Experiences of Early Childhood Educators

in a Nature-based, Early Learning Program:

A Case Study

by

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ABSTRACT

Across Canada, an interest in connecting people with nature is growing, and much of this interest is focussed on young children. This study, which explores the experiences of two early childhood educators as they piloted a preschool nature-based program in Northern Ontario, examines factors that educators might find helpful in implementing a nature-based early learning program. It specifically focuses on two main areas: a) the impact of this piloting experience on the educators' beliefs about education and their own roles as educators, and b) the educators' experiences of the benefits and challenges of nature-based programming as encountered during this trial period.

A case study approach was used, and data was collected through observations, interviews, and journals. The findings focus on three main themes: a) connecting with nature, b) supporting learning in nature-based programs, and c) examining benefits and overcoming barriers. This study adds to the limited body of Canadian research in this area. Although the size of the study is small, and therefore data should not be used to make broad generalizations, it nonetheless can be used as a prompt for other early childhood educators to reflect on their practices and could act as a springboard for programs that would like to explore and implement nature-based programs for young children in their communities.

ACKNOWLEDGEMENTS

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CHAPTER ONE: INTRODUCTION

Shifting Perspectives–My Journey so Far

Imagine young children climbing trees, playing in puddles during a heavy downpour, sleeping outdoors in hammocks, examining ants scrambling over a fallen tree. Imagine a program where these children are engaged in self-directed outdoor activities, in all kinds of weather, every day. Could this be considered an educational program? This was a question I asked myself after I had the pleasure of witnessing a program of preschool children engaged in these types of activities.

Over my twenty-year career as an educator, my ideas about how young children learn and the educational approaches that best meet these needs have been challenged and are still evolving. In recent years, a few events have spurred another transition and ignited an interest in nature-based education.

Louv's book, *Last Child in the Woods* (2005), has galvanized many educators in North America by identifying a problem he called "Nature Deficit Disorder." For me, his writing clearly outlines ideas that have been evolving within my own journey as an educator. Louv (2005) observes that a combination of parental fears of "stranger danger," increased participation of children in organized activities, fear of liability, and increasing use of screen technology are factors contributing to a shift from a childhood where children roamed and played freely in the outdoors to a childhood where children are supervised in structured activities or plunked in front of a screen. He certainly has not been the only voice speaking up about this issue, but his book has seemed to heighten awareness in a larger sector of the North American population. Quite a bit of related material has since been written that delves into

topics about children's disconnection from nature (Danks, 2010; Handler & Epstein, 2010; Knight, 2009; Meier & Sisk-Hilton, 2013; Nelson, 2012; Tovey, 2007)

This created a buzz in the education world; educators began to question the possible lack of childhood connections to the natural world and worried about the impact it would have on children's overall development and their understanding of the world around them. This interest is exemplified by the phenomenal growth of a U.S.A. national coalition that supports the *No Child Left Inside Act*. This act, if ratified, would provide a national "comprehensive framework for advancing environmental education in schools" (Greenburg, 2011, para. 4). Not wanting to wait for a national framework to be officially enshrined, many U.S.A. school boards and states have adopted the act independently (Greenberg, 2011). In Ontario, one of the standards of practice registered early childhood educators must adhere to requires educators "to provide opportunities for young children to experience nature, and to understand their relationship to their natural environment and to the world" (College of Early Childhood Educators, 2011, p. 17). It is quite encouraging for me to see such a shift occurring.

Louv's (2005) writings influenced me and I was keen to learn more. When the *Early Childhood Education World Forum* was held in Belfast in 2009, I decided to attend. I was especially intrigued after learning that the *Nature Action Collaborative for Children*, one of the forum's many working groups, would be participating. The experience of meeting with people from 78 different countries seemed ideal to gain and share ideas. I was not disappointed. The workshops provided wonderful insights into early learning and nature-based programs around the world, and the networking was extraordinary. I was also able to incorporate a little side trip to Sweden and Denmark where I spent several weeks visiting various centres. In these two

countries, I found national systems that valued unstructured play and exploration, with a heavy emphasis on spending time in nature, in all kinds of weather conditions.

I also had an opportunity to visit a "Waldkindergarten" (forest kindergarten) in Germany. This unique nature-based preschool approach has been part of early learning programs in many European countries for two decades, but its popularity has grown significantly in the past few years. The children in this full-day program were aged 2.5–5 years. With rain gear and snacks in their backpacks, the children met with their educators at a designated location just inside a large, forested area. As I walked with the group into the forest, the children shared important information about their surroundings such as warnings about plants I should not touch, and names of animals they saw signs of or heard. Once we reached our designated spot the children had a quick snack and then headed off to play. There were no fences or commercial toys. Children knew that they were guests in the forest and this was evident in the way they treated the animal and plant life throughout the day. I wandered about, observing their play: a large group of children was building a structure with fallen sticks and bark; another group was playing house by creating rooms and dishes out of stumps and groundfall; one child was observing a colony of ants for an extended time period; and another child was using branches and dead grasses to create a sculpture. It was quite clear to me that learning was taking place.

