Bell 2001; Cramer 2008; North American Association for Environmental Education 2001; Skamp and Bergman 2001).

Additional benefits include greater access to resources and decreased teacher isolation (North American Association for Environmental Education 2001; Powers 2004). Community partners can expose teachers and students to diverse viewpoints and provide them with a broader base of skills and knowledge to draw on (North American Association for Environmental Education 2001; Powers 2004). Increased community-school overlap can result in new thinking about the nature of the curriculum and about the real meaning of education as a collaborative venture (Raffan 2000). Finally, community partners may be able to offer the use of local facilities and offset the cost of potential projects (Powers 2004).

Despite the many demonstrated benefits of reconnecting children to the natural world and using the environment as an integrating context for learning few teachers are committed to the use of hands-on learning strategies. A variety of studies have been carried out to determine why teachers choose to use or not use hands-on learning strategies and the barriers to choosing and implementing hands-on learning activities. Below, a number of these studies are reviewed.

Influences on the Non-Formal Curriculum

Powers (2004) and Skamp and Bergman (2001) found knowledge of the learning potential of the outdoors and the relevance of the outdoors to the teaching of core curricular areas to be the most salient influences on teachers decisions to take their students outdoors for hands-on learning opportunities. Teachers need guidance on how to develop lesson plans that integrate the environment into the existing curricula (Powers 2004). Ernst (2009) found awareness of positive outcomes to be the single best predictor of teachers' decisions to facilitate hands-on learning activities.

Other important influences can be grouped into two categories: the school environment and teacher attitudes and competencies. Collegial support, the learning environment and the school climate all influence teachers' decisions to use hands-on learning strategies (Ernst 2007; Ernst 2009; May 2000; Skamp and Bergmann 2001). Whole school improvement models, including interns, volunteers and administrative supports for teachers attempting to implement hands-on learning strategies can ease the transition from classroom-based teaching methods, and increase the likelihood that teachers will change their methods (Powers 2004).

Influential teacher competencies include listening and questioning skills, the ability to use diverse instructional strategies, resourcefulness, creativity, facilitation skills, the ability to make connections, and the ability to integrate curriculum (May 2000). Important teaching practices include the use of personal and student strengths and passions, a consistent can-do vision, the use of cooperative and inclusive learning strategies, an infectious passion for teaching environmental education, the incorporation of humor and a willingness to take risks and time to recharge the self (May 2000).

Teachers' environmental attitudes, behaviours, sensitivity, and receptiveness to hands-on learning and environmental literacy, knowledge and skills are also influential (Ernst 2007; Ernst 2009; May 2000; Skamp and Bergman 2001).

Shuman and Ham (1997) developed the 'environmental education commitment' model to explain teachers' varying levels of commitment to using the outdoors as a context for learning. The model proposed that life experience constructs have a direct relationship to the development of beliefs that underlie a teacher's attitude towards teaching environmental education, a teacher's subjective norms, and a teacher's perceived behavioural control related to teaching environmental education (Shuman and Ham 1997). The model predicts that the stronger a teacher's commitment to environmental education is, the greater the probability that they will overcome existing barriers (Shuman and Ham 1997).

Constraints on the Non-Formal Curriculum

A wide variety of logistical barriers prevent teachers from taking their students outside the confines of the classroom. These include natural impediments such as weather (Dyment 2005; Skamp and Bergman 2001), lack of funding, space and transportation (Dyment 2005; Ernst 2007; Ernst 2009; Skamp and Bergman 2001), lack of administrative support (Dyment 2005; Ernst 2007; Ernst 2009) and the increased difficulty of managing classes outdoors (Dyment 2005; Skamp and Bergman 2001). The amount of time needed and the complexity of adjusting to new teaching methods and planning and carrying out curricular activities in the community are also commonly cited logistical barriers (Dyment 2005; Ernst 2007; Ernst 2009; Powers 2004; Skamp and

Bergman 2001; Waller 2007).

Lack of guidance and training and the initial uncertainty associated with starting a new community project are additional constraints (Skamp and Bergman 2001; Waller 2007). Pre-service and in-service training for teachers tends to treat subject areas in isolation and focus on using the local environment as a tool for teaching science only (Bell and Dyment 2000; Dyment 2005; Ernst 2007; Ernst 2009; Ham and Sewing 1998). Developing curriculum, rather than dispensing curriculum developed by others, and making the link between unpredictable activities that happen beyond the confines of the classroom and student performance standards set by the district or the state is beyond the knowledge base of some teachers (Smith 2002). Entering the work force teachers are thus unprepared and not confident in their ability to use the environment as a context for teaching (Bell and Dyment 2000).

Finally, there are a number of conceptual barriers. Teachers commonly argue that some topics are simply not suited to outdoor learning (Dyment 2005; Ernst 2009; Skamp and Bergman 2001) and that standardized testing enforces the use of classroom-based, teacher-led methods (Dyment 2005; Ernst 2007; Ernst 2009). Some teachers may also have to handle the negative perceptions of colleagues, administrators and parents (Dyment 2005; Ernst 2007; Skamp and Bergman 2001; Smith 2002). If providing hands-on learning opportunities outside of the classroom is presented as a subject area rather than a method, teachers may view it as an extra activity to be added on to an already crowded curriculum (Dyment 2005; Skamp and Bergman 2001). Finally, some teachers from older generations may think of providing hands-on learning opportunities outdoors as just another teaching-fad or simply as ‘not real teaching’ (Dyment 2005).

Leisure Constraints Research

Leisure constraints research, a distinct subfield of leisure research, is the study of the frequently tenuous observed relationships among values and attitudes, leisure preferences, and overt leisure behaviours (Jackson 1991; Jackson 2000). In this section literature on the negotiation of leisure constraints, leisure constraint models, motivations influence on participation and the impact of socio-economic variables on individuals' perceptions and experiences of constraints will be reviewed.

Constraints Negotiation

Leisure constraints are "factors that are assumed by researchers and/or perceived or experienced by individuals to limit the formation of leisure preferences and/or to inhibit or prohibit participation and enjoyment in leisure" (Jackson 2000).
It is only in a small portion of cases that constraints completely exclude participation (Kay and Jackson 1991). In the majority of circumstances, individuals are able to negotiate the constraints faced and either maintain, restrict or modify their leisure behaviours (Jackson, Crawford, and Godbey 1993; Kay and Jackson 1991). Leisure constraints are perceived and reported by both participants and nonparticipants, although the constraints identified by these two groups may differ (Alexandris and Carroll 1997; Crawford, Jackson and Godbey 1991; Kay and Jackson 1991).

The alleviation of leisure constraints does not guarantee an increase in participation (Shaw, Bonen and McCabe 1991). Participation is dependent not on the absence of constraints, although this may be true for some individuals, but on negotiation through them (Jackson, Crawford, and Godbey 1993). Jackson, Crawford, and Godbey

(1993) speculated that the confrontation and successful negotiation of constraints might enhance participation.

Leisure Constraints Models

Leisure constraint models classify constraints into dimensions to facilitate the recognition of patterns and generalities that would be obscured at higher levels of detail (Jackson 1988). The three most commonly used leisure constraint models were developed by Searle and Jackson (1985), Crawford and Godbey (1987) and Henderson, Stalnaker and Taylor (1988).

Searle and Jackson (1985) classified constraints as either internal or external. Internal constraints include personal abilities, knowledge and interest (Searle and Jackson 1985). External constraints include lack of time, money or facilities and geographical distance (Searle and Jackson 1985). In 1988 Jackson criticized this model for failing to address the overlap between internal and external constraints. For example, "lack of ability," an internal constraint, may be symptomatic of a "lack of facilities" at which skills may be acquired, an external constraint (Jackson 1988).

Crawford and Godbey (1987) divided constraints into three dimensions: intrapersonal, interpersonal and structural. Intrapersonal constraints interact with leisure preferences, are relatively unstable, and are often difficult to articulate (Crawford and Godbey 1987). Examples include anxiety, religiosity, prior socialization into specific activities and subjective evaluations about the appropriateness and availability of activities, what one likes or wants to do and the extent to which one has the competency to perform the chosen behaviours (Crawford and Godbey 1987; Crawford, Jackson and

Godbey 1991). Interpersonal constraints interact with both preference and participation and result from interpersonal interactions (Crawford and Godbey 1987). Finally, structural constraints intervene between preference and participation (Crawford and Godbey 1987). The most common structural constraints are lack of money and time (Jackson 2000; Kay and Jackson 1991).

In 1991 Crawford, Jackson and Godbey proposed a hierarchical revision to Crawford and Godbey's (1987) leisure constraints model. In the revised model intrapersonal constraints, highest on the hierarchy and the most powerful constraint type, must be overcome before interpersonal and structural constraints, lower on the hierarchy, may be faced (Crawford, Jackson and Godbey 1991). Crawford, Jackson and Godbey's model has been tested and confirmed by a number of authors (see for example Raymore, Godbey, Crawford and von Eye 1993 and Alexandris and Carroll 1997). In 1993 Jackson, Crawford, and Godbey (1993) proposed modifying the model to include the potential for feedback loops (Jackson, Crawford, and Godbey 1993). The anticipation of one or more insurmountable interpersonal or structural constraints suppressing an individuals' desire to participate (the function of an intrapersonal constraint), is an example of a feedback loop (Jackson, Crawford, and Godbey 1993).

Finally, Henderson, Stalnaker and Taylor (1988) classified constraints as either antecedent or intervening. Antecedent constraints are equivalent to what Crawford and Godbey (1987) classified as intrapersonal constraints (Henderson, Stalnaker and Taylor 1988). Intervening constraints merged the interpersonal and structural constraint dimensions (Henderson, Stalnaker and Taylor 1988). Antecedent and intervening

constraints are experienced dynamically and interactively (Henderson and Bialeschki 1993).

The Role of Motivation

Alexandris, Tsorbatzoudis and Grouios (2002) describe three types of motivation – intrinsic, extrinsic and amotivation (lack of motivation) – and their relationship to the constraint dimensions identified by Crawford and Godbey (1987). Intrinsic motivation, the desire to perform an activity for its own sake, is primarily influenced by intrapersonal constraints (Alexandris, Tsorbatzoudis and Grouios 2002). High levels of individual/psychological and lack of interest related constraints are associated with lower levels of intrinsic motivation (Alexandris, Tsorbatzoudis and Grouios 2002). Extrinsically motivated individuals engage in behaviours as a means to reach an end (Alexandris, Tsorbatzoudis and Grouios 2002). Extrinsic motivation is not related to any type of constraint, but has a significant and positive influence on frequency of participation (Alexandris, Tsorbatzoudis and Grouios 2002). Amotivation, influenced primarily by intrapersonal constraints, is the most powerful predictor of frequency of participation (Alexandris, Tsorbatzoudis and Grouios 2002).

Hubbard and Mannell (2001) propose, after testing a number of models, the constraints-effects-mitigation model as a means for understanding the role of motivation within the preference-negotiation-participation relationship. In the constraints-effects-mitigation model motivation has both direct and indirect influences on participation (Hubbard and Mannell 2001). Motivation indirectly influences participation through negotiation – highly motivated individuals expend greater efforts to negotiate constraints

(Hubbard and Mannell 2001). The indirect influence of motivation on participation is greater than its direct influence (Hubbard and Mannel 2001).

Socio-Economic Variations

Everyone does not experience constraints with equal intensity (Jackson 2000). One of the most common variations in the experience of constraints occurs as the result of an individual's position within the social structure. Social class changes the way people perceive and experience both intrapersonal and structural constraints (Crawford, Jackson and Godbey 1991; Howard and Crompton 1984; Jackson 2000; Searle and Jackson 1985; Shaw, Bonen and McCabe 1991). Social structural factors are often better predictors of participation than perceived constraints (Shaw, Bonen and McCabe 1991).

Chapter Summary

The biophilia concept, introduced by Wilson (1984) and elaborated on by Kellert and Wilson (1995), in addition to life course research and extensive research identifying the benefits of outdoor play during childhood, forms a strong philosophical and factual basis for understanding why children's increasing alienation from the natural world is having such a profoundly negative effect on their well-being. Research conducted within the education system has demonstrated the many academic, social and health benefits that informal and non-formal learning in natural environments may have on teachers, students, and communities. Altogether this research clearly demonstrates that the Canadian education system must make a concerted effort to reconnect students to their local environments.

Leisure constraints research aims to explain why observed relationships between values and attitudes, preferences, and participation are often tenuous (Jackson 2000). While limited research has sought to identify the constraints teachers face to implementing hands-on learning strategies no study has, to date, applied leisure constraints theory to the topic. Leisure constraints theory will help to clarify why, given children's demonstrated preference for outdoor play and learning environments and the widely recognized and valued benefits of outdoor play and learning, schools continuously fail to provide appropriate outdoor learning opportunities for their students. In particular, leisure constraints theory will help to explain why some teachers are able to effectively use the local environment as an integrating context for teaching core subject areas while others fail and what can be done to help all teachers succeed.

CHAPTER III: METHODS:

A constructivist worldview forms the philosophical basis of the qualitative research design used to achieve the objectives of this study. The target population for the study was defined as teachers, within Winnipeg's public education system, that use the outdoors to facilitate hands-on learning experiences on a regular or semi-regular basis. A non-probability snowball sampling technique was used to identify members of this population for semi-structured interviews. The data was analyzed as it was collected and reviewed using the qualitative computer software Nvivo.

Qualitative Research Design

Qualitative research is the process of holistically exploring the meaning individuals or groups ascribe to social and human problems (Creswell 2009). In qualitative research the researcher is the primary instrument of data collection and the inductive data analysis process (Creswell 2009). In inductive analysis the researcher develops patterns and themes from the bottom-up, with the aim of organizing and presenting the data in a comprehensive format that reflects the researchers' interpretation (Creswell 2009).

A qualitative research design was selected to address the research questions identified by this thesis because of the emphasis on individual teachers' perceptions and experiences. Many previous studies of the constraints to teaching and learning outdoors used qualitative methods to generate a list of constraints to be used in a quantitative survey of the constraints experienced by teachers. This study set out to gain a more in-depth understanding of how individual teachers perceive and experience those

constraints, in addition to how they perceive their development into successful outdoor educators.

The Target Population

The target population for this study were teachers, employed at publicly funded elementary or high schools within Winnipeg city limits, that use the outdoors to facilitate hands-on learning experiences on a regular or semi-regular basis. Winnipeg was selected primarily for logistical reasons — the unique context of teachers in any Canadian city would make an equally valuable and interesting study for both academic and practical purposes. Teachers employed by privately funded schools were excluded from the sample because of differences in administrative structure and finances.

Winnipeg is divided into six public school divisions (Figure 1). Winnipeg School Division (WSD) is the largest, administering seventy-nine schools, followed by River East Transcona (46), Louis Riel (40), Pembina Trails (35), St. James-Assiniboia (26), and Seven Oaks (24). To conduct research in any of the six divisions the Joint-Faculty Research Ethics Board (JFREB) at the University of Manitoba stipulated that the applicable divisional research advisory committee(s) and school principal(s) must first grant approval. Applications to conduct research in each of the six divisions were submitted in advance of the start of research to ensure that potential participants could be contacted quickly once they were referred. Approval was granted by five of the six divisional research advisory committees. Requests for research approval in the sixth division were not answered. As none of the participants provided a referral to a teacher within this division, the failure to obtain research approval did not affect the sample. The

approval of school principals was sought immediately prior to interviewing potential participants.

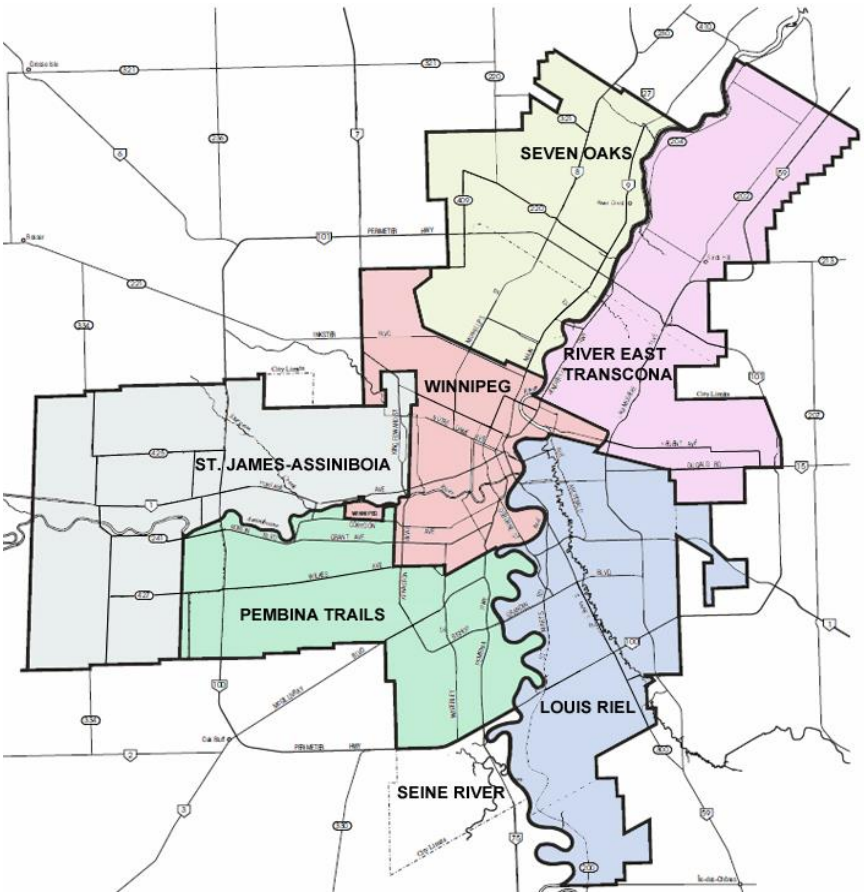

Figure 1 - Winnipeg's school divisions. Source: www.mywinnipeghome.com/SchoolInfo.ubr

Sampling Technique

A non-probability, snowball sampling technique was used to identify participants. In a snowball sample the researcher collects data on the members of the target population he or she can locate, then asks those individuals to provide contact information for other members of that population (Babbie 2013). A snowball sampling technique is recommended when members of the target population are difficult to locate (Babbie

2013) or unlikely to respond to advertisements soliciting their participation (Robinson 2014). Snowball sampling allows the researcher to locate and select information-rich cases for in-depth study (Patton 1987). Snowball samples are critiqued for their inability to guarantee a representative sample (Babbie 2013).