The Ontario curriculum framework document, *Early Learning for Every Child Today* (Best Start Expert Panel, 2007), came to mind as I watched the children engaged in activities that challenged skill levels in all developmental domains. The most notable skills I observed were problem solving and critical thinking. What I was most intrigued with was the underlying attitude of the educators—one that saw the children as competent and capable. The children

were supervised, but the adults did not hover over them. They climbed trees and played with sticks and rocks. I must admit that, due to my training, my comfort level was challenged. I had to bite my tongue to stop myself from uttering those risk-averse comments: "Be careful" and "Watch your step." This fear of allowing children to engage in risky behaviour was definitely an area I wanted to explore more deeply. I also wondered about the respect shown to all aspects of their natural setting. How was this respect fostered? How had the educators developed this respect and how was it reflected in their programming?

This last question was especially intriguing to me. In the past, my attempts to connect children to nature in a respectful manner and to provide opportunities to engage in ecologically sustainable activities were mostly teacher-directed. They were often one-time outings that were not connected to subsequent learning opportunities or to the children's lives. Although the children seemed to enjoy being outdoors, the teacher-directed learning that took place seemed to be superficial. Activities such as worksheets on which children had to match beginning sounds to items they found outdoors dominated their experiences. I became somewhat disenchanted with these teaching strategies. The child-initiated activities I observed in the Waldkindergarten program seemed to me to create more meaningful learning experience for the children, as witnessed in their focussed and respectful interactions with nature.

All of these experiences helped me to shape a new perspective on early learning and working with young children. The Waldkindergarten visit provided me with a concrete, practical example of a full-time, nature-based program that could meet children's developmental needs, encourage collaborative work, and foster a respectful connection to nature.

I returned home feeling rejuvenated and excited about this disequilibrium I was experiencing. I felt that I was on my way to rectifying some of the disillusionment I was feeling about the educational systems in which I was immersed. I decided to learn more about this way of knowing and integrate it into my philosophy of education.

I applied to the Master of Education program at Lakehead University, primarily because of the variety of ecology-focused courses and professors with expertise in this area. I felt that this avenue of learning could provide deeper insights into the underlying epistemology that interested me.

Another goal was to learn more about the Waldkindergarten philosophy and to gain relevant practical experience and skills. Unfortunately I was unable to find such training in Canada, and so, after completing my course work at Lakehead University, I applied to a training program in Scotland. Claire Warden offers Open College Network (OCN) programs, which met the developmentally appropriate, early learning program criteria I was seeking. I recognize that care must be taken when one tries to transplant systems from one country to another. One reason for selecting the Scottish training was based on similarities between our legislated early learning systems, including educator/child ratios and health and safety requirements.

Connected to this training was a unique learning opportunity that allowed me to spend time in the organization's nature kindergarten. This deepened my understanding of the experience I had in the German Waldkindergarten. Not only did I observe children engaged in a natural setting over an extended time period, but I also witnessed child-initiated, outdoor learning experiences enhanced by educators who supported children's learning through

collaboration. An inherent quality in these interactions was one of respect for the children and nature. It was quite exhilarating to see this practice in action.

My course experience at Lakehead University, my Nature Kindergarten training, and my experiences in nature-based programs have been monumental in shifting my ideas and integrating a different way of viewing education. This journey is far from over and there are still many questions, some of which I explore in this study. With this in mind, I now turn to the following research questions that guided this work.

Research Questions

I was very interested in exploring ways that nature-based programming could be implemented in Ontario in licensed early learning programs. I was unable to confirm the existence of any of these types of programs in this province. This shaped my approach and led to the idea of studying a pilot project.

Directly transplanting a program from other countries is not advised (Phillips, 1989) but educators can observe and explore existing systems and then adapt aspects that fit our communities. There may also be times when existing systems need to be examined, especially if it can be shown that, for example, alternative approaches will better meet the developmental needs of young children.

What seemed clear to me throughout my training in Scotland was that the success of early learning, nature-based programs that integrate opportunities for developmentally appropriate learning and respect for nature, are largely dependent on two factors:

- the educators working with the children, and
- system supports.

The following research questions thus were designed to identify factors that educators find helpful in implementing early learning, nature-based programs, as well as uncovering barriers/challenges in implementing such programs:

1. What impact does a nature-based program have on early childhood educators' beliefs about education and their understanding of their own role as educators?

2 What factors are helpful in making implementation of a nature-based early learning program successful?

3. What challenges and barriers exist to implementing a nature-based early learning program, and how could these be addressed?

Overview of the Research

An interest in nature-based programming in our regional early childhood education community has resulted in the development of a Nature Network group and professional development related to this topic. The educators of a licensed early learning centre showed an interest in piloting a nature-based program. This interest developed into a plan to experiment with a two and half week trial of a nature-based program in a forested area behind the centre.

I chose to use a case study approach for conducting this research as it is the most suitable method for the small sample size. Conducting this type of research on two educators working their way through this implementation provided insights into changes in their philosophy of education and educational roles, and unveiled some of the benefits and challenges they experienced. These insights may assist other educators interested in implementing nature-based programming by providing inspiration and guidance, and promoting further exploration into this approach. I am hopeful that it will also provide an

opportunity for educators, whether or not they try a full-fledged nature program, to reflect on their own teaching philosophies and roles as educators.

Organization of the Thesis

The thesis is divided into five chapters. Following this introduction, the literature review in Chapter Two consists of five sections beginning with definitions of key terms associated with this study, followed by a section that more fully defines nature-based early learning. The next section provides an understanding of current beliefs about best practices in early learning, and the benefits associated with being in nature. Environmental ethics, as it relates to developing a respect for the natural world, is then explored. The final section in the literature review identifies studies that relate to the research questions posed in this study, in order to situate my work. This literature review helps to provide a context for understanding the benefits of a nature-based early learning program. Chapter Three outlines the methodology and methods used in this study. It describes the research design, methods of collecting data, and data analysis. It includes some of the limitations of the study and ethical considerations. The findings of the study are discussed in Chapter Four and the study ends with a conclusion and recommendations in Chapter Five.

CHAPTER TWO: LITERATURE REVIEW

This literature review begins with a definition of a few important terms that can be ambiguous, to provide readers with some parameters describing how I have used these terms. Following the definition of terms, the literature review is divided into four further sections: Defining Nature-based Programs in Early Learning Settings, Learning and Growing in Nature-based Programming, Developing a Healthy Respect for all of the Natural World, and Research Studying Early Childhood Educators' Implementation Experiences.

Definition of Terms

Nature

The term nature is used in many contexts. Even when used in the context of environmental discussions, a range of definitions exists. Dyment's (2006) definition best fits my own use of the term in the context of this study. For her, nature "refers to spaces that are relatively free of human influence where the structure and function of the ecosystem are operating within the natural range of variability" (p. 4). I also use the term "natural settings" as a synonym in this context.

Educators

The participants in this study are early childhood educators (ECEs), who engage in the "planning and delivery of inclusive play-based learning and care programs for children in order to promote the well-being and holistic development of children" (Early Childhood Education Act, 2007). The term early childhood educators will be used when I am specifically speaking about the participants. I believe the findings of this study also will be of interest to other professionals working with young children, so the term educator will be used when I am speaking more broadly.

Developmentally Appropriate Practice (DAP)

As defined by the U.S.A.'s National Association for the Education of Young Children
(NAEYC, n. d.), developmentally appropriate practice "is a framework of principles and
guidelines for best practice in the care and education of young children, birth through age 8. It
is grounded both in the research on how young children develop and learn and in what is
known about educational effectiveness" (para. 1). This framework guides educators' practice
by focusing on "what they know (1) about child development and learning; (2) about each child
as an individual; and (3) about the social and cultural contexts each child lives in" (NAEYC, n.
d, para. 2). Educators who incorporate DAP into their programs focus on providing children
with experiences and environments that actively engage them and build on their knowledge in
authentic and meaningful ways. These educators facilitate learning collaboratively with
children and their families.

Environmental Ethics

I see environmental ethics as a process of developing genuine, respectful relationships with the
human and more-than-human world. Ethics is in the "doing." It is how we carry ourselves in
our lives, in such a way that "ennobles" us (Profeit-Leblanc, 1996). Environmental ethics are
not meant to be a set of rules that are written down and followed. As Leopold (1949/1966)
stated, "We can be ethical only in relation to something we can see, feel, understand, love, or
otherwise have faith in" (p. 251). In this process we come to learn more about the
interconnectedness with our world and about ourselves.

Anthropocentrism

Anthropocentrism is based on the assumption "that only human beings have intelligent souls, and that the other animals, to say nothing of trees and rivers, were 'created' for no other reason than to serve humankind" (Abram, 1999, p. 23).