When conducting a snowball sample in the public education system the JFREB stipulates that contact, with potential participants not known to the researcher, must be established by an existing participant. To comply with this stipulation, each participant was asked to contact colleagues that met the study inclusion criteria, introduce the research purpose and direct them to either contact the researcher directly or provide their colleague with contact information to be forwarded to the researcher. Care was taken to ensure that each of the participants had a sound understanding of the research purpose and the inclusion and exclusion criteria of the study before they were asked to identify other members of the target population. The referral chain ended when the participants could not provide any additional contacts.

The Sample

The snowball sample referral chain began with a single contact, an acquaintance of the thesis advisor, and resulted in a total of twelve participants: ten males and two females, all of whom had some experience teaching and learning outdoors, and the majority of whom had at least ten years teaching experience. The participants included eight full-time teachers, one guidance counsellor, one support staff member, one vice-principal and one teacher that splits her time between guidance counselling and teaching. The participants were currently employed at eight different schools in three of

Winnipeg's six public school divisions (five of the participants were employed by two schools — two of the full-time teachers and the support staff member were employed by one school, while the teacher that splits her time between counselling and teaching was employed at the same school as another of the full-time teachers). Eight of the participants were employed by the Winnipeg School Division, three by Pembina Trails and one by St. James-Assiniboia.

In the interviews the participants described experiences teaching outdoors at nine different schools in four different divisions. All except one of the participants, who teaches kindergarten to grade five students, spoke about teaching middle years students (grades seven to nine). The schools described by the participants varied significantly — representing both suburban and core areas of the city with varying access to naturalized areas.

Semi-Structured Interviews

One-on-one semi-structured interviews were conducted with nine of the twelve participants. The remaining three participants, all from the same school, were interviewed (at the request of the participants) as a group. All interviews were conducted in resource rooms or classrooms at the participants' schools at lunch hour, immediately after school or during a break in the participants' schedules. The interviews conducted over lunch hours were limited in duration to forty minutes to an hour. During some lunch-hour interviews certain lines of questioning were prioritized over others due to the time restriction. The longest interview with a single participant, conducted immediately after school ended, lasted more than two hours.

In the semi-structured interview format an interview guide is used to ensure that the interviewer has carefully decided how best to use the limited time available and that essentially the same basic information is obtained from all participants (Babbie and Benaquisto 2002; Patton 1987). The interview guide for this study was developed based on the relevant literature and the purpose of the study (Appendix A). The questions were focused on obtaining an in-depth understanding of the types of activities teachers conduct with their students outdoors, the constraints teachers face to taking their students outside, the participants' recommendations for negotiating those constraints, and the personal characteristics, skills, and experiences that helped the participants to succeed.

The primary advantage of the semi-structured interview format is its flexibility (Babbie and Benaquisto 2002). In semi-structured interviews the researcher retains the flexibility to probe and ask follow-up questions to the pre-determined, content-focused questions outlined in the interview guide (Dunn 2005). The flexibility of the semi-structured interview format enhanced the data collection process, allowing for immediate follow-up when topics of interest were first remembered and discussed, and resulting in a more in-depth understanding of the issues. For example, the flexibility to probe and ask follow-up questions when participants first identified constraints – often within broader narratives about how they got involved in facilitating hands-on learning opportunities outdoors or the types of activities they do with their students – resulted in a more complete and contextual understanding of how participants perceived and experienced those constraints.

The semi-structured interview format also gives the interviewee the flexibility, not available in a more structured interview format, to elaborate on the issues they believe are

the most salient and to bring up issues that they feel are not adequately covered in the interview guide (Dunn 2005; Patton 1987). This flexibility can add depth and validity to the study (Dunn 2005). The participants shifted the focus of questions about what school or divisional administrators can do to support hands-on learning outdoors, to what interested teachers can do to help themselves and each other. This shift was significant, influencing especially the study recommendations for increasing interest in and the facilitation of hands-on learning experiences outdoors.

Data Analysis

The verbatim record of each interview was captured using an audio-recording device and supplemented by notes. Audio recording increases the accuracy of data collection and allows the researcher to maintain a natural conversation style by giving them time to organize prompts or questions and observe important gestures (Dunn 2005; Patton 1987). Notes, including descriptions of the participants' gestures and tone, help the researcher to maintain focus during the interview, and facilitate later analysis (Dunn 2005; Patton 1987).

Transcripts, including the words spoken and the descriptions of gestures and tone contained within the notes, were created the day of the interview whenever possible. A personal log, including comments relating to the practice of the interview, and an analytical log, including comments relating to the substantive issues, were also kept as recommended by Dunn (2005). Throughout the interview and transcription processes the interview guide was re-evaluated and revised when it became evident that a question or prompt was not worded appropriately or was irrelevant (Babbie and Benaquisto 2002).

A scheme for coding the semi-structured interview data for latent content – the underlying meaning of the communication – was developed and revised as the transcripts were carefully read and re-read. Following Tesch's (1990, as quoted in Creswell 2009) eight step guide to coding, a list of topics was generated as the interview data was collected and transcribed. The data was analyzed for topics expected based on the literature review (e.g. shared childhood experiences and characteristics, the constraints and influences on non-formal education, motivating influences, etc.), topics and themes identified repeatedly by participants (e.g. the importance of maintaining a genuine interest in the outdoors and the value of working together and sharing resources), unusual or unexpected topics (e.g. the impractical location/design of schools and the potential for a school division to operate a camp) and topics of conceptual interest (e.g., participants' definitions of outdoor education). Similar topics were then clustered, and re-named to reflect the newly included data (Tesch 1990, as quoted in Creswell 2009). For example, all topics related to how hands-on learning opportunities outdoors improve the social and academic outcomes of students were clustered under a broader code category entitled 'ensuring success'.

The coding process was iterative – the code categories developed during the first read-through of the data were used as a preliminary organizational scheme, revised as new codes and categories emerged from the data and interrelationships between codes were realized (Tesch 1990, as quoted in Creswell 2009). The final code categories are shown in Table 3.

Table 3: Coding Themes and Sub-Themes

CODES	CODE SUB-THEMES		
Participant Experiences	Summer camp; family camping; school camping; work; other		
Participant Characteristics	*Confidence*	*Dedication*	
	•Self-confidence •Program confidence	•Initiative •Creativity •Willingness to use personal time/resources	
School-Based Activities	*Initiative-Based*	*Curriculum-Based*	*Nature-Based*
	•Equipment repair •Outdoor skills •Leadership education •Sports and games	•Geocaching •Curriculum learning	•Community-based education •Unstructured activities
	General fitness; overnight trips		
Constraints	*Structural Constraints*	*Interpersonal Constraints*	*Intrapersonal Constraints*
	•Lack of formal training opportunities and resources •Time •Divisional/school policy •Cost •Transportation •Class size/managing students •Location •Curriculum development •Equipment •Supervision ratios •Student/family socio-economic status •Substitute teachers •Weather •Fear of cuts •Planning for the	•Administrative reluctance •Attitude/support of colleagues •Inconveniencing colleagues •Family/cultural	•Personal/internal constraints

	unexpected			
Motivating Factors	Personal enjoyment; pride in the program; student benefits			
Student Benefits	*Ensuring Success*	*Encouraging a Healthy Lifestyle*	*Outdoor & Environmental Education*	*Other*
	•Explore different learning styles •Help high-risk students •Relationship Building •Skill demonstration •Unstructured learning opportunities	•Learning to function in all weather •Develop new skills	•Learning to understand & care for the environment	•Burn surplus energy •Student therapeutic
Key Supports	Administrative support (flexible scheduling; school/divisional environment); mentorship			
Negotiation Strategies	Align your outdoor education and curriculum objectives; Allow teachers to play to their strengths; Make it a divisional priority; just try it; role modelling; sharing resources; spread the word; take small steps; work together			
Other	Defining outdoor education; ranking constraints; moving or re-designing schools			

The qualitative computer software Nvivo was used throughout the coding process. Qualitative computer software sped the coding process and made it more efficient than if it had been done by hand (Creswell 2009). Computer software facilitated the quick comparison of different codes and the location of all passages coded the same to determine whether participants responded to code ideas in similar or different ways (Creswell 2009).

Quotes are used throughout the thesis to document, in the participant's own words, the experiences and perspectives important or meaningful to them and to illustrate

how the data was coded. Quotes were selected for inclusion based on content – quotes articulating ideas or concepts of interest were included to illustrate the participants' points of view – and succinctness – quotes expressing a same or similar point were compared and the quote that expressed the perspective most succinctly was included. Each quote used in the thesis is followed by a participant code, beginning with OE (outdoor educator) and ending with a randomly assigned number.

Ethics Approval

Approval to conduct research was granted by the Joint-Faculty Research Ethics Board at the University of Manitoba, as well as by five of the six public school division research advisory committees in Winnipeg, Manitoba (Appendix B). Note, only three of the divisional research advisory committees provided an official document indicating their approval. The remaining divisions, including two of the divisions in which research was conducted, communicated their approval informally via email.

CHAPTER IV: TEACHING AND LEARNING OUTDOORS

The participants used a wide array of terms to identify the hands-on activities outdoors that they facilitate, including, but not limited to: outdoor education, adventure education, land-based education, environment-based education, nature-based education, community-based education and experiential education. Of these terms, outdoor education was the most frequently employed. For the purpose of clarity, the term 'outdoor education' is utilized throughout the remainder of this chapter and the following chapters. The remainder of this chapter describes the participants' backgrounds, characteristics and skills, outlines the types of outdoor education activities they facilitate and summarizes the participants' perspectives on the value of taking students outdoors.

The Participants: Who is Teaching Outdoor Education in Winnipeg

Life course research hypothesizes that early life experiences may set a person on a particular life-trajectory (Wells and Lekies 2006). This section outlines the experiences and characteristics described and demonstrated by participants that influenced their interest in and ability to teach outdoor education. The data is presented in two parts: shared experiences, including family, camp and work experiences and; shared characteristics, primarily confidence and dedication. For the purpose of clarity the support staff member, who did not share any personal information about his past, is excluded from this section and the participant data discussed is from eleven participants.

Shared Experiences

In total, nine of the participants listed childhood experiences in the wilderness as influential on their decision to begin teaching outdoors. The two most commonly

identified influences were family (6 of 11 teachers) and summer camp (5 of 11 teachers). Several teachers referenced both. Participants' descriptions of their family lifestyle were focused on exposure – the opportunity to be in the outdoors with family on camping trips or trips to the family cabin.

> *We would spend most of our summers on canoe trips for two, three weeks a hundred miles north in the bush. So all of the things required to, you know, go on a portage trail, use your compass, paddling, safety, first aid – I already had a good grounding in those* (OE04).

Participants' comments about the influence of summer camp were more varied. Participants spoke about camp as a transformative experience, as a social place, and as a place to build both knowledge and skills. Transformative experiences — memorable experiences that challenged participants physically or mentally and changed their perspectives — were the least common, but were described with the most emotion. For example, speaking about his time as a staff member at YMCA-YWCA Camp Stephens, one participant stated:

> *…that was a big influence on me - being there, on that island, being on those lakes, taking out canoe trips, and going through…persevering through difficult situations …those are the kind of stories that you remember - you're like wow that was a crazy day when it was super windy or super whatever and nature was kind of working against us but we worked through that and then we came out the other side happy and healthy and...that winds up being a memory that you hold with you forever* (OE03).

As a social place camp was influential for many participants because it was where they formed the social groups with whom they continue to pursue outdoor activities.

> *You're on an island, you learn to work very closely with people and many of the people who worked on the island become life-long friends because you go through stuff together and you have a lot of fun together because it's intense and you're not going home and shutting the door and turning on the TV or watching Netflix, it's a different deal* (OE01).

Finally, participants developed skills and knowledge at summer camp, applicable to facilitating outdoor education in the school system. At camp participants learned to work collaboratively with others, to make sound judgments about risk and safety, to manage large groups of children outdoors, and to facilitate hands-on learning opportunities. Camp also taught participants hard skills, such as no-trace camping and canoeing.

> *So being [at camp] really helped me develop an even further understanding of our relationship to nature and appreciation for it and the appreciation for the learning that can happen for yourself and when you are purposefully bringing others into that environment the learning that happens for them as well being in that space* (OE03).

Two participants identified influential childhood experiences other than summer camp and family vacation. One described his experience in Beavers and Cubs, and the other his experience in a high school camping club.

> *I went to a high school where there was a camping club… And we just…I don't know, I had a really good time. I really enjoyed it. To the extent that…even if it was pouring rain for a whole week canoe trip I just had a great time kind of thing. So…that kind of triggered something where me and a couple of friends who graduated at the same time kept camping all the time, so that was just why we, you know, it's just something we enjoyed. So, I think as a teacher when you get to a school where that's even a possibility you try to, you know, you're still interested in doing that with the kids you teach* (OE09).

Finally, a number of the participants identified influential experiences later in life. The majority of these experiences were had at work — two participants had been employed as gear shop technicians or sales people, one as an arborist, one as a lifeguard, and one as the outdoor education coordinator for the University of Manitoba Recreation Services Department. A final participant described his experience working for Adventure Education Manitoba, an organization, now closed, that schools, youth service centres, corporations and others could contract to facilitate camps, wilderness pursuits or team-

building exercises.

There were two exceptions, neither of whom described any influential experiences in the outdoors during their youth. The first exception was the first-time outdoor education teacher. He described himself as 'not a naturally outdoors inclined person' and his willingness to try teaching outdoor education as natural, early-career enthusiasm to learn.

> *Yeah, like I said, I was offered the opportunity to do the course. I'm still early enough in my career that I'm interested in teaching anything I get the opportunity to teach, right. Like, I'll probably still learn things, right. So, I'm not a naturally outdoors inclined person, I don't think. Like, I like the outdoors, but, yeah. It was just kind of more – do you want to try this – and yeah, I'll try that* (OE06).

The second exception acknowledged having had some experiences in the outdoors as a child, but dismissed those experiences as 'artificial' and insignificant.

> *I mean I had gone camping in a campground – but not really anything that I felt that I was able to bring. I mean, yeah, I had gone white water rafting and you know, very, again, sort of artificial fun things. So, once I started teaching then I felt that I needed to, you know, become more engaged* (OE05).

She attributed her willingness to try teaching outdoor education to early career flexibility, and a lack of long-term commitment to the school division offering her the opportunity.

Shared Characteristics

As the interview process progressed it became evident that many of the participants shared two prominent characteristics: confidence in themselves and the positive outcomes of the programs they run and; dedication. The participants' self-confidence was evident throughout the interviews – none of the participants described any feelings of doubt with regards to their ability to facilitate safe, engaging and beneficial activities for students

outdoors. The one participant that spoke directly about his level of self-confidence related it to his level of experience.

> *Tons and tons of experience builds confidence in my own abilities and, so I'm quite comfortable, quite confident in taking a group of kids outside for an extended period of time. I think it all comes down to, well, for me anyways, it came down to confidence and experience. With all those experiences through my teens and my twenties, and thirties and now forties, I'm comfortable being outside and I'm comfortable taking kids outside* (OE10).

Participant confidence in the positive outcomes of outdoor education was also evident throughout the interviews. The participants repeatedly emphasized the benefits of outdoor education for students.

> *It's what's right. It's the right thing to do. You can see it. When you see how the kids react, and how engaged they are and the smiles of their faces and the removal of the social roles they play in the school or at home, you know it's what's right to do* (OE12).

Participants' dedication to outdoor education was evidenced by their actions. Several participants described voluntarily using their personal time to acquire and maintain equipment, find resources, develop school initiated courses (SICs) and teaching plans, and take students on overnight trips. One participant even volunteered his private property, taking students to his family cabin. Explaining this dedication to teaching outdoor education one participant commented: 'you know what, it's probably that if they ever put me in a classroom I'll quit'.

The first time outdoor education teacher was again an exception. While grateful for the opportunity to learn a new teaching strategy, he was hopeful that the administration would find someone 'who knows more about the outdoors' to teach the course the following year.

Teaching Outdoor Education in Winnipeg

The participants each facilitated a unique outdoor education program. Assessing the needs of their students, their own competencies and interests, and the pertinent constraints the participants individually determined how best to pursue their outdoor education objectives. In various permutations the participants facilitated the following hands-on activities with students outdoors: community-based education; curriculum learning; equipment repair; general fitness; geocaching; leadership education; outdoor skills; overnight trips; sports and games and; unstructured activities. Below, this data is categorized and described according to the courses or programs facilitated by participants: physical education, school initiated courses, core curriculum courses and guidance counselling.

Outdoor Education and the Physical Education Curriculum

Three of the full-time teachers interviewed were physical education teachers. For these participants outdoor education primarily meant engaging students in individual, 'healthy lifestyle' activities outdoors, including cross-country skiing, snowshoeing, cycling, and canoeing. The portion of the year each of the physical education teachers dedicated to these activities varied — two described similar levels of participation while the third warned, before the interview, that he did little more than geocaching with his students outdoors. In the interview he also described cross-country skiing and snowshoeing, but his participation was more restricted.

Outdoor education incorporated into the physical education curriculum can extend beyond encouraging a healthy lifestyle. For example, one of the physical education

teachers described teaching students natural history, focusing on how to identify different tree species and diseases, outdoor skills, especially cold weather survival, and core curriculum outcomes. Every winter the participant constructs quinzees with his students in the schoolyard and uses the opportunity to teach about hypothermia and to reinforce outcomes taught in the science curriculum.

> *… so with the quinzees and the wind chill factor and that kind of stuff … I also incorporate some science into it. Even though it's phys ed we cut into the snow and I teach them about the different crystalline, you know, the different types of snow, we talk about when you build quinzees how the temperatures are mixed, why you get that radiant heat coming out of the snow and why quinzees are warm. We take thermometers outside and we take temperatures at the ground and in the air and also at the top of the snow so that they understand the temperature gradient* (OE02).

Outdoor Education School Initiated Courses

School initiated courses (SICs) are optional courses (they cannot replace department-developed or approved curricula) developed by the professional staff of a school or a school division to meet local needs (Manitoba Education 2009). All SICs are approved each year by Manitoba Education and Manitoba Advanced Education and Literacy and must include student-learning outcomes – identifiable targets indicating what students are expected to know and be able to do at the end of the course (Manitoba Education 2009). To develop and teach an outdoor education course, not a pre-approved curricular area, an interested staff member must submit a SIC application to Manitoba Education (to view a list of department developed and approved curricula visit http://www.edu.gov.mb.ca/k12/cur/).

Four of the full-time teachers interviewed were, in the 2014-2015 school year, teaching an outdoor education SIC. Four other participants had developed outdoor

education SICs at different stages in their careers. All of these participants except one, who had taken over the SIC originally developed by the vice-principal interviewed (the vice-principal is now employed at a different school), had developed the SIC they were teaching or had taught themselves.

The SICs described took several different formats. The were focused on healthy lifestyle activities, including cross-country skiing, snowshoeing and cycling, and incorporated an overnight camp. The primary objective of these SICs was to equip students with the knowledge and skills needed to access and enjoy the outdoors throughout their lifetimes.

> *…our overall goal…is to get them to have some knowledge of how to access the outdoors and how to enjoy the outdoors and how to have kind of a respect for the land. And we do that by…they have a little bit of theory kind of stuff but our main goal is to get students outside as much as possible doing things that they find interesting or things that they might enjoy* (OE11).

Objectives listed specifically in relation to attending overnight camps were generally similar – to teach students outdoor skills that could not be taught within the city limits – but the types of overnight camps facilitated varied. For example, one participant took students to what he described as a 'hotel type camp,' while a second organized a cycling and camping trip to Birds Hill Provincial Park, about a half-hour drive from the perimeter of the city.

Two participants that team-taught a 'land-based education' SIC, formatted according to the above model, had an additional objective — to help their Aboriginal student population re-connect to the land. To reach this objective they participated in a provincial initiative to twin schools in the South and North of the province. Through this initiative select students were given the opportunity to visit a Northern community and partake in

overnight excursions with community members.

> *...so we got out the snowmobiles and went out…I don't know how many, many kilometers out in the middle of nowhere on the Little Saskatchewan River I think it was and we set up a trappers tent and slept outside. Went ice fishing. We got to see a commercial fishermen bring in fish off the river. Cooked all the food ourselves up there as well, like the students did on the fire and on a stove in a hunters or a trappers cabin up there* (OE11).

Other outdoor education SICs placed greater emphasis on reinforcing core curricula outcomes. The courses developed and taught by these participants also included many of the activities described above.

> *I did incorporate a ton of math, science, social studies curriculum into my course. Even the latitude, longitude GPS, circle math for orienteering, pacing, estimating, lots of science and observations and birds and listening and stuff. But the kids didn't know that they were getting those outcomes* (OE04).

Finally, two participants who had taught in the Transcona-Springfield School Division (now a part of the River East Transcona School Division) developed a unique outdoor education course. Their course blended elements of both of the SICs described above with a focus on working in and with the local community and teaching students responsibility for stewardship of the land.

Many of the SICs described above were developed at the request of school administrators. While after years of demonstrating the potential of outdoor education and incrementally building the trust of their administration most participants welcomed this request, one described some feelings of hesitation:

> *So, for me as a teacher personally, outdoor ed to me is a philosophy not a course. So I was offered the opportunity to give it as a course but I had already used outdoor education as a means of learning. So as a science and math teacher where is the best place to take your class to learn science and math? Outside* (OE04).

She resolved her philosophical misgivings by developing an outdoor education curriculum, similar to those described above, focused on reinforcing core curricular outcomes.

Outdoor Education and the Core Curriculum

Only one participant that currently taught a core curriculum subject spoke primarily about using outdoor education as an alternative strategy to teach that curriculum. An English and social studies teacher, he used cartography as an example of how outdoor education can be used to teach core curriculum outcomes.

> *The grade seven social studies curriculum deals with maps at the beginning…I'll take the kids out to a little park across the street and have them do some map making for a week or a week and a half. We'll do some measuring and some diagramming and then take a look at what kind of features of a map need to be included and they'll actually produce small-scale maps of the park* (OE10).

While only providing one specific example, the participant emphasized that outdoor education could be used to teach any range of curricular outcomes.

> *I'm not a big believer in the curriculum. So if I take kids out and expose them to different cultures then I feel that that is meeting; I could probably tie that into some curriculum outcome and say that that's a learning experience* (OE10).

Many of the other participants were, as described in the preceding two sections, also using outdoor education as a tool to reinforce core curricular outcomes. Several of these participants described how being outdoors, as compared to being in the classroom, often led to unexpected 'teachable moments' relatable to any of the core subject areas.

Outdoor Education and the Guidance Department

In the 2014-2015 school year the full-time guidance counsellor interviewed was

running two separate programs incorporating outdoor experiences. The first, which he termed 'experiential education,' targeted students that teachers had identified as disengaged in the classroom, and focused on initiative tasks.

> *So that one is mainly based right out of the school. We do a lot of, well we do a lot of initiative tasks … So with initiative tasks, I'm sure you know, a lot of the tarp folds, the helium stick, pipe line, blind walks…So obviously within the initiative tasks you have to process the activity … to try and pull out a learning experience and really trying to push kids out of their comfort zones* (OE12).

The second program, which he termed 'outdoor experience', targeted students struggling to find an appropriate social group and/or with medically diagnosed issues such as attention deficit disorder and fetal alcohol spectrum disorder. The program, on which he personally placed greater emphasis, focused on the therapeutic value of being outdoors.

> *We have snowshoeing planned, skiing planned. The hope is to actually get out camping. But again, all those activities are meant to be just about the experience of being outside. I don't process it. I don't do a big lead up to it. It's just about the kids being out there* (OE12).

The participant that splits her time between guidance counseling and teaching did not incorporate any outdoor education initiatives into her guidance program.

Other Initiatives

Two other initiatives are worth noting, although they do not conform to any standard definition of outdoor education. The first, a bike repair program, targeted students identified as at-risk and taught them to do basic repairs on their own and other students' bikes. The program granted these students a rare opportunity to feel needed by their peers. The same participant that started this initiative was also working to start a ski-repair lab to maintain the divisional inventory of cross-country skis.

The second initiative, Active Start, is unique to the Pembina Trails School Division. Developed in 2012 by a group of early years educators intrigued by research that connects physical activity to increased engagement and academic achievement, Active Start allows students and teachers to begin each day with 15 to 35 minutes of physical activity. The participant that described this program observed that the students tended towards, especially when outdoors, imaginative play — a commonly observed trend amongst children given unstructured time outdoors and an important activity for healthy cognitive development (Malone and Tranter 2003).

Why Outside?

The participants' descriptions of outlining the importance of getting outside with their students mirrored much of what has been written in the literature, with the addition of the participants' unique perspectives and experiences. The majority of the reasons listed by participants can be grouped into three categories: ensuring all students are given an equal opportunity to succeed socially and academically in the school environment; encouraging students to adopt a healthy lifestyle and; teaching students about the environment and their responsibility to care for it. Only one reason listed by a participant did not conform to these categories — the opportunity for students to expend surplus energy outdoors.

Ensuring Success

Outdoor education grants students and teachers an opportunity to apply instructional and learning techniques not feasible in the classroom setting. The more

hands-on or experiential techniques possible help all students to internalize information but benefit, especially, those students that struggle in the traditional classroom setting. Outside students and teachers are also exposed to a greater degree of uncertainty — at any time something unexpected could happen, giving rise to a teachable moment that may never have occurred in the classroom setting.

> *Applied learning, I think you don't necessarily do your best learning and sort of self-discovering and all the things you kind of want out of school in a classroom. In most educational contexts it's a chance to get in your body, it's a chance to apply those things in real kind of hands-on ways* (OE06).

> *As an educator I think learning happens in every kind of situation. And some kids will learn very well or learn best sitting at a desk inside a classroom but some need to move, some need to explore, some need to experience nature. I think it's important that… as teachers we provide educational experiences that speak to and involve all of our learners* (OE10).

Outdoor education also offers those students that are not academically inclined an opportunity to demonstrate skills, not relevant to the classroom setting, at which they excel and to feel successful in the eyes of their peers and teachers.

> *I've noticed also that with some students it's a chance for them to show us that they're really good at something else that we didn't know. So maybe they're not great in math or fantastic in English but they're really great at some skill that they, that we need out there* (OE11).

Finally, participants described students, identified as high-risk, that were struggling in their core curriculum classes but engaged and successful in outdoor education. Over time, the opportunities outdoor education grants high-risk students to build relationships with peers and teachers may also impact their engagement in other classes. The support staff members concluding remarks about the two teachers he was interviewed alongside provide a poignant summary of this incentive to teach outdoor education:

> *You know, bottom line, the relationship between at risk inner city kids and success in the schools is so tenuous. It is really, really…odds are they're not going to succeed in school. Like, that's the brutal truth. Odds are lots of these kids aren't going to succeed in school unless something happens to change their relationship with it and I think, what you guys are doing, is like, providing so many possibilities for, literally, I might be overly dramatic, but life and death kind of moments. Because not succeeding in school is the best way to guarantee a life that goes off the rails into a different area right. And, these moments where they can connect with a teacher, where they can connect with themselves and each other in environments where they get to be experts and have real tangible challenges and succeed at them. They're just so important* (OE07).

Encouraging a Healthy Lifestyle

An abundance of literature has demonstrated that today's youth spend far less time playing and learning outdoors than youth of previous generations (Louv 2008). The participants were acutely aware of this trend and many viewed outdoor education as a unique opportunity to counter it. These participants identified exposing students to the skills and knowledge needed to access and enjoy the environment in all seasons throughout their lifetimes, as one of the most important reasons to take students outside.

> *Outdoor education and recreation is a life-long kind of activity…There are so many wonderful things that happen in the outdoors and I think with all kinds of aspects of today's culture - technology - I think it's getting more and more difficult to introduce kids to the outdoors. Not only introduce them but develop that appreciation for the outdoors and build in that life-long skill set. Whether it's skiing or whether its snowshoeing or whether its just being outside, going for long walks, hikes, going out to Whiteshell or Birds Hill I think that it's important for kids to be exposed* (OE10).

Outdoor and Environmental Education

Re-connecting students to the natural world and teaching them about their responsibility for stewardship of the land was identified as a priority by one participant, and as a significant benefit of outdoor education by several others. The participants

recognized that as their students became increasingly alienated from the natural world, teaching them about their connection to natural systems and their responsibility to care for the land will become progressively more difficult.

> *Students are really losing a connection with the outdoors and it's really hard to value it if you aren't out there. So, you know, looking at sustainability we've created a generation of gamers that don't connect with anything – they don't connect with other humans, they don't connect with wildlife, they don't connect with the outdoors. So, it's hard to value and care about the earth if you've never been in it* (OE05).

Several participants placed particular emphasis on teaching students about the interconnections within natural systems, and how their actions have influences beyond that which they may immediately recognize.

> *But also as we begin to learn more and more about that importance of having an understanding of your place in the world, your extension of…how your activities influence the rest of the world around you and you being in that space. Whether it just be outside, outside or hopefully even further than that like where there are trees and there's actual life going on…*(OE03)

> *I think a big one is the realization that you're always in a natural system and that everything, especially I think kids have kind of a disconnect when they think about technology they think that the technology is not natural or not nature, but it came from the earth, so, it didn't come from somewhere else* (OE01).

Burning Surplus Energy

Only one participant identified the opportunity for students to burn excess energy as a significant benefit of getting outside.

> *I notice a big difference when we have indoor recesses at school – the kids have been cooped up all day long, you can tell when they come to phys-ed that they are just ready to explode because they have so much energy they want to burn off and use. So, if we can take them outside on-top of their normal recess time and stuff. It's nice to get them outdoors and just change their environment and give them that fresh air and that chance to really have the space to move* (OE08).

These comments are indicative of the 'surplus energy model' commonly applied to the design of school grounds, and the participants focus on rule-bound play. While he did incorporate a geocaching unit and opportunities to ski and snowshoe, the participant was primarily focused on using the outdoors for territorial-invasion style games and track and field events.

Chapter Summary

The snowball sampling method utilized resulted in a relatively homogenous group of twelve educators. All of the participants had, at a minimum, some experience with outdoor education. Many of the participants also shared similar life experiences and characteristics. The majority attributed their interest in outdoor education to influential childhood experiences outdoors with family or at summer camp. Through these experiences the participants built the confidence and dedication to teaching and learning outdoors they held in common.

Outdoor education is a diverse and evolving field, variously understood as an expedition, service and fitness focused method for building students personal and social skills, as an alternative strategy for teaching the core curriculum and as an opportunity to teach students responsibility for stewardship of the land. The participants implemented a blend of these approaches in their roles as physical education teachers, core curriculum educators, facilitators of outdoor education based SICs and guidance counsellors.

The participants' beliefs about the importance of what they are trying to achieve mirrored much of what has been written in the literature about the benefits of time spent outdoors during childhood. The participants were dedicated to ensuring that all of their

students are given an equal opportunity to succeed, are exposed to and taught the skills and knowledge needed to access and enjoy the outdoors throughout their lifetimes and are made to understand their responsibility for stewardship of the land.

CHAPTER V: IDENTIFYING, NEGOTIATING AND ALLEVIATING THE CONSTRAINTS TO OUTDOOR EDUCATION

The participants experienced a wide array of constraints to facilitating successful and sustainable outdoor education programs in their schools. This chapter presents the constraints to outdoor education identified by participants, the strategies they recommended for increasing interest in outdoor education, the key supports experienced by participants, and the participants advice to their colleagues for facilitating successful and sustainable outdoor education programs.

The Constraints to Outdoor Education in Winnipeg, Manitoba

All of the constraints to outdoor education, identified by the participants, are presented, in descending order of frequency (the number of participants that identified each constraint), in Table 3. The number of participants that identified each constraint is calculated out of ten to account for the support staff member, who did not contribute to the discussion about constraints, and the two teachers he was interviewed alongside whose ideas were difficult to separate.

Table 4: Constraints to Outdoor Education

Constraint	Number of Participants (Out of 10)	Example Quote
Lack of Formal Training Opportunities and Resources	8	*…in our division if you want to do outdoor education you're on your own to just find your own resources or your own ideas and your own plan* (OE08).

Time	8	*Time can be an issue. You know, if I'm inside of these four walls and I've got a 35 minute lesson because I have a 35 minute class I can usually kind of squeeze it into that spot. And when you go outside, and because of those unexpected learning opportunities, things don't always fall in that nice box of we're going to do this and this and this and this and this and then we're done. And it shouldn't…but the outside creates that. So, time can be an issue* (OE03).
Divisional/School Policy	7	*And again, rules are great but there was a huge backlash when that little boy drowned at Margaret Grant several years ago…and as soon as that happened then there was this big huge backlash, there has to be 2 lifeguards on deck at all times so of course we had to pay a lot more for the swimming and, you know, it's unfortunate. I mean, it was horrible, I think it's terrible that that poor child drowned but then, you know, we're so concerned about protecting the children that sometimes we want to, you know, just put them in a bubble* (OE05).
Administrative Reluctance	6	*So as soon as teachers feel that little twig of - the admins not quite behind it … they get nervous that if anything does happen they wont be supported. They'll be hung out to dry. So they stop* (OE01).
Attitude/Support of Colleagues	6	*And I guess the last constraint is the attitudes of staff. That they don't deem this as curricular, they see it as an over and above, a field trip again. It's getting in the way of them getting through their course* (OE12).
Cost	6	*Well obviously the big one that most people will point to is money. Depending on what you want to try and accomplish money is a barrier. Public school can be difficult to work in because of budgetary constraints, and if you don't have an administration team that supports the idea then you're kind of, you're going to be facing more money-budget problems* (OE10).