More-Than-Human

A term used to describe all the living and non-living entities other than human beings that exist on this planet. Abram (1999) eloquently describes this term in an essay entitled, "A More-Than-Human World," suggesting that it provides an opportunity to reflect on our relationship with the rest of the natural world and an invitation to seek out other ways of knowing. The way we use language can influence our beliefs and values, and I am consciously using this term to help educators reflect on and challenge their own anthropocentric perspectives, more so than the commonly used terms non-human and other-than-human allow for.

Nature-based Programs in Early Learning Settings

There has been a growing international revival of programming that connects people with nature in some European and North American countries. Some have argued that much of the resurgence of these types of programs can be attributed to the Scandinavian countries (Borradaile, 2006; Cree & McCree, 2012; Knight, 2009; Robertson, 2008) and have since been established in several other Western countries (Robertson, 2008). The term Forest Schools has been widely used to describe a varied range of nature-based program delivery. Examples range from full-day, forest-based, activity-focused outings for school-aged children to year-round, outdoor, play-based programs for preschool children, to nature programs for new immigrants to a country (Knight, 2011). Educational backgrounds of forest school practitioners vary from country to country, and in some cases within individual countries (Knight, 2011). It is

important for the reader to understand this variance in program delivery and the need to assess the appropriateness of any programming for the target group of people with whom the practitioner is working. Here in Canada, *Forest School Canada* (M. Power, personal communication, April 24, 2013) is in the process of establishing itself, and it will be interesting to witness its growth and the supports it may be able to provide.

My study focuses on nature-based early learning programming that operates daily, for extended periods of time throughout the year. One can examine a few global examples of this type of programming. In Sweden, where outdoor play is already a large part of all preschool programs*, "I Ur och Skur"* (Rain or Shine) is an example of a specific early learning program that offers play-based, outdoor experiences in natural settings for young children, in all kinds of weather (Robertson, 2008). Fashioned after the Scandinavian model, Germany established Waldkindergarten programs. Their popularity has grown with over a thousand state-run programs scattered around the country (BnVW, 2013).

In the UK these types of programs have also sprung up. The Auchlone Nature Kindergarten in Scotland is one such program. Due to the similarity of Scottish licensing requirements, examining this site provides insights for those of us interested in establishing nature-based programming in Ontario's licensed early learning programs. Its founder, Claire Warden, has written several books that support the use of nature-based programming for young children. Her book, *Nature Kindergarten and Forest Schools* (2010) best described this type of program:

> The term Nature Kindergarten has come to stand for our definition and approach of
> naturalistic, wild spaces that provide children with a landscape in which to play for very
> long blocks of time. This approach or methodology about how you work with them in

that space is as important and has key aspects that we consider to be effective and essential to our definition. (p. 7)

Warden defined key components that she felt were essential for a nature-based program that met the needs of young children. They are summarized as follows:

- Prolonged periods of time in nature, as described in the definition above. Ideally these should be extended periods of time, each day of the year. Proper clothing for different types of weather is essential to ensure children are comfortable throughout the day.

- Uninterrupted time for child-directed play, with open-ended resources.

- An environment that is as natural as possible, and provides many play opportunities, including places where children have a sense of being on their own and have space for active movement. "Riskful learning" opportunities can be found in the natural setting (although hazards that could cause severe injury are removed).

- Educators who adhere to developmentally appropriate practices. They understand child development and ensure that the environment provides appropriate challenges. They also respect the diverse lifestyles of children and their families, and ensure that each family feels included.

- Educators who see children as competent and capable. Children are seen as collaborators in their learning.

- Educators who are challenging anthropocentric perspectives, and modelling/facilitating genuinely respectful interactions with nature and ecologically sound practices. (Warden, 2010, pp. 8, 13 -14)

The remainder of this chapter will review the literature that outlines how these components fit with the Ontario Government's early learning expectations. As well, an examination of current research will be reviewed to show how these expectations can be met in this type of nature-based programming.

Learning and Growing in Nature-based Programming

In recent years there has been an explosion of brain research and consequently new understandings about child development and how children learn (Couperus & Nelson, 2006; Friedman, 2006; McCain, Mustard & Shanker, 2007; Shanker, 2008). This research has influenced the frameworks and policies that guide early childhood educators. This section will begin with a review of provincial government initiatives that guide early childhood educators' practice. This will be followed by an examination of early learning principles. Here I will link emerging research that deals specifically with the benefits of being in nature with how these benefits relate to child development and learning. Connections to the role of early childhood educators will be made by referencing provincial standards of practice. Defining the role of an early childhood educator and other aspects of early learning will enable interpretation of the participants' responses to the research questions.