Transportation	6	*Then you're dealing with transportation. And transportation is, you're going to hear over and over and over again, is a huge hurtle. The school buses are relatively cheap. If I take 60 kids its 3 bucks a kid, that's not an issue. But the timing is very bad* (OE12).
Class Size/Managing Students	5	*I think one of the biggest things is just managing your group outside, you know, when you're outside you don't have the confines of four walls keeping your kids kind of corralled in a room* (OE08).
Location	5	*So, you know, just looking at the school grounds there is not, you know, really good place-based education because we don't have any, you know, tall-grass prairie, any native anything here, we have, you know, grass* (OE05).
Curriculum Development	4	*But here's the thing too, to get to the point where you're awarding credits for an outdoor ed related activity, like bike repair, that took…Like you guys didn't have the time…*(OE07)
Equipment	4	*Cross-country skiing is a little bit tough because the equipment gets damaged throughout the use and then it gets moved to another school. So we end up with equipment that shows up and it just can't be used by the number of kids that you require to have equipment* (OE02).
Supervision Ratios off School Grounds	4	*You have ratios that you need to meet. So it's normally about a 1:10 ratio if you're off site. So now you have to pull educational assistants, support teachers, administration, to go. It's hard to get administration and it's hard to get even the guidance counsellor because at any moment there could be crisis* (OE12).
Inconveniencing Colleagues	3	*… it's unfortunate that if you want to do something with one class…like when I'm teaching I have 2 classes I'm responsible for. So I'm either leaving one class out and inconveniencing a teacher. I'm using that word inconvenience on purpose, because that's the last thing you want to do, is inconvenience someone. So you're immediately making someone else's day harder, to be out of the school* (OE12).

Student/Family Socio-Economic Status	3	*Another constraint is thinking in terms of…student-needs and privilege. Not all the kids that I teach have outdoor jackets, not all the kids that I teach have gloves and hats…* (OE06)
Family/Cultural	2	*…we have a very high Philippine population and a very high East Indian population and many of them are new to the country…and taking your kid outside, especially over night, is not something that they do. It's not something that they're familiar with. So to run a camp… it's very easy for me to run a day camp. It's extremely hard for me to run an overnight camp* (OE12).
Substitute Teachers	2	*Substitute teachers for sure. Like to have a qualified substitute if you needed – I was off for 10 days with pneumonia, outdoor ed was my biggest concern. Math was like go ahead, here's the text book. So a qualified substitute who would allow the course to continue to run* (OE04).
Weather	2	*Once we hit minus twenty-six our students are indoors. So, it doesn't take much wind-chill to get you up to minus twenty-six even if it's decent weather outside. So, you're really stuck, especially in a cold month like a January or February, you're stuck with maybe a handful of days you could get outside* (OE08).
Fear of Cuts	1	*I look at huge opportunities that we could do with our ski trip. But the reality is, we're kind of just happy that it hasn't been cut. So part of it, well, we get to go skiing for three days, and if we mess with it too much, maybe we lose it* (OE12).
Personal/Internal Constraints	1	*Well I mean, you're always battling your own internal constraints, right. Like, I'm somebody who has been placed in a role. It doesn't foster any sort of talent or initiative that I have* (OE06).
Planning for the Unexpected	1	*…that would be a big obstacle, if your kids aren't willing to participate, what do you do? You have to have a plan. So the planning piece of the course and the what ifs. If it's pouring rain, do you want to take them outside?* (OE09)

Altogether, the table presents twenty-two distinct constraints to outdoor education experienced by participants. Many of the constraints identified were experienced at different stages in the participants' careers, from pre-service training to the present. More than half of the constraints presented were identified by less than half of the participants, signifying variations in the experience of constraints amongst participants.

Five constraints, identified in the table, are described in further detail below. Two, *divisional/school policy* and *lack of formal training opportunities and resources*, are categories of sub-themes that emerged from the data and require further explanation. The participants' speculations about the reasons for *administrative reluctance* are documented to add insight to a complex issue. Finally, *weather* and *location* are included to detail the variations in participants' perceptions of these factors.

Divisional/School Policy

The participants identified school and divisional policies outlining the application process to conduct outdoor education activities off school property and/or overnight, the need for parental permission to access community spaces and the certifications and regulations that must be acquired and followed to conduct particular activities as significant constraints. The paperwork required to take students off school property and/or to conduct overnight activities is extensive, and must be completed at least six weeks in advance of the planned activity. Once approved, the activity cannot be revised, a significant barrier when planning outdoor activities in an unpredictable climate.

> *The biggest issue with that is the amount of lead-time that is required to do the activity that the school division is requiring. So, in the past I could make an application two weeks before and I could say 'look, this is when we're planning on doing it'. Of course, long-range forecasts still can't tell me what the weather is going to be at that time, but at least I could know that I could have my quinzees built – I could have everything set up and the structures, fences, all that stuff required would all be set up and then I could let them know two weeks before – yes this is going to work. Whereas now they require a six-week lead-time which is really unfortunate because, for example, I filed all the paper work two months ago or a month and a half ago maybe thinking that by now I would have enough snow to build the quinzees, but I don't. So, now I have to re-apply for six weeks from now* (OE02).

The participants identified two contrasting policies outlining the need for parental permission to access community spaces. The first and more common policy required parental approval for each individual trip off school grounds. The second policy allowed teachers to obtain a single permission slip at the beginning of the school year, permitting students to visit designated community spaces year-round. Illustrating the differing impacts of these distinct policies are two quotes:

> *I'd like to be out there more with…doing something like a geocaching or…exploring some outdoor space but it's hard to get off the school grounds. There's a lot of requirements to leave the school yard for permissions and safety concerns. So…I would definitely like to do more of that kind…we could take our geocaching unit and expand it to the neighborhood but that's a whole other can of worms that's opened up if you want to leave the school yard, so* (OE08).

> *And one of the things that my administrator at the old school was really good about was we just sort of sent home a blanket permission letter saying in outdoor ed we might be leaving the schools grounds at any day and that flew, that was okay. So, if it was a really cold day out – I didn't take them out. And if it was all of a sudden a beautiful day and our plans had changed then we would go outside. So, I had that flexibility* (OE05).

Finally, the participants identified divisional policies, designed to reduce risk and protect the division in the case of an accident, as a constraint. None of the participants expressed concern that an accident might occur while they were outdoors with students or

that they might be held liable – the participants' concerns were limited to the certifications and procedures the policies obligated them to acquire and follow to conduct outdoor education activities.

> *So, canoe trips are almost impossible to run legally. I'm sure that most schools are doing them and not meeting the liability requirements. For me to run it…as a school representative a canoe trip, I need to have my outdoor wilderness trippers certificate, which is almost impossible to get…I've run countless canoe trips for organizations but because I was working for another organization I had insurance and it was no problem. So if I want to run it for the school division, I need to have that certificate. I'm not going to go out and pay for that certificate, the division's probably not. So we're sort of sitting in limbo* (OE12).

Participants believed that the most severe and constraining divisional regulations were often introduced subsequent to a fatal accident. For example, two participants described how the fatal crash of a passenger-van carrying a high school sports team resulted in new divisional transportation regulations prohibiting the use of large passenger vans. The new regulation restricted the participants' transportation options to renting several smaller vehicles or hiring a bus, both less cost-effective options than a passenger van for long trips.

The majority of the participants maintained a balanced perspective of divisional liability policies — accepting that they are required, but questioning their extent.

> *And the safety as well can be dealt with it's just another level of kind of red tape that has to happen. Again, rightfully so in many of the areas, just some of it seems a little over the top, but they're all there because of a situation that happened or to help ensure a situation doesn't happen. It's just sometimes, you know, we can put our students inside of hamster balls and kind of...not that I want anyone to get injured, because I don't. But that being said, sometimes learning can mean you fall down, and that's ok, you know. Yeah a lot of learning can happen from those sort of things. So sometimes we can kind of go a little over the top with the safety stuff and then take away this opportunity for real true physical literacy which is only going to come from you having some failure* (OE01).

Two participants expressed concern that the regulations outlined in divisional liability policies might inhibit interest in outdoor education.

> *So, there's some strict guidelines for safety reasons and I totally believe in that but some of them – people look at them and they're like that's – it's probably 2 to 3 inches thick and you have to read it all and then there is divisional guidelines on each type of sport and activity as well. So the phys ed teachers all have this inch and a half binder on if you do this, you need this many people to supervise. So those are really good guidelines but for someone whose going to have to go look in that book to decide if they can do something and find it, first of all, it's overwhelming so it's easier to just stay inside* (OE04).

There were no observable differences between participants', from different divisions, perceptions or experiences of divisional policy as a constraint to outdoor education.

Lack of Formal Training Opportunities and Resources

The lack of formal training opportunities and resources was identified as a limitation of both the pre-service and in-service teacher education systems. One participant described the pre-service University of Manitoba teacher education program as "not at all" effective at training knowledgeable outdoor educators. Another expressed disappointment in the almost complete lack of opportunities available to post-baccalaureate and master's students interested in advancing their knowledge of 'outdoor learning or hands-on learning'. After expressing this frustration the participant clarified that his comments were not intended as a criticism of the University of Manitoba:

> *…but I don't mean that as a shot at the U of M. Because I don't think that's what they're trying to do. They're trying to make you successful within the system that currently exists. They're not…although I guess they advertise it…they're not pumping out rebels. They're not pumping out people who are going to push the envelope of what's acceptable, and what needs to be done. And I don't know if that's their job* (OE12).

Relevant in-service education opportunities are also lacking. For example, one participant described the lack of professional development on how to use outdoor classrooms:

> *The outdoor classrooms are great, but we're not being taught how to use them. So we'll get a new outdoor class or a nature play area…but just like we're PD'd on how to do an assessment tool, I think we need to be PD'd on how to use these spaces. That it's not just a hill or some man made outdoor musical instruments…it's, you know, we planted trees, but what are you going to do with those trees? … What does the research say about them? We're not being told those things. People are finding them out on their own but we're not being educated. Now we've got the space, how are we going to use it? And how are we going to use it the way it was intended?* (OE12)

The divisions also lack resources and/or staff to support teachers interested in pursuing outdoor education.

> *I know I can go looking for resources and find them myself. Or I can plan a field day or an outing to do some outdoor education but I have to go looking for it myself, the resources are not just ready to go. There's not someone from the divisional office saying 'hey, if you want to go do outdoor ed here's a whole whack of stuff these guys can go do', right so* (OE08).

There are exceptions — several participants attended professional development programs on bike repair and geocaching — but they are less common and less visible than opportunities to learn more conventional skills.

Administrative Reluctance

Several of the participants speculated about why some administrators are reluctant to support outdoor education and many empathized with them. The participants speculated that reluctant administrators may not have a sound understanding of the processes and outcomes of outdoor education and fear liability.

> *I think administrators, particularly school administrators and perhaps superintendents or district superintendents might be reluctant for outdoor education experiences to happen because of liability. And understandably so, I mean, crazy things happen* (OE10).

The vice-principal interviewed offered insight, from the administrative perspective, as to why some administrators are reluctant to support outdoor education:

> *Probably the safety piece. I'd say if you're not happy with somebody's judgment on safety or you're a little bit more nervous about what that looks like or haven't had experience with it I think that would make you less likely to say okay to a program* (OE04).

In addition, she described her need as an administrator to ensure that the supervising teacher has the appropriate skills and knowledge to facilitate a successful and safe outdoor education program.

> *…as an administrator now, if I was going to hire someone for that position I would need to probably see them with kids, I'd need to see that they could sit back and let the kids do their thing and that they had enough knowledge of, you know, low organized games, cooperative games, cooperative tasks, and know that they would have a line in the sand where this is safe, this is unsafe* (OE04).

Note that this insight is from the point of view of an administrator who has experience facilitating outdoor education and believes in its merits.

Location and Weather: Illustrating Variations in the Participants' Perceptions and Experiences of the Constraints to Outdoor Education

The participants' perception of two of the constraints to outdoor education — weather and location — varied significantly. Weather was described as both a powerful constraint and a constructive challenge, teaching students to persevere and maintain a positive attitude.

> *…because you are weather dependent in the winter. Once we hit minus twenty-six our students are indoors, so, it doesn't take much wind chill to get you up to minus twenty-six even if it's decent weather outside. So, you're really stuck…*(OE08)

> *Or if it rains and rains and rains and the weather's not great, they're still having a great time. That's a skill too. They're not just like 'oh I want to go home' they're still like 'this is great'. They're still having a great time. That's a skill too I think* (OE09).

One participant identified teaching students that the winter landscape can be an active space as a central objective of his outdoor education program.

> *Number one, our winters are so long and can be so cold that if you don't have an understanding that that is an active space that needs to and should be utilized - meaning the outdoors - then we can get stuck inside for these long, long periods of time. So, even just into the backfield, our school field, and having that be an active space. Even though it's minus twenty or minus twenty-five or whatever and having that understanding that if you dress for that weather… and then if you are - now I'm dressed for it; now I'm in the space and then you are moving to generate warmth, that that can actually be a really fun environment, a really fun space to be in* (OE03).

The participants' perspectives on the possibilities and limitations afforded by school grounds, urban areas and naturalized areas within city limits also varied significantly. A direct comparison of three participants' descriptions of one school's grounds (where all three had taught) is illustrative of the variety of perspectives on the typical schoolyard:

> *…unless you look at it at a really…close level our biosphere maybe isn't as diverse as some other environments. I mean there are coniferous trees and there's bushes and things like that you can kind of classify and get to know, but, you know, I wish it just had a hill or something even, right. So, yeah, or being closer to water, yeah. That kind of stuff would be more interesting* (OE06).

> *So, you know, just looking at the school grounds there is not, you know, really good place-based education because we don't have any, you know, tall-grass prairie, any native anything here, we have, you know, grass* (OE05).

> *[The school yard] was set up really well – the north end of the school had a nice treed area bordered by a parking lot, fences, lawn bowling and the school." And "for me, [the school] had a great schoolyard, like fabulous, it had sections I could use. There was a community centre, they would make a snow mountain. But there were trees all over the place, places for me to make geocaching…*(OE04)

While the first two quotes impart a similar perception of the school grounds, the participants' actions were indicative of a more significant variation — the participant who made the first statement chose to use the school grounds for outdoor education while the second participant identified the school's lack of natural resources as a prohibitive constraint and chose not to facilitate outdoor education there.

The participants' varying perspectives on the possibilities and limitations of the urban environment are best represented by the following two quotes:

> *…every community has monkey trails. You can pavement it up, concrete it up as much as you like but every community has those places where kids can play in a kind of non-concrete, you know, corporate managed place* (OE01).

> *We're in the inner-city, there are no large open spaces. The closest one is Assiniboine Forest. Then you have your city parks like Kildonan Park, but a lot of kids have been to those places already, so if we want to go anywhere we have to leave the city* (OE11).

Finally, two quotes represent the participants' varying perspectives on naturalized areas within city limits.

> *I love Fort Whyte – but my problem with it is that it creates the concept that the environment is a place that you box in. I guess similar to the Transcona Community Bioreserve, formerly the Domtar site. So, ok to go to nature I've got to go here* (OE01).

> *So this was great, there were all kinds of animals and we went snowshoeing in there and hiking there and exploring and different types of games. So that was the best part about teaching outdoors. When I came to this school, because this is very urban – there's nothing around here* (OE05).

The second quote is in reference to the Transcona Community Bioreserve, a large formerly industrial site that was transformed into a natural park. Fort Whyte, also a reclaimed industrial site, is an environmental, education and recreation centre.

Ranking the Constraints to Outdoor Education in Winnipeg

Each participant was asked to identify which of the constraints, they described in their interview, had the most powerful impact on their ability to facilitate outdoor education. There was minimal consistency amongst the participants' responses. Constraints ranked first, in terms of the magnitude of their impact, included student/family socio-economic status, inconveniencing colleagues, weather, administrative reluctance, transportation, time, location and substitute teachers. Only time and divisional/school policy were ranked first by more than one participant. Constraints ranked second included cost, transportation, school/divisional policy, location and the attitude/support of colleagues. None of the constraints ranked second were accorded that strength by more than one participant. No participant ranked more than two constraints.

Motivating Factors

The participants were motivated to negotiate the constraints to and continue teaching outdoor education by their personal enjoyment of the task and the positive outcomes of the programs they run.

> *I think part of it is that we enjoy being outside. Like, when we're actually there. Sometimes I've told [the other teacher] that was the best thing in my year. Like that bike trip. It was super challenging, frustrating sometimes. You know, it's a lot of work. But then, when I look back on the year, what was fun, that was fun. I had a lot of fun there. So I think that's the motivational thing right* (OE09).

The most frequently identified positive outcome was the success and engagement of those students that tended not to excel in the classroom setting.

> *Knowing that it appeals, knowing that being outside appeals to some kids. It appeals to at least one kid in my class. It appeals to at least, and I know that in my heart, that some kids like being outside. And so that's why I want to take them outside is that I know some kids prefer to sit in a desk and look at a textbook and answer questions out of the textbook, some kids prefer to go laugh and run and play and so, trying to appeal, nope – not trying to appeal but offering different learning experience throughout the year keeps me doing it because I know that kids like it* (OE10).

Other outcomes identified as motivational included the break down of social structures and increased engagement in and enjoyment of the learning process. A final participant identified the desire to see his students experience the same benefits he does outdoors as motivational.

> *…the reason I keep saying that it should be what we do… is the mindset. I know that when I'm at camp, or I'm hiking or sitting on a dock or walking through the trees I feel right. And I guess maybe it's selfish of me to feel that other people feel that way…everyone I think has their space where they feel proper, and I don't think this institution is that place for anybody…*(OE12)

Increasing Interest in Outdoor Education in Winnipeg

While outdoor education is far from the norm in Winnipeg, the participants believed there is significant potential for expansion. The participants were enthusiastic about increasing interest in outdoor education but cautioned against top-down, division-wide mandates that would obligate their colleagues to participate. The participants argued that forcing teachers to adopt practices they do not believe in would inhibit diversity, one of public schools' greatest advantages, and put teachers and students in undesirable and potentially unsafe positions.

> *And not everybody is going to jump on board and not everybody should. I mean the beauty of public school is that everyone brings something different. Diversity is really the beauty of it, I mean, it's not all lock-step* (OE01).

> *If the divisions like 'well hey one of our priorities is outdoor education' but if you're not an outdoorsy person at all then maybe you're going to be reluctant to do it because it might just seem like you're being forced into doing it* (OE08).

One participant argued that students can detect when teachers are disinterested in what they are teaching, and that teachers obligated to practice methods they are not passionate about provide less transformative learning experiences.

> *…kids aren't dumb, they can sense it and they know if somebodies bringing a passion for something to what they're doing, you know, they can sense that and they know it, right. If somebodies just trying to do the best they can, they know that too and they respect it but its not necessarily the same sort of transformative educational experience you get from somebody whose really passionate about it* (OE06).

The participants recommended several alternatives to the establishment of a top-down mandate to increase interest in and the practice of outdoor education. First, a number of participants suggested an alternative top-down initiative, one that they thought would be beneficial — the purchase, lease or creation of a facility dedicated to outdoor education. The majority of participants also recommended, more generally, approaching the task of increasing interest in outdoor education from the bottom-up.

Creating a Divisional Space

Two of the participants from Winnipeg School Division proposed that the administration lease Camp Manitou, a camp not far from city limits, and centralize divisional equipment and knowledgeable staff there. While both of the participants spoke about this idea with passion and conviction, they also readily admitted that it is a 'dream'.

> *…you know I brought up Camp Manitou before, but you know, it's a camp that's close…and you know, I guess my ultimate dream would be for the division to take out a lease and take from September to June and staff it. And say, we've got your camp, we'll put in professionals and we'll, you know…let us know what you want, we'll set it up, and we'll run experiential learning, and we'll run outdoor-based, nature-based learning, key word there learning. And, you can have all the equipment there, you can centralize your equipment, you can centralize your most experienced staff, and you could do it at a very low cost because you're using the same facility all the time. I think it would lower the barrier for teachers who don't feel they know how to run a camp or how to run a ski program…*(OE12)

Several other participants made a similar suggestion — that the division either create an urban green space, dedicated to outdoor education, or move schools to forested areas.

> *We have schools in the wrong places. We should have a school where Camp Manitou is. We should have a school…you know, we're here right now at the edge of town and we have no trees. You know, like, if we threw a school in a forested area close to town, I really believe that this whole push of outdoor classrooms and nature play areas, you know, we're pouring tens of thousands of dollars into these manufactured nature-zones, in school yards…which is great, but it's sort of like – why do we keep building these institutions…*(OE12)

Taking a Bottom-Up Approach

The majority of participants suggested a bottom-up approach to increasing interest in outdoor education, recommending two strategies active outdoor educators may undertake to help their interested colleagues succeed: role modelling and the sharing of relevant information and resources. The participants repeatedly expressed the idea that if other teachers saw the benefits students could obtain from a successfully run outdoor education program, they would want to try too. Peer mentorship — active outdoor educators taking their colleagues and their colleagues' students outside to learn hands-on — was identified as a prudent strategy for educating interested teachers.

> *Role-modelling for us – you know I encourage my fellow grade 7 teachers to take their kids outside, to do this map making thing outside or to, whatever I'm doing. You know – come outside, bring your kids we can do it together* (OE10).

The participants also recommended formally sharing information about the benefits of outdoor education and resources for success with colleagues.

> *You help people learn the importance of that, whether that be through discussion or through articles. Share articles, you know that you're reading of that importance of having outdoor experiences. That can be really good as well so that it doesn't just sound like it's only coming from you, that you're like, no no this is research not just my own opinion. Although my opinion does matter but there is research from people much smarter than I am that also say that this is important* (OE03).

Having administratively sanctioned time allotted for the sharing of resources was considered valuable.

> *Our admin had made the time for us to have those days together where we could go hey, you know, ok let's do algebra today and here's all the good stuff I did in algebra. And I got lots of activities from other people which was great. And I gave them some of my outdoor ed ones and they were like 'you mean I have to go outside?' I'm like 'Yes, you do have to go outside!' Come borrow the stake with the rope attached to make a circle. So it was kind of funny, they're like 'where do I find that?' I'm like 'in my room, there's a whole ton of stuff'. I had a bag of tent pegs and a bag of rope. Come by, share!* (OE04)

The objective, as described by the participants, is to encourage more teachers to get outside with their students. What teachers choose to do with their students outdoors should be a reflection of their personal interests and skills.

> *Well I think everybody should not necessarily – your goal isn't going to be a two-day camping trip, your goal might be a half-hour outside looking at snowflake structure or playing games outside or going outside at recess and playing with kids. You know, and doing something like that. Something small. My skill set, my confidence, yeah I'd take 20 kids camping, I'd have no problem with that but if somebody else wants to, if somebody else doesn't have that skill set or confidence then I still think that they should go outside somehow* (OE10).

Supporting Outdoor Education in Winnipeg

The majority of the participants shared a positive outlook and a sense of personal responsibility for the success of outdoor education in Winnipeg. Asked to identify what could be done to support outdoor education in the city participants focused on what they and their colleagues could do to help themselves and each other. In this section two appeals for support made by participants are outlined, followed by the participants' advice to their colleagues for facilitating successful and sustainable programs.

Appeals for Support

The participants only made two requests — they asked for enhanced professional development and time dedicated for the sharing of resources and ideas with colleagues. The participants requested broad professional development on how to facilitate hands-on learning outdoors, as well as more specific information on how to integrate outdoor activities into the existing curriculum, and how to use outdoor classrooms.

> *I think some professional development on some activities you could use to integrate with this curriculum. So you could probably do grade 4 to 6 and have the teachers together and give them – here's some curricular outcomes and here's some activities you could use in your classroom* (OE04).

Time dedicated to the sharing of relevant resources and ideas could be used by outdoor educators to exchange individual lesson plans, approved SIC applications, trip plans and more. Outdoor educators are not the only teachers to ask for time to share resources — the vice-principal interviewed described hearing the same request from teachers of all curriculum areas.

Tips for Success

The participants advised their colleagues just starting out to align their outdoor education goals with their existing curricular objectives and divisional priorities, to capitalize on others ideas and existing resources, to take small steps and let it grow and, finally, to just get out and do it.

Align Outdoor Education Goals with Existing Curricular Objectives:

The participants argued that presenting outdoor education as an alternative strategy for teaching the existing curriculum would increase the number of teachers willing to try it, and the number of teachers able to succeed and sustain their efforts.

> *But, you know, just seeing where the links are to the curriculum and not making it an extra thing because teachers get scared when things are layered on top and on top. So, if you can find the connection in the curriculum and then maybe go a little bit deeper then that's better then just trying to make up something and force it* (OE05).

Reconcile Outdoor Education Goals with Divisional Priorities

The three participants interviewed together offered their colleagues a unique piece of advice for success —align your outdoor education aims with the current provincial emphasis on Aboriginal education and Aboriginal student success.

> *If the priority of almost every school division in the province is increasing aboriginal education content, and Aboriginal student success. You know, Aboriginal education 101 points to the importance of the land* (OE07).

While none of the other participants spoke about the provincial emphasis on Aboriginal content and Aboriginal student success as a potential pathway to outdoor education, several participants did describe infusing indigenous perspectives into their

outdoor education programs.

Capitalize on Others' Ideas and Existing Resources:

The majority of the participants identified finding or developing the resources to facilitate a successful outdoor education program as a constraint. To negotiate this constraint many of the participants sought out resources developed by others. Participants used educational tools developed for Pedal Pushers and Girl Guides and re-used curriculums developed by other outdoor educators. Reflecting on this the participants strongly recommended that their colleagues capitalize on others' ideas and resources and share their personal resources.

> *Go to SAGE, you know, find the PDs, find out who your Aboriginal education person is in your division, find out what they're doing if they're doing anything, you know. Yeah, definitely, talk to other people…Yeah, beg, borrow and steal everyone elses information…Be willing to give everything up because it's not yours, don't ever think you're the only one* (OE04).

Using resources, already proven to work, may lend teachers credibility and help them to obtain the support of their colleagues and administration.

> *Plus I found I almost had to steal a lot of stuff from a previously created program for the first year at least just to have that credibility and like 'oh it's going to work' because look, somebody else has already done it. But after that first year I had the leeway to sort of go whatever direction I wanted to go* (OE02).

Two participants also recommended working directly with like-minded teachers. Working with and observing 'how it works for' an experienced outdoor educator may be especially inspiring to teachers who feel stuck or too nervous to get started.

Take Small Steps:

The majority of participants recommended starting small, sustainable and successful, and letting it grow over time. Taking small steps was identified as essential for building support amongst administrators and colleagues for outdoor education in schools. One participant argued that once an activity, no matter how small, is in the school timetable it is less likely to be cancelled and can serve as a starting point for growth.

> *I think that when I said start small with stuff, there's a calculated piece in there that, if it's always been there, it's less likely to go away … once you do it, it's there. Once its written in the schedule, it doesn't tend to go away. So the more little things you can do the easier it is because… a new administration will come in, or teachers are aware of it, and they go "so you're doing that again right?". Instead of you having to write your proposals again and go through all those hoops again you can just get going* (OE12).

A second participant advised his colleagues to start and maintain one or two major projects, establishing outdoor education, under their leadership, as an essential part of the school culture.

> *I think one point that I always make with new teachers, when I have a student teacher, is I say you always want to have at least one if not two big projects that you do. For example, my quinzees with the kids sleep over. In the community, sure there's probably only 20 kids who get to sleep because we don't have that many quinzees and you know. But, the talk and the news coverage and all that kind of stuff, and the pictures on the wall and the little newspaper articles it just really highlights your program and puts that little gold star next to it so that when you do want to do something later you've already got that credibility that 'oh, this person can make it happen'* (OE02).

Taking small steps also allows time for self-evaluation, a step one participant argued teachers often neglect.

> *But I guess the biggest thing would be, if you're worried about it, small steps – baby steps. And always, at the end of every activity or every experience is to evaluate and say ok what went well? What didn't go well? What, if I'm going to this again, what am I going to do differently? I think teachers sometimes don't stop to evaluate and think about how to improve. We get very busy and wrapped up in our days. Small steps and, yeah, don't be afraid* (OE10).

Just Do It:

Finally, the participants advised their colleagues to 'just do it' — to plan it well, but to just get out and try it. Trying is the fastest way to learn and, as emphasized by many participants, the only way to ensure students are exposed to the unique learning opportunities available outdoors.

> *But to do it because the learning opportunities that happen there that are not expected can make it all worth it. Yeah, those learning opportunities that are going to happen that … they weren't going to happen inside of your four walls. So something unexpected needed to occur to us in order to generate whatever discussion and ask the questions, generate questions that were likely not going to happen inside of your classroom* (OE03).

Key Supports for Successful and Sustainable Outdoor Education

The participants, all of whom had experience developing and/or facilitating successful outdoor education programs had one factor in common — they had the support of their administration. The participants experienced both direct and indirect, through their creation of supportive school cultures and innovative schedules, administrative support. The majority of the participants had to work to obtain that support, spending years incrementally building their administrators trust in them and the benefits of outdoor education.

A school culture may be supportive of diversity, encouraging teachers to use their best judgment and try new things, or restrictive and fearful. A school culture may also

support outdoor education more explicitly — several of the participants spoke about schools they had attended, taught at or heard of where outdoor education was the 'norm'. Many of these schools were private institutions.

> *For example, back to [the middle school where I taught], you go in there and it's normal. Like, doing outdoor ed is a normal thing. They were more trip based there but they also had double periods in their cycle and kids did outdoor ed, it was expected* (OE01).

The participants also described supportive administrators that had organized school schedules to permit students and teachers to leave the school grounds, and allowed for collaboration amongst teachers.

> *So as soon as that collaborative timetable happens it opens the floodgates because then people sit in team meetings and talk about what is possible, what we could do. And even people who are resistant are going to move a little bit because the expectation is we want you to do something together. If the expectation is that then it can go in a direction that could lead to something in the outdoors* (OE01).

Two participants also identified mentorship as a key support. Interviewed alongside the support staff member, assigned by the division to be their mentor, the participants described how having a mentor helped them navigate the application process to establish the outdoor education SIC they teach together.

Chapter Summary

The constraints to outdoor education in Winnipeg are extensive — the participants identified interpersonal conflicts with parents, colleagues and administrators, personal, or internal constraints and a wide array of logistical barriers. The only support the participants had in common was the support of their administrations. Despite this and their enthusiasm for outdoor education the participants were generally opposed to

divisional intervention, arguing that a top-down mandate enforcing outdoor education would inhibit diversity, and put students and teachers in potentially unsafe and undesirable positions.

The participants instead proposed two strategies dependent on active outdoor educators — role modelling and the sharing of relevant information and resources — to increase interest in the field. The participants' recommendations for supporting outdoor education also emphasized what teachers could do to help themselves and each other. The participants advised their colleagues to align their outdoor education goals with their existing curricular objectives and divisional priorities, to capitalize on others' ideas and existing resources, to take small steps and, finally, to just get out and do it. The only requests for support made by the participants were for enhanced professional development and time dedicated to the sharing of relevant resources and ideas with colleagues.

Chapter VI: UNDERSTANDING THE CONSTRAINTS TO OUTDOOR EDUCATION

Leisure constraints research influenced the structure and execution of this thesis – from the formation of research questions, focused on individual participant perceptions and experiences of the constraints, to the interpretation of the data. Leisure constraints research provided a model for organizing the constraints identified, opened the discussion to the possibility that the constraints to outdoor education may be negotiated and provided a theoretical framework for understanding the process of negotiating and/or alleviating the constraints to outdoor education. This chapter outlines the applicability and utility of leisure constraints research for organizing and understanding the constraints to outdoor education and how they may be alleviated and/or negotiated in greater detail; groups and interprets the constraints and the negotiation and/or alleviation strategies identified by the participants according to Jackson, Crawford, and Godbey's (1993) leisure constraints model and leisure constraints theory; outlines factors influential on the participants' perception and experience of the constraints identified and; documents the influence of life experience, motivation and attitude on the development of a preference for facilitating outdoor education.

Using Leisure Constraints Research to Conceptualize the Constraints to Outdoor Education

The Applicability of Leisure Constraints Research

With the exception of a brief discussion by Ernst (2007), outlining the potential of leisure constraints research to elucidate the influence of reluctant administrators on teachers'

perceptions of constraints, leisure constraints research has never been applied to the study of constraints to outdoor education. The objective of this section is not to classify teaching outdoor education as a leisure behaviour, but to demonstrate that it shares enough characteristics with leisure to support the application of leisure constraints research to the study of constraints to outdoor education.

Teaching outdoor education is akin to leisure primarily in terms of how participants perceive and experience the activities. Most definitions of leisure identify perceived freedom (Dumazedier 1974; Neulinger 1974; Unger and Kernan 1983) and a state of being or a mental and spiritual attitude (de Grazia 1962; Pieper 1952) as necessary conditions (amongst many others). Perceived freedom is experienced when an activity is chosen voluntarily, without coercion or obligation (Dumazedier 1974). Leisure participant's mental or spiritual attitudes can be attributed to leisure's function as an escape from everyday necessity or boredom, and/or as an opportunity to recover from fatigue (de Grazia 1962; Dumazedier 1967).

The participants all perceived teaching outdoor education as a choice, that they made based on their personal interests and priorities. On its own, perceived freedom does not set outdoor education apart from other teaching methods. Every day teachers choose, most often without guidance or coercion from the administration, which methods to employ in their classrooms. Setting outdoor educators apart, and supporting the application of leisure constraints research, are their attitudes. Nearly all of the participants described – regardless of whether they were leading overnight camping trips or teaching core curricular outcomes on the school grounds – experiencing a sense of personal satisfaction and freedom from routine. The participants described outdoor education as an

opportunity to get outside of the classroom, a setting that encourages the repetition of the same kinds of teaching and learning practices, and to engage in activities in which they are personally interested and enjoy. One participant explicitly described teaching outdoor education as a hobby or interest that he purposefully chose to incorporate in his career (emphasis added):

> *I went to a high school where there was a camping club… And we just, I don't know, I had a really good time. I really enjoyed it. To the extent that even if it was pouring rain for a whole week canoe trip I just had a great time kind of thing. So, that kind of triggered something where me and a couple of friends who graduated at the same time kept camping all the time…So, I think as a teacher when you get to a school where that's even a possibility you try to, you know, you're still interested in doing that with the kids you teach. So it's just like a* ***hobby*** *or an* ***interest****, right, that's applicable to some schools* (OE09).

The Utility of Leisure Constraints Research for Conceptualizing the Constraints to Outdoor Education

The application of leisure constraints research broadened the discussion of the constraints to outdoor education. The majority of previous studies treated the constraints to outdoor education identified as non-negotiable, requiring alleviation to increase participation. Leisure constraints research provided the theoretical framework for understanding variations in an individual's experiences and/or perceptions of the constraints to outdoor education, the factors that influence individuals motivation or ability to negotiate constraints, and the potential for alleviation and/or negotiation strategies to increase participation.

Leisure constraints models provided a number of potential frameworks for organizing and interpreting the constraints identified. The leisure constraints models developed by Searle and Jackson (1985), Crawford and Godbey (1987), Henderson,

Stalnaker and Taylor (1988), and Jackson, Crawford, and Godbey (1993) were evaluated in terms of their utility for interpreting the data collected. Jackson, Crawford, and Godbey's (1993) model was selected because it identifies interpersonal constraints as a distinct category, a division that proved useful for understanding and interpreting the constraints perceived and experienced by outdoor educators in hierarchal school systems. Finally, leisure constraints research provided a framework for understanding teachers' varying perceptions and experiences of the constraints to outdoor education and the complexities of negotiating and/or alleviating the different constraint types.

Conceptualizing the Constraints to Outdoor Education in Winnipeg, Manitoba

The constraints to teaching outdoor education identified by the participants can be categorized according to the three constraint dimensions — intrapersonal, interpersonal and structural — outlined in Jackson, Crawford, and Godbey's (1993) leisure constraints model. In the following sections the constraints perceived and experienced by the participants are categorized and described, alongside the participants recommendations for alleviating or negotiating each constraint type.

Structural Constraints

Structural constraints were the most numerous and the most frequently identified constraint type. Altogether, the participants identified fourteen distinct structural constraints. The three most commonly identified were divisional/school policy, lack of formal education opportunities and resources, and time. Other structural constraints identified included location, transportation, cost, equipment, class size/managing

students, curriculum development, student/family socio-economic status, weather, and substitute teachers. Curriculum development was identified only by participants that had established a SIC.

Alleviating Structural Constraints:

Alleviating the structural constraints to outdoor education is a complex proposition. Each of the participants perceived and experienced a unique set of structural constraints that influenced their preference for and participation in outdoor education. This variation in experience suggests that the alleviation of any one structural constraint will not influence the experiences of all outdoor educators. For example, administrative action to alleviate the costs of transportation would not impact those outdoor educators that have chosen to prioritize the use of community spaces. Interconnections between constraints further complicates the proposition. For example: the construction of an outdoor classroom would only influence those teachers that had received the appropriate training and had relevant resources available to them.

Leisure constraints research and research into the constraints to outdoor or environmental education also suggests that while, with enough resources, the majority of structural constraints to outdoor education can be alleviated, the expenditure may not have the expected or desired influence on participation. In the outdoor and environmental education literature Ernst (2007) hypothesized that reducing the amount of time and effort required to implement environment-based education may reduce teachers commitment to the method. In the leisure constraints literature, Jackson, Crawford, and Godbey (1993) speculated that the confrontation and negotiation of constraints may

increase participation.

The majority of the participants did request support to negotiate one structural constraint: the lack of formal training opportunities and resources. Specifically, the participants asked for time dedicated to the sharing of ideas and resources and enhanced professional development opportunities. These measures would alleviate the constraints imposed by the lack of formal training opportunities and resources, but not eliminate them. As one participant noted, teachers would still have to negotiate time constraints at professional development conferences — actively choosing, from a wide range of options, to use the limited time available to them to attend the outdoor education sessions offered. Additionally, the professional development sessions offered and/or resources and ideas shared would not satisfy the needs of all outdoor educators and would require frequent revision.

Negotiating Structural Constraints:

In most cases the participants were negotiating, with varying success, the structural constraints to outdoor education. Kay and Jackson's (1991) categorization of individuals into three groups — (1) those who do not participate in their desired activity (reactive response); (2) those who, despite experiencing a constraint, do not otherwise change their participation (successful proactive response) and; (3) those who alter their behaviour as the result of a constraint (partially successful proactive response) — provided a useful framework for describing and understanding the participants experiences negotiating the constraints to outdoor education.

The majority of the participants had either a successful or partially successful

proactive response to the structural constraints to outdoor education. Illustrative of the difference between the response types are two participants experiences negotiating Winnipeg's winter weather. The first participant, who had a partially successful proactive response ranked weather as the most powerful constraint to outdoor education, stating that there are generally only a 'handful of days' in January or February when a teacher can get outside with students. Despite this, the participant still believed in trying, on a more limited basis, to get outside. The participant's description of cross-country skiing with his students is illustrative of his struggle to balance his desire to take students outdoors with the constraints imposed by Winnipeg's winter weather (emphasis added):

> *And you get outside and it's kind of that borderline — it could be almost too cold to be outside* ***but we have to get out there and try****. You know, fingers are freezing and mitts are coming off and boots are coming off and stuff. So, it's tricky…And then one wipe out in the cold and the snow and you get snow in the sleeves and boots and whatever else and it's cold and so...* (OE08).

The second participant, who had a successful proactive response, described the winter months as an opportunity to teach students that the winter landscape can be an 'active space' and to combat the tendency to 'get stuck inside for these long, long periods of time'. He did not list weather as a constraint to outdoor education or alter his behaviour. The contrasting experiences of these two participants also highlights the extent to which the successful negotiation of constraints is dependent on teachers' attitude and approach, not only their competency.

Kay and Jackson's (1991) framework also proved useful for interpreting the participants' experiences negotiating interpersonal constraints. When the participants began teaching outdoor education many limited their actions to moderate the concerns of their colleagues and administrators, a partially successful proactive response. As the

administrative cultures of their schools evolved and became more accepting of outdoor education the participants expanded their efforts. Since then, many of the participants' ambitions have continued to evolve, suggesting that teachers may transition through the three response types dynamically.

The participants made a number of recommendations to their colleagues for successfully negotiating the structural constraints to outdoor education, several of which are supported by the outdoor and environmental education literature. First, the participants advised their colleagues to align their outdoor education aims with their existing curricular objectives and divisional priorities. This recommendation reflects Dyment (2005) and Skamp and Bergmann's (2001) finding that outdoor education, presented as an alternative method for delivering the core curriculum, rather than a subject area, appeals to a greater number of teachers. The participants argued that 'teachers get scared when things are layered on top and on top,' reflecting the same author's argument that outdoor education, defined as a subject area, tends to be viewed by teachers as another activity to be added on to an already crowded curriculum (Dyment 2005; Skamp and Bergmann 2001). Finally, the participants recommendation to start small and successful is supported by Henderson and Bialschecki's (1993) finding, that while participation in any activity may lead to either preference or non-preference, successful individuals are more likely to want to continue participating (Henderson and Bialschecki 1993).

Interpersonal Constraints

Interpersonal constraints, which may influence both preference and participation (Crawford and Godbey 1987), were identified more often than intrapersonal constraints by the participants. The participants experienced interpersonal conflicts with school and divisional administrators, teachers with different priorities and ideas, and parents. Interpersonal conflicts with the administrative staff influenced the participants preference for and participation in outdoor education, while interpersonal conflicts with parents and colleagues influenced only participation. Two participants also described interpersonal conflicts with the custodial staff, which impacted their participation.

Negotiating Interpersonal Constraints:

Interpersonal constraints are generally specific to a particular context and complex to negotiate. The participants provided specific examples of interpersonal conflicts they had negotiated only in cases where the conflict could be attributed to a single source of concern. For example, one participant explained how he mitigated parent's safety concerns with regards to quinzhee building using educational photos, resources and a brief video posted to the school website.

The majority of the interpersonal conflicts described by the participants were based on a broader array of factors. For example, and as outlined in the preceding section, interpersonal conflicts with administrative staff can be attributed to administrators concerns over liability and/or their limited knowledge of the various processes and outcomes of outdoor education. Administrative concerns over liability may be the function of both intra- and inter-personal constraints — administrators may experience

personal anxiety about the safety of outdoor education and/or pressure from parents and the public to keep students safe. Each of these concerns and pressures requires a unique response. The same principal applies to the negotiation of interpersonal conflicts with colleagues and parents.

The participants did make one general recommendation applicable to the negotiation of interpersonal constraints — start small and successful. The range of intra- and inter-personal constraints experienced by teachers and administrators require time and education to overcome. By starting small, outdoor educators can gradually introduce their colleagues and administrators to the field, managing their expectations and fears individually, and educating them about their personal potential and the potential of outdoor education to meet the needs of their schools. The participants also argued that gradually developed outdoor education programs are more likely to experience consistent success, moderating the concerns of reluctant colleagues.

Intrapersonal Constraints to Outdoor Education

Intrapersonal constraints, which interact with preference (Jackson, Crawford, and Godbey 1993), were the least-commonly identified constraint type. Only the first time outdoor education teacher, who had no previous knowledge of or interest in the outdoors expressed any hesitation with regards to his desire or capacity to teach outdoor education. None of the participants experienced intrapersonal constraints powerful enough to prohibit participation. This result was expected — the snowball sampling method utilized limited participants to teachers with a demonstrated interest in taking students outdoors for hands-on learning opportunities.

The participants did refer to intrapersonal constraints to explain why other teachers and administrators may be reluctant to pursue or approve of outdoor education. The participants hypothesized that apprehension regarding the additional time and effort required to plan and execute outdoor education activities, and/or personal dislike of the outdoors and outdoor activities, especially in the winter, might deter teachers. The participants attributed administrative reluctance to anxiety over liability and misguided or incomplete understandings of the processes and outcomes of outdoor education and its relevance to the public education system. For example, one participant described an administration that had narrowly defined outdoor education as 'going on trips' and subsequently established a 'litigation type' divisional culture prohibitive of outdoor education.

The erroneous dismissal of opportunities presented as outdoor education is likely more prevalent than suggested by the results of this study. Every teacher and administrator familiar with the term has likely prescribed, based on their personal experiences and knowledge, a set of possibilities and limitations to the term. Accepting their personal definition, teachers may then dismiss or fail to consider valuable opportunities.

Negotiating Intrapersonal constraints:

The participants were clear that intrapersonal constraints cannot be alleviated using top-down, division-wide mandates. Such mandates, the participants argued, would put students and teachers in uncomfortable, undesirable, and potentially dangerous situations. The participants instead recommended a more contextual and targeted

approach to increasing interest in outdoor education, emphasizing role-modelling and the sharing of ideas and resources. The negotiation strategies recommended by the participants would allow teachers the flexibility and time to gradually build the skills, knowledge and self-confidence needed to facilitate those outdoor education activities that best reflect their interests and priorities and the unique needs of their students. One participant explained the pedagogical theory behind allowing teachers' this flexibility as follows:

> *…the pedagogy is that you should kind of triangulate – that is, what you actually do in class should be a negotiation between you, that is the teacher, what you're bringing, what the students are bringing and kind of what the curriculum says. Because there is no set curriculum it kind of leans heavily on what the students are bringing…*(OE06)

The success of the first time outdoor education teacher, who modified the SIC he was asked to teach to reflect his relative lack of experience in the outdoors, exemplifies the benefits of allowing teachers the flexibility to follow this pedagogy.

The participants' alternative recommendations also support a more targeted approach. Jackson, Crawford, and Godbey (1993) categorized individuals with 'no desire' to participate in a leisure activity into three groups: those who are already participating as much as they wish; those with a genuine lack of interest and; those experiencing intrapersonal constraints. Whereas a divisional mandate would target all teachers in the 'no desire' group, the individualized strategies recommended by the participants could focus resources on those teachers most likely to change their practices. Henderson and Bialeschki's (1993) hypothesis that individuals with no or distal (mild) interest in an activity are unlikely to initiate participation, further emphasizes the importance and potential of targeted approaches. Finally the adaptation, by the two

participants with no or limited experiences in the outdoors as youth, to outdoor education early in their careers suggests that efforts to increase interest in the field might be most effective if targeted at new teachers.

Understanding Participants Differing Perceptions and Experiences of the Constraints to Outdoor Education

There was remarkable variation amongst participant in the reporting and ranking of constraints. Individual participants identified anywhere from five to fifteen intrapersonal, interpersonal and structural constraints that they personally faced. Of the twenty-two distinct constraints identified, more than half were described by fewer then half of the participants. Only one constraint—time—was identified as the most powerful constraint by more than one participant. This variation can be attributed to variations in the participants' outdoor education objectives and the participants' perception and experience of the constraints.

Understanding the Correlation between Participants' Objectives and Record of Constraints

Outdoor education is an inclusive term, used to describe an array of disparate activities. The outdoor education initiatives identified by the participants can be grouped into three broad categories, according to the participants' central objectives: trip-based outdoor education; core curriculum focused outdoor education and; nature-based outdoor education. These categories correspond, roughly, to the three periods of outdoor education outlined by Quay and Seaman (2013). The constraints identified by the

participants varied in accordance with the category that best described their outdoor education initiatives. The categories are not mutually exclusive — the majority of participants incorporated elements and experienced constraints from more than one category.

In the first period, beginning in the early twentieth century, outdoor education emerged as an initiative focused on fitness training, expeditions, service and the development of personal and social skills (Dyment and Potter 2014). The two participants interviewed alongside their mentor are the best representatives of this period — their 'land-based education' SIC incorporates several expeditions beyond city-limits yearly. Together the participants identified teaching students how to access and enjoy the outdoors, building relationships amongst peers and between staff and students, granting students the opportunity to demonstrate skills not relevant to the classroom setting, helping high-risk students to succeed, and influencing student's lifestyle choices as the primary objectives and benefits of their course. Other participants also identified the development of students' personal and social skills as a central objective but were more community-based, only incorporating a trip beyond city limits at the beginning or end of the year to reach outcomes not feasible within the city.

To achieve their objectives the two participants, representative of the trip-based outdoor education category, argued that students had to be taken beyond city limits. The relationship between this objective and the primary constraint listed by the two participants — transportation — is clear. Additional constraints listed by these participants and others that had experience facilitating trips beyond city limits included acquiring and maintaining camping equipment, cultural barriers, cost, the attitude/support

of colleagues, supervision ratios off school grounds and the skill level of teachers if specific activities were planned.

In the second period, beginning in the mid nineteen hundreds, outdoor education gained prevalence as an alternative strategy for teaching the core curriculum (Lewis 1975). The majority of participants retained this understanding of outdoor education, identifying helping students with learning styles not amenable to the classroom setting to succeed as a central objective of their outdoor education initiatives. Other objectives listed by the participants in this category included building relationships amongst peers and between staff and students; granting students the opportunity to develop new skills and demonstrate skills not relevant to the classroom setting and; helping students to develop a healthy and active lifestyle. Many of these participants believed that outdoor education should be happening across the curriculum but did not have the capacity to make this a reality.

The primary constraints to curriculum focused outdoor education, as identified by the participants, are school/divisional policy (especially those policies outlining the need for parental permission to access the community), lack of formal training opportunities and resources, location, and attitude/support of colleagues. Location was not ascribed as much strength by the participants in this category as by the nature-based outdoor education teacher described below — of the three participants that listed location as a constraint, two listed positive features of their school grounds or community alongside the negative or limiting features, and one only listed location as a constraint to geocaching. Other constraints listed by participants in this category included managing students/class size, transportation, supervision ratios off school grounds, administrative

reluctance, time, curriculum development, and access to and state of divisional equipment, especially cross-country skis and snowshoes.

In the third period, beginning in the 1960s, the focus of outdoor education shifted towards teaching students responsibility for stewardship of the land. The participant that best represents this period described her SIC as 'outdoor and environmental education' and her intertwining goals as exposing students to 'natural' areas and teaching them to care for the environment. Narrowly defining natural areas to exclude typical school grounds and public spaces, she perceived and experienced location as the most powerful constraint to outdoor education. The remaining constraints listed by this participant — class size/managing students, time, lack of formal training opportunities and resources, and divisional/school policy (particularly those policies outlining the need for parental permission to access the community) — were described as secondary, to be negotiated once an appropriate location to conduct outdoor education had been found.

This participants' experience should not be construed as a definitive statement regarding the type of landscape needed to facilitate nature-based outdoor education. The description by a second participant of the benefits and limitations of two popular naturalized areas within city limits is indicative of an alternative perspective:

> *I love Fort Whyte – but my problem with it is that it creates the concept that the environment is a place that you box in. I guess similar to the Transcona Community Bioreserve, formerly the Domtar site. So, ok to go to nature I've got to go here. So I'm not really conceptually in a natural environment which then creates all the issues and kind of a dissonance around understanding about how to treat people and things, living things, in that environment* (OE01).

This statement questions the superiority of natural areas and suggests that nature-based outdoor education may be taught anywhere.

Understanding the Relationship between Participants' Experience and Record of Constraints

A corresponding explanation for the variation amongst participants in the reporting and ranking of constraints is found in the leisure constraints literature. Jackson, Crawford, and Godbey (1993) proposed that variations in the *reporting* of constraints may correspond to variations in the *experience* of constraints and variations in *success negotiating* constraints. The first clause of Jackson, Crawford, and Godbey's (1993) proposal supports the hypothesis, outlined in the preceding section, that the participants outdoor education objectives influenced their experience and reporting of constraints.

The second clause of Jackson, Crawford, and Godbey's (1993) proposal — that variations in the *reporting* of constraints may reflect variations in *success negotiating* constraints — is more difficult to illustrate. In most cases it was difficult to determine whether participants had modified their objectives and actions as a result of the constraints they perceived or experienced or if their objectives had always differed. For example, based on the interview data it was not possible to discern whether the participant, who reasoned that transportation is only a constraint for teachers that define outdoor education as going on trips, had modified his objectives to negotiate the constraints imposed by transportation or had always been focused on using community spaces. There were exceptions — for example, participants' identification of administrative reluctance as a constraint was clearly related to their experiences negotiating their administrator's reluctance.

Trends not Followed

Variations in the reporting and ranking of constraints did not follow two expected trends. First, the number of constraints identified did not correspond to the participants' experience or commitment to teaching outdoor education. For example, the first time outdoor education teacher identified only seven distinct constraints, far fewer than many of the more experienced participants. Second, the number of constraints identified did not correspond to the complexity of the activities planned or executed. For example, the participants planning a class trip to Banff National Park, one of the most elaborate activities described, identified fewer constraints than some of the participants who primarily use the school grounds to facilitate outdoor education.

From Preference to Participation: The Function of Life Experience, Skills, Motivation and Attitude

Developing a preference for and commitment to teaching outdoor education is a complex process. Teachers that choose to pursue outdoor education do so knowing that there are a multitude of constraints that must be negotiated before they may proceed. In this section the influence of early life experiences, skills, motivation and attitude on the generation of a desire to teach and a commitment to outdoor education are outlined.

Linking Early Life Experiences to a Preference for Outdoor Education

The participants' descriptions of what or who got them interested in teaching outdoor education were remarkably similar. Nine of the twelve participants referred to influential experiences in the outdoors as young people (note, one participant did not

participate in the discussion regarding early life experiences). All of the participants' early life experiences had two additional features in common: they were social experiences and; they were what Wells and Lekies (2006) referred to as experiences in "wild" nature. Family members and school, camp and club peers and staff facilitated participants early exposure to the outdoors and taught them the skills needed to access and enjoy outdoor spaces throughout their lifetimes. The majority of the experiences referenced by the participants took place beyond city limits, in provincial parks or natural areas, and included generous time for unstructured and spontaneous activities, two of the defining characteristics of experiences in "wild" nature. This consistency supports Wells and Lekies (2006) hypothesis that experiences in "wild" nature are identified as influential more often than experiences with "domesticated" nature.

Two of the participants did not fit this profile: one claiming to have had no influential experiences in the outdoors as a young person and the other only 'artificial' experiences. The participant that identified no influential childhood experiences was the first time outdoor education teacher. In his interview he also expressed a lack of interest in and knowledge of the outdoors and demonstrated minimal commitment to teaching outdoor education. Having accepted the position primarily as a means to expand his skill set, he was keen to have a more knowledgeable and passionate teacher replace him in the following year.

The activities dismissed as 'artificial' by the second participant — camping in a camp ground and white-water rafting — can be easily differentiated from some of the experiences listed by the other participants. For example, a clear distinction can be made between the front-country camping and guided tours dismissed by the atypical participant

and the back-country camping along canoe and hiking routes described by four other participants. The difference between the majority of participants more general descriptions of camping, fishing, hiking and enjoying the outdoors growing up and the 'artificial' activities dismissed by the atypical participant is less clear. It is possible that the activities differed in the participants estimation only — that, for example, the atypical participant dismissed her experiences in hindsight because she felt they did not compare to the back-country experiences of her peers and mentors. Alternatively, the participants differing descriptions of their childhood experiences may be interpreted to suggest that some types of experiences in "wild" nature are more influential than others.

Using a Unique Skill Set to Build an Outdoor Education Program

The participants did not possess a particular set of skills, beyond those required by all educators, that made them uniquely qualified to teach outdoor education. Instead, it was evident that the participants had strategically designed their teaching plans to utilize the unique skills and knowledge they had developed through their personal experiences. For example, one participant who also manages a seasonal arborist business, chose to educate his students about trees:

> *I actually have them learn the trees and be able to distinguish between, you know, ash and elm and oak and all the various leaves and that sort of thing. So, we're outside, we're walking around, we're in the community, we're in the area and it's actually kind of cool because the kids they, all of a sudden, it isn't just a tree they can, you know, designate as to what it is and 'oh, this one seems to be sick for some reason or it seems to have an issue or a problem and look at this fungus on the leaf' you know, they seem to really take it in* (OE02).

Other participants' outdoor education courses reflected their knowledge of bike or ski repair, canoe tripping, and initiative tasks and games.

The tendency to focus on existing skills is not unique to outdoor education. As one participant explained, the pedagogy is that teachers should triangulate their own interests and skills with the interests of their students and the curriculum. The participants' tendency to focus on existing skills also helps to explain their self-confidence.

The Function of Motivation

Motivation influences both frequency of participation (Alexandris, Tsorbatzoudis, and Grouios 2002) and the negotiation of constraints (Hubbard and Mannel 2001). The participants exhibited extrinsic, intrinsic and a-motivation, to varying degrees. Extrinsic motivation, the desire to perform an activity as a means to reach an end, has been shown to have a significant and positive influence on participation (Alexandris, Tsorbatzoudis and Grouios 2002). Extrinsically motivating factors identified by the participants included the potential to improve relationships amongst students, enhance students' understanding of the environment, impact students' lifestyles choices, and increase student engagement and success.

Intrinsic motivation is the desire to perform an activity for its own sake (Alexandris, Tsorbatzoudis and Grouios 2002). The majority of the participants were motivated by the personal satisfaction and enjoyment they derive simply from participating in outdoor education activities. The discussion, quoted below, between the two participants organizing the trip to Banff National Park is indicative of the intrinsic motivation experience by participants.

> *…and then when we were looking at Banff and the hot springs and the mountains, I'm like 'yeah that's going to be awesome'. I don't want to drive 16 hours straight to get there, but I think that looks great. It looks like, wow, we're going to the Rockies. The kids, that's going to blow their minds if they haven't seen that yet* (OE09).
>
> *Hike up a canyon with them, over a river and go up to a meadow. Wow. That's glory. I'd love to do that* (OE11).
>
> *There is something about…I think you have to enjoy it. Especially if you're the one doing all the planning and the grunt work* (OE09).

Amotivation, or lack of motivation, is primarily influenced by intrapersonal constraints and is the most powerful predictor of frequency of participation (Alexandris, Tsorbatzoudis, and Grouios 2002). Only one participant, the first time outdoor education teacher, exhibited amotivation in relation to teaching outdoor education. In his interview he expressed limited interest in facilitating outdoor education activities, relative to other teaching pursuits, and questioned his ability to provide students with transformative or meaningful learning experiences outdoors. He was extrinsically motivated to try teaching outdoor education by the opportunity to learn new skills and broaden his potential as an educator.

The Importance of a Positive Attitude

The participants' attitudes had a clear influence on their experience of and success negotiating constraints. The majority of the participants approached the majority of the constraints identified with a can-do vision, treating them as routine obstacles not anomalous or non-negotiable barriers. The importance of a positive attitude is well documented in the literature. For example, May (2000) listed a consistent can-do vision, a passion for teaching students about the environment, and the ability to incorporate

humour as teaching practices essential for success.

The participants' attitudes also influenced their identification of objectives. The most positive participants tended to set the broadest objectives, confronting the most constraints, and to assume that they would be able to negotiate those constraints and reach their objectives. In comparison, the participants that facilitated the most limited outdoor education programs often used constraints to justify why they could not reach broader objectives. For example, one participant identified facilitating a winter camp as an objective, and justified why it could not be achieved using constraints relating to weather and policy:

> *Camp Assiniboia has a great program for winter camping but they have things like… archery is instructed. And I'm like, well that's one thing that we could remove but then you look at the other options and like ok well, cross-country skiing we already do in the school and, you know, we could build a quinzhee here if we wanted to but its usually minus forty outside so we don't and then…Then a lot of the other camping things they have there would be — there's some indoor aspects, like they have a floor-hockey area, but I'm like well, we can play floor hockey here. So, it hasn't really leant itself to happening. I'd love to see it happen at some point just to have a change of pace again* (OE08).

This participant's comments may also be interpreted as evidence of a feedback loop, described by Jackson, Crawford, and Godbey (1993) as a situation in which the anticipation of an insurmountable structural or interpersonal constraint suppresses the individuals desire to participate.

Chapter Summary

The participants were a relatively homogenous group, sharing similar early life experiences in "wild" nature with peers, family and school, camp and club leaders, a positive outlook and a dedication to facilitating meaningful educational experiences

outdoors. The defining features of the participants' outdoor education programs varied according to the participant's unique skills and knowledge.

Leisure constraints research was utilized as a theoretical background for interpreting the constraints to outdoor education identified by the participants. The participants' perceived freedom of choice and the personal satisfaction they derived from teaching outdoor education supported the application of leisure constraints theory to the study of the constraints to outdoor education. The constraints and constraint negotiation or alleviation strategies identified by the participants were categorized according to Jackson, Crawford, and Godbey's (1993) leisure constraints model.

There was remarkable variation amongst participants in the reporting and ranking of constraints. Each participant identified objectives, indicative of their personal interests and skills, that influenced their perception and experience of the constraints to outdoor education and, subsequently, their reporting and ranking of the constraints. There were also consistencies — structural constraints were the most frequently identified constraint type by all participants, followed by interpersonal constraints. Only one participant described experiencing an intrapersonal constraint. This outcome was expected: the snowball sampling method utilized here indeed limited participants to teachers with a demonstrated interest in teaching outdoors.

Supporting outdoor education in Winnipeg's public education system is a complex proposition. While the participants were enthusiastic to increase outdoor education, they cautioned against the introduction of top-down, division wide mandates that would oblige teachers to pursue practices about which they are not passionate and/or do not have the appropriate skill sets to conduct. The participants' recommendations for

supporting outdoor education typified a more targeted and individualized approach, emphasizing what teachers can do to help themselves and each other gradually build the skills and knowledge needed to pursue those outdoor education activities best suited to their personal skills and interests and the needs of their students.

The participants did have two requests — they asked for enhanced professional development and time dedicated to the sharing of resources and ideas. These requests reflect the need for a formal strategy to overcome the constraints associated with the lack of formal education opportunities and resources. In the concluding chapter two recommendations are made, based on the participants ideas, for increasing interest in and supporting outdoor education in Manitoba.

CHAPTER VII: CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The purpose of this research was to explore the possibility that the constraints to taking students outdoors for hands-on learning opportunities might be perceived and experienced differently by different groups of teachers and to determine the conditions under which those constraints might be negotiated. Specifically, the thesis set out to address four research questions: do all teachers that facilitate hands-on learning experiences outdoors share similar skills, characteristics and/or experiences; do all teachers that facilitate hands-on learning experiences outdoors have the same or similar perception of the constraints to doing so; what can the school or divisional administration do to increase interest in the facilitation of hands-on learning experiences outdoors and; how can the school system support teachers that already use the outdoors as a context for hands-on learning experiences. The conclusions, drawn from the data, are presented below.

Shared Experiences and Characteristics

The participants were a relatively homogenous group, sharing similar early life experiences outdoors and significant characteristics. The experiences shared by participants had two features in common: they were social experiences and; they were unstructured or spontaneous experiences in "wild" nature (as defined by Wells and Lekies 2006). The two characteristics held in common by the participants: confidence in themselves and in the positive outcomes of the programs they run and, dedication. The participants did not share a particular skill set, beyond those skills required by all

educators, which made them uniquely qualified to teach outdoor education.

The influence, ascribed by participants, to their childhood experiences outdoors reinforces the central tenet of Wells and Lekies (2006) life course hypothesis – that early life experiences may influence the trajectory of individuals' lives – and supports the conclusions of numerous other studies documenting the influence play in natural environments may have on individuals' environmental preferences and choice of outdoor recreation activities and occupations later in life (see for example Bixler, Floyd and Hammitt 2002; Kellert 2005; Palmer et al. 1998; Strife and Downey 2009). The central role of family, peers and professionals in participants' childhood experiences supports Bixler, Floyd and Hammitt's (2002) findings regarding the influence of social actors. Finally, the findings support Wells and Lekies (2006) hypothesis that experiences in "wild" nature are more often described as influential than experiences with "domesticated" nature.

Two participants did not fit the general characterization established, one claiming to have had no influential childhood experiences outdoors and the other dismissing her childhood experiences as 'artificial'. The first participants' willingness to try teaching outdoor education, despite this lack of experience, can be explained by general, early career willingness to learn, and administrative encouragement. The second participant's decision to begin teaching outdoor education may be interpreted as a 'turning point' – an event that results in a shift in an individual's life trajectory (Wells and Lekies 2006). Beginning her career with the intention of teaching English in the inner city, she accepted a career-altering offer to teach outdoor and environmental education. While she no longer facilitates outdoor education, after her introduction to the field she did go on to pursue a

master's degree, focused on incorporating sustainability learning into the science curriculum, and to teach sustainability education. Together, the experiences of these two participants suggest that any educator, with enthusiasm and the appropriate supports in place, may become a successful outdoor educator.

Differing Perceptions of the Constraints to Outdoor Education

There was minimal consistency in the reporting and ranking of constraints amongst participants. Altogether, the participants identified twenty-two distinct structural, interpersonal and intrapersonal constraints to outdoor education. More than half of the constraints identified were identified by less than half of the participants. In several instances, a participant identified a constraint as having the most powerful impact on their participation that was not identified by the majority of other participants. After analyzing the data, it became apparent that the participants' reporting and ranking of constraints varied dependent on their experiences, outdoor education objectives and attitudes.

There were both significant commonalities and differences between the constraints identified by the participants and the constraints enumerated in the literature. These commonalities and differences are shown in *Table 5*.

Table 5: Comparing the Constraints Identified by Participants and in the Literature

Constraints Common to the Literature & Data Set	Constraints Distinct to the Data Set	Constraints Distinct to the Literature
• Lack of formal training opportunities and resources • Weather • Location • Transportation • Cost • Time • Administrative reluctance • Class size/managing students • Curriculum development • Attitude/support of colleagues • Family/cultural • Planning for the unexpected • Personal/internal constraints	• Divisional/school policy • Supervision ratios off school grounds • Inconveniencing colleagues • Fear of cuts • Substitute teachers • Equipment • Student/family socio-economic status	• Standardized testing • Conceptual barriers regarding the appropriateness of outdoor learning for teaching some subject areas

Constraints distinct to the data set included divisional/school policy, supervision ratios off school grounds, inconveniencing colleagues, fear of cuts, substitute teachers, and equipment. Aspects of a number of additional constraints were unique to the data set, but may be interpreted as a subset of the broader constraint category, 'lack of funding,' identified in the literature (Dyment 2005; Ernst 2007; Ernst 2009). Constraints encompassed by this broader category include the costs of transportation and the accumulation and maintenance of camping equipment, and student/family socio-economic status. The more comprehensive understanding of lack of funding as a constraint to outdoor education obtained by this study was the result of the selection of semi-structured interviews as the primary data collection method, as compared to the survey methods used by the majority of previous studies.

Absent from the data set but documented in the literature were those constraints questioning the viability of teaching core curricular outcomes outdoors and meeting the expectations set by standardized testing (Dyment 2005; Ernst 2007; Ernst 2009; Skamp and Bergmann 2001). The absence of these and related constraints in the data set may be explained by the disparate Canadian and American (where many of the previous studies took place) standardized testing environments and by the sample. The participants, a small group of educators in Winnipeg, were selected because they had a demonstrated interest in outdoor education. The majority also had experience using outdoor education as an alternative strategy for teaching or reinforcing core curricular outcomes.

Building Interest in Outdoor Education

The participants were clearly in favour of a bottom-up, individualized approach to building interest in outdoor education. Through role modelling and the sharing of relevant information and resources the participants argued that active outdoor educators could help their colleagues build the skills, knowledge, and self-confidence needed to facilitate outdoor education teaching plans sensitive to their students and their own needs and interests. The positive influence educating potential participants, through role modelling, the sharing of resources and information and other means, can have on participation has been well documented – knowledge of the learning potential of the outdoors and the relevance of the outdoors to teaching core curricular areas have repeatedly been shown to be the most salient influences on teachers' decisions to facilitate hands-on learning experiences outdoors (Powers 2004; Skamp and Bergman 2001).

A bottom-up approach would also facilitate the funneling of available resources

towards those teachers most likely to change their practices. By way of contrast, a top-down, division-wide mandate would target all teachers uniformly – frustrating teachers with a genuine lack of interest in outdoor education and doing little to support teachers interested in outdoor education, but reluctant to initiate participation.

Supporting Outdoor Education:

The final research objective was to identify actions that divisional or school administrators could feasibly take to alleviate or decrease the constraints experienced by outdoor educators and/or to create the conditions for success. In response to this line of inquiry the participants made two requests for support – they asked for enhanced professional development opportunities and time designated for the sharing of relevant resources and information. The data indicated that the participants all experienced one similar condition – they had the support of their administrators. The participants' requests for support and the condition experienced are tangible solutions to partially alleviate specific constraints.

The majority of the participants' responses were focused on what outdoor educators could do to help themselves and each other to negotiate the constraints. The participants were, with varying success, negotiating the structural and interpersonal constraints to outdoor education. The participants' advice to their colleagues reflected this experience – the participants advised their colleagues to align their outdoor education goals with their existing curricular objectives and divisional priorities; capitalize on others' ideas and existing resources; take small steps and; just get out and try it. These recommendations reflect a generalized approach to supporting outdoor education in any

of its permutations.

Recommendations: Fostering Diversity Amongst Outdoor Educators in Winnipeg

Outdoor education is a broad term, used to describe a wide array of educational activities about, for and in the outdoors. The participants, a diverse group of educators, used the term to describe therapeutic, curricular, environmental, and self and social improvement activities within and outside of city limits. The public education system is equally as diverse. The needs of students, schools, and divisions vary widely, requiring outdoor educators to adapt. Finally, teachers' interests and skill sets vary, influencing their choice of outdoor education activities. This flexibility and diversity is key to the success of outdoor education.

There are disadvantages to using outdoor education as a comprehensive term. Several participants expressed concern that the terms broad application had also led to its misuse. For example, one participant referenced a school that identified a trip to Adrenaline Adventures — a commercial park offering cable wake boarding and snow tubing amongst other activities — as outdoor education on their school website. In the participants' words: 'that's not outdoor education. That's just going on a trip outside, and I think there's a big difference'. This concern reflects the concern, documented in the outdoor education literature, that nature is increasingly a backdrop for outdoor education (Dyment and Potter 2014).

To increase and support the practice of outdoor education in Winnipeg a strategy is needed that both supports diversity, permitting teachers the flexibility to develop outdoor education programs that reflect their own and their students skills and interests,

and limits the terms misuse. To educate administrators and teachers about the possibilities and limitations of outdoor education and support the practice of outdoor education, two recommendations are outlined below.

Recommendation One: Establish a Relevant Professional Association

Across Canada professional associations, affiliated with provincial teaching federations, societies and unions, support educators of distinct curriculum areas and populations. Professional associations support educators through the provision of professional development, training and networking opportunities and through the collection and distribution of relevant resources. In Manitoba, there are twenty-eight professional associations, referred to as special area groups of educators (SAGEs), affiliated with the Manitoba Teacher's Society. There is currently no SAGE for outdoor educators or educators in any of the related fields (to see a complete list of the SAGEs in Manitoba visit https://www.mbteach.org/). The limited professional development opportunities available on topics or skills relevant to outdoor education are typically offered by the Manitoba Physical Education Teachers Association or outside organizations.

The foundation of a professional association would formally support the recommendations made by the participants for reducing the intrapersonal, interpersonal and structural constraints to outdoor education in Manitoba. From its inception, a SAGE would impart legitimacy to outdoor education as a field, potentially reducing intrapersonal and interpersonal constraints. In addition, the structure would broaden and formalize the existing network of active outdoor educators and offer interested educators

a clear avenue to find role models with experience and advice relevant to their context and interests. For active outdoor educators a broadened network could serve as a repository of fresh ideas and resources and as a support system for negotiating constraints. The challenges of developing a SIC curriculum that meets the standards set by Manitoba Education and Manitoba Advanced Education and Literacy, planning outdoor education trips and activities and negotiating school and divisional policies could all be alleviated by a broad network of experienced outdoor educators with resources to share.

A SAGE, dedicated to the advancement of outdoor education, could also provide professional development on relevant educational resources and teaching skills, and offer training programs to ensure that educators are properly certified and confident in their abilities to facilitate outdoor activities. The majority of participants identified the lack of professional development and formal training opportunities as a significant constraint to outdoor education and asked for an intervention. Finally, a professional association could support educators by collecting and distributing relevant resources. A well organized, easily accessible collection of resources and information would serve many of the same purposes as a broadened network, offering an additional avenue for teachers to learn and explore how outdoor education can meet the unique needs of their schools.

There is precedent to support this recommendation. There are currently outdoor or environmental education associations in Alberta (The Global, Environmental and Outdoor Education Council), British Columbia (Environmental Educators Provincial Specialist Association), Saskatchewan (the Saskatchewan Outdoor and Environmental Education Association or SaskOutdoors), and Ontario (The Council of Outdoor Educators

of Ontario). The Saskatchewan Outdoor and Environmental Education Association, a professional growth network affiliated with the Saskatchewan Teachers' Federation, is an exceptional example of a professional association that could serve as a model for a SAGE in Manitoba. Formed to encourage and support 'educators and people who participate in outdoor recreation to practice and teach environmental responsibility' the association offers professional development and training opportunities to individuals of all skill levels. To alleviate equipment and cost constraints the association has built an inventory of equipment and educational resources that members may rent and has established a grant. Finally, the website, saskoutdoors.org, has a variety of presentations, learning plans and documents that anyone can download and use free of charge.

Recommendation Two: Work Together to Support Outdoor Education in Winnipeg's Schools

Outdoor education is a time and energy intensive initiative. Without the support of dedicated colleagues and administrators outdoor educators are likely to over-extend themselves, diminishing their enthusiasm and/or obliging them to cease or modify their efforts. One participant had experienced this, taking a year-long break from facilitating outdoor education as she felt her personal passion for outdoor activities fading. To avoid this in the hierarchical school system, teachers and school and divisional administrators must all work together to support outdoor educators.

The participants' recommendations for supporting outdoor education in Winnipeg's public education system emphasized the importance of working together, highlighting what individual teachers can do to help themselves and, especially, each

other to succeed. Extolling the virtues of supporting one another, the participants reminded their colleagues that outdoor education is about helping the students, and to do that, they must all share their skills and knowledge.

> *Yeah, beg, borrow and steal everyone else information. In fact, my student teacher is meeting with me tonight and his division has asked him to put together some outdoor ed stuff and so he's basically going to steal everything that I have. Be willing to give everything up because it's not yours, don't ever think you're the only one* (OE02).

Divisional and school administrators may impact the growth and success of outdoor education indirectly, through their influence on the climate or culture of a school, and directly. Simply by expressing support, the administration may influence teachers' perception of the constraints to success (Ernst 2012). Administrators may also directly guide, help or encourage teachers in whom they recognize a skill set. All of the outdoor education initiatives described by the participants had administrative support. Collegial support, the learning environment and the school climate have all been shown, in the literature, to be influential on teacher's decisions to pursue experiential learning strategies (Ernst 2007; Ernst 2009; May 2000; Skamp and Bergmann 2001).

Contribution to the Literature

A limited body of academic literature has identified constraints to and influences on taking students outdoors for hands-on learning opportunities. This study contributed to and enhanced that body of literature through the application of leisure constraints theory. Leisure constraints theory was used to guide the development of this study from the identification of research questions through to the interpretation of data. The application of leisure constraints theory opened the discussion, not only to the possibility that

constraints to taking students outdoors may be negotiable, but that they may be perceived and experienced differently by different teachers. The results of this study also provided practical data to increase teachers use of the outdoors for learning. The participants recommendations for increasing interest in, negotiating the constraints to and supporting outdoor education include tangible solutions that may be pursued immediately and a guide for future action.

Areas for Future Research

Future research could expand on this studies preliminary exploration of the utility of life course research for understanding how teachers become outdoor educators, the applicability of leisure constraints research to the study of the constraints to outdoor education and, the profoundly positive impacts of outdoor education in Winnipeg. The results of this study supported the central hypothesis of life course research — that influential childhood experiences may set individuals on particular life trajectories (Wells and Lekies 2006) — while also raising new questions about the influence of different types of childhood experiences in "wild" nature. Future research could examine whether certain types of experiences in "wild" nature are more influential than others and/or why individuals may perceive their own experiences as less valuable or influential.

Second, future studies could expand the use of leisure constraints research to elucidate teachers' varying perceptions and experiences of the constraints to outdoor education. For example, future research could explore the potential of leisure constraints research to elucidate the constraints experienced by reluctant administrators, how those constraints impact their relationships with their staff, and how their staffs' perceptions of

the constraints to outdoor education are subsequently influenced.

Finally, this study provided only a preliminary record of the benefits of outdoor education in Winnipeg. Future research should strive to better document the profound influence outdoor educators are having on students. A more in depth understanding of the positive outcomes would allow teachers and administrators to more accurately assess how they can use outdoor education to meet the unique needs of their students and schools. Knowledge of the positive outcomes of teaching and learning outdoors has been shown to increase participation (Ernst 2009; Powers 2004; Skamp and Bergmann 2001).

Limitations of this Study

This study had two significant limitations, both in relation to the sample. The first limitation was the sampling design, which limited the participants to active outdoor educators. In most cases it would have been insightful to speak with the participants' students, colleagues and administrators to corroborate the participants stories, and/or to obtain their perspectives. Interviews with the participants' administrators may have yielded data of particular interest — based on the participants comments and the literature, this study could only hypothesize why administrators demonstrate reluctance towards outdoor education initiatives.

The second limitation was also in relation to the sampling design. The snowball sampling method utilized resulted in a diverse group of participants that used the term outdoor education to describe a wide array of activities. While this result was interesting, indicating a diversity amongst outdoor educators in Winnipeg's public school system, it limited the development of an in depth understanding of the constraints to any one form

of outdoor education. Future studies may choose to target a narrower sample of outdoor educators.

Concluding Remarks

At the outset of this study I believed that outdoor education was the solution to youths increasing disconnection from the natural world and the myriad of engagement, social and academic issues plaguing schools. A multitude of studies have shown that the opportunity to play and learn outdoors during childhood can have positive impacts on children's mental and physical health (Fjortoft 2001; Frumkin and Louv 2007; Kellert 2005; Wells and Evans 2003), social skills (Coley, Sullivan and Kuo 1997; Taylor et al 1998), environmental consciousness (Kahn 2002) and academic performance (Ernst and Monroe 2004; Lieberman and Hoody 1998). Through my personal experience working at YMCA-YWCA overnight camps in Ontario and Alberta I had also witnessed how the outdoors and outdoor pursuits can bring youth together, challenge them and help them to grow. Based on these experiences and the literature I designed this study with the hope of finding tangible solutions to expand outdoor education in schools across Winnipeg.

While I still believe in the potential of outdoor education, the experiences and perspectives of the participants of this study led me to modify my aspirations for expanding outdoor education in Winnipeg's public education system. Outdoor education is just one of a multitude of teaching methods, championed by educators and supported by literature, beneficial to students. To compare these methods directly is to do them each a disservice. More valuable is to ensure that all educators are granted the opportunity to pursue the teaching methods about which they are the most passionate and that meet the

unique needs of their students and schools. A passionate and engaged educator will always deliver a superior educational experience.

To this end, outdoor education should be supported and nurtured on an individual basis. In those schools where the needs and interests of a class of students align with the interests and skills of their teacher, outdoor education may have a significant and lasting impact on students' lifestyles, attitudes and values. The participants of this study are a testament to what passionate outdoor educators can accomplish in the appropriate context.

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APPENDICES

Appendix A: Interview guide

Introduction: I am conducting this interview with you because [insert name of contact] told me that you are committed to providing your students with hands-on learning opportunities outdoors. I am conducting interviews about teachers' use of the outdoors for learning to fulfill the thesis requirement for the masters of natural resources management program at the University of Manitoba, and to obtain a better understanding of the constraints teachers face to taking their students outside and what can be done to help teachers overcome those constraints. The questions I am going to ask you will focus primarily on your use of and opinions on using the outdoors for teaching, the constraints or barriers you and other teachers face to getting outside with your students, and what can be done about those constraints. The interview should take between 45 minutes and an hour. Do you have any questions before we begin?

1. Can you start off by giving me a few examples of the sorts of activities you do with your students outside of the classroom?
    - How are these activities designed to meet curricular outcomes, or are they extra-curricular?
2. What or who got you interested in teaching outside?
3. Why do you think it's important to take your students outside?

4. Do you spend any of your own leisure time in the outdoors?

Prompts for positive answers:

- Have the interests or skills you have developed on your own time helped you to plan or carry out activities with your students outside? How?

5. What, if anything, do you think could be done to get more teachers interested in or excited about getting their students outside?

6. What constraints or barriers have you faced, or do you face to taking your students outside?

7. Have you ever limited or modified your activities with your students outside because of those constraints? If so, how?

8. What keeps you motivated to overcome those barriers or negotiate those constraints and take your students outside?

9. What, if anything, would make it easier for you to plan and carry out activities with your students outside?

10. Has there been anything over the years that has made it easier for you to plan or carry out activities with your students outside?

11. Do you think a teacher needs any special skills or characteristics to take their students outside?

12. How have your colleagues and the administration responded to your efforts to take your students outside?

13. Why do you think more teachers aren't taking their students outside?

14. What, if anything, do you think schools or the division could be doing to help teachers that are interested in getting their students outside to succeed?

- If the school or division could only do one of these things, which do you think would be the most helpful?

15. What advice would you give to your colleagues that are interested in getting their students outside more, but feel overwhelmed by constraints?

Concluding Questions:

16. Is there anything else you would like to add?

As you know, my sample for this study is dependent on teachers that are using the outdoors for teaching being able to put me in touch with other teachers that are using the outdoors for teaching. Is there anyone you could put me in contact with that you think would be interested in sharing his or her experiences and opinions? Can I use your name as an introduction?

Appendix B: Sample Consent Form

UNIVERSITY OF MANITOBA

Natural Resources Institute
Clayton H. Riddell Faculty of
Environment, Earth, and Resources

303-70 Dysart Road
Winnipeg, Manitoba
Canada R3T 2M6
Telephone: (204) 474-8373
Fax (204) 261-0038

An Examination of the Constraints to Teaching and Learning Outdoors

Principal Researcher:
Mallory Light
Natural Resources Institute
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lightm@myumanitoba.ca

Research Supervisor:
Dr. Michael Campbell, Professor and Director
Natural Resources Institute
University of Manitoba
Tel: (204)-474-8514
michael.campbell@umanitoba.ca

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The purpose of this research is to obtain a better understanding of the constraints teachers face to taking their students' outdoors and what can be done to help teachers overcome those constraints.

You are being asked to participate in a one-time semi-structured interview on this topic. The interview questions will focus primarily on your use of and opinions on using the outdoors for teaching, the constraints or barriers you and other teachers face to getting outdoors with your students, and what can be done about those constraints.

The interview will last between 45 minutes to an hour, and will be recorded using a digital audio-recording device. There are no foreseeable risks or benefits to participating in the research process.

A random code will be assigned, in place of your name, to the transcript of your interview. That number will be used to identify the responses you give in the analysis, interpretation and dissemination phases of the research. Your name will never be directly associated with the responses you provide.

You may refuse to answer any question you wish throughout the interview, and you may chose to stop the interview at any time without any negative consequences. At the end of the interview, you will be given the opportunity to ask me any questions you have about the research process or the interview itself.

The results of this research will be used by the principal researcher to complete the thesis requirement for the masters degree program at the Natural Resources Institute at the University of Manitoba. Results may also be disseminated at academic conferences or in academic publications. You will never be identified by name in the dissemination of the results.

You will be sent a brief (1-3 pages) summary of the research results in approximately three months time. Please provide either your e-mail or postal address so that I may send you this summary in the space below:

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

The University of Manitoba may look at your research records to see that the research is being done in a safe and proper way.

This research has been approved by the Education/Nursing Research Ethics Board. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Coordinator (HEC) at 474-7122. A copy of this consent form has been given to you to keep for your records and reference.

Participant's Signature [redacted]

Researcher's Signature [redacted] Date Feb 17 2015

Appendix C: Ethics Approval

UNIVERSITY OF MANITOBA | Research Ethics and Compliance
Office of the Vice-President (Research and International)

Human Ethics
208-194 Dafoe Road
Winnipeg, MB
Canada R3T 2N2
Phone +204-474-7122
Fax +204-269-7173

APPROVAL CERTIFICATE

April 28, 2014

TO: **Mallory Light** (Advisor M. Campbell)
Principal Investigator

FROM: **Susan Frohlick, Chair** [redacted]
Joint-Faculty Research Ethics Board (JFREB)

Re: **Protocol #J2014:053**
"An Examination of the Constraints to Teaching and Learning Outdoors"

Please be advised that your above-referenced protocol has received human ethics approval by the **Joint-Faculty Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement (2). **This approval is valid for one year only**.

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note:

- **If you have funds pending human ethics approval, please mail/e-mail/fax (261-0325) a copy of this Approval (identifying the related UM Project Number) to the Research Grants Officer in ORS in order to initiate fund setup. (How to find your UM Project Number: http://umanitoba.ca/research/ors/mrt-faq.html#pr0)**

- **if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.**

The Research Quality Management Office may request to review research documentation from this project to demonstrate compliance with this approved protocol and the University of Manitoba *Ethics of Research Involving Humans.*

The Research Ethics Board requests a final report for your study (available at: http://umanitoba.ca/research/orec/ethics/human_ethics_REB_forms_guidelines.html) **in order to be in compliance with Tri-Council Guidelines.**

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Douglas R. Edmond
Director of Research, Planning and Systems Management

November 3, 2014

Mallory Light
[redacted]

Dear Ms. Light

Re: An Examination of the Constraints to Teaching and Learning Outdoors

This is to inform you that the proper officers of The Winnipeg School Division have reviewed and approved in principle the above mentioned project with the expectation the researcher indicate the teacher in the division interested in assisting with the study.

Please note that this approval in principle provides you with an opportunity to meet with the school administrator and that the school administrator may decline to participate or withdraw from the project at any time. As well the expectation that parental permissions be acquired and the understanding that students may withdraw at any time during the data collection.

Contact the principal at Stanley Knowles to make arrangements for this study.

As a result of the Division's participation in the study a copy of your research reports should be submitted to this office at its completion. The division also reserves the right to request researchers to provide a presentation and/or workshop regarding the results of their study as required.

Please contact me if I can be of any further assistance to you regarding this project.

Best regards,
per The Winnipeg School Division

D. R. Edmond
Chair, Research Advisory Committee

cc Pauline Clarke, Chief Superintendent
North District Superintendent
Principal, Stanley Knowles

DE/sh