Government Initiatives

It has been an exciting time for those working in the field of early childhood education, especially in Ontario. The introduction of the *Early Years Study* (McCain & Mustard, 1999) assisted those from the non-scientific world to understand the plethora of emerging brain

development research related to the early years "and its effect on subsequent learning, behaviour and health for individuals" (p. 1) over their lifetime. Not only was the information consolidated into a readable package, it also provided insight into practical applications in the field. This spurred on many changes: for example, a slight shift in public perception about early years programming and the role of early childhood educators, and a stronger political will to support early learning. Two government initiatives arose from this shift that guide the practice of early childhood educators in Ontario.

First, in 2007 a panel of professionals from the early childhood education and the formal education sectors in Ontario collaboratively produced a document entitled *Early Learning for Every Child Today: A Framework for Ontario Early Childhood Settings (ELECT)*. This provincial initiative described "how young children learn and develop, and [provided] a guide for curriculum in Ontario's early childhood settings" (BSEP, 2007, p. 1). This framework was "based on an extensive review of early childhood curriculum and pedagogy in Canada and internationally, research findings and the collective professional expertise of the panel members" (BSEP, 2007, p. 1).

The second initiative was the establishment of the College of Early Childhood Educators (CECE) and the introduction in 2011 of the *Code of Ethics and Standards of Practice*. In order to fully understand the intent of this research, it is important to examine several aspects of the role of early childhood educators. Several CECE standards of practice relevant to the research questions will be discussed. This discussion is followed by research evidence that indicates these standards can be met in a nature-based setting.

Understanding Early Learning

In developing a framework for early learning it is important to "acknowledge that care and learning are inseparable concepts" (BSEP, 2007, p. 4). The six overarching principles presented in the ELECT document (BSEP, 2007, pp. 7-20) provide further insight into the components that make up a quality early learning experience for young children:

1. Early child development sets the foundation for lifelong learning, behaviour and health.

2. Partnerships with families and communities strengthen the ability of early childhood settings to meet the needs of young children.

3. Respect for diversity, equity and inclusion are prerequisites for honouring children's rights, optimal development and learning.

4. A planned curriculum supports early learning:

   • Learning is fundamentally social and takes place within children's cultural contexts.

   • Children construct knowledge through physical activity, social interactions with others and their own active thinking.

   • Children build new understandings from existing ideas and concepts.

   • Basic skills and facts are meaningless if they are not part of a larger context.

5. Play is a means to early learning that capitalizes on children's natural curiosity and exuberance.

6. Knowledgeable, responsive early childhood professionals are essential.

Principles relevant to this study will be examined in more detail in this review. All of them are mentioned, as they are interconnected and aspects of each arose during the discussion with the participants in this study.

As expressed in the first principle, a solid understanding of child development is critical for early childhood educators as it forms the base of their practice. The following CECE (2011) standard of practice outlines its importance:

Early Childhood Educators are current in their professional knowledge about the continuum of child development and the pedagogy related to early learning, curriculum, program planning, parenting and family dynamics. They apply this knowledge in their practice with individual children, and in small or large group settings. Early Childhood Educators know and demonstrate how to address the child's physical, cognitive, language and emotional/social development and well-being in an integrated and holistic way. (p. 19)

The ELECT document (BSEP, 2007) provides a Continuum of Development that "describes predictable sequences of development within broad domains of development" (p. 22), and assists educators in their work with children. Although this guide is divided into the above domain categories, the interconnectedness of human development is emphasized. This understanding is incorporated into the six principles, which "are shaped by values about childhood, early development and the role of families and communities" (p. 22). In order to reflect this, the Continuum is fluid, and differing values and needs can be added. Those working with the Continuum are reminded to "situate children within the context of a developmental continuum … rather than evaluate their performance against age-related expectations" (p. 21). It is designed to assist those working in the early learning field to "observe and document children's emerging skills, based on an understanding of children's development" (BSEP, 2007, p. 22), and to share this knowledge with children and their

families. Based on this information, a meaningful curriculum can be developed that meets the needs of both the individual child and groups of children (BSEP, 2007).

Traditionally this type of curriculum has been developed in indoor settings with a great variety of accessible equipment and materials for children to use. One might question whether or not a natural setting can provide an appropriate environment to meet the learning needs of young children. Several researchers have identified how spending time in nature can be developmentally beneficial to children. The following examples show how growth in all of the developmental domains can be stimulated in natural settings.

Wells (2000) wondered if a lack of access to natural spaces due to poverty-induced substandard housing and time spent indoors at school contributes to children's diminished well-being and cognitive functioning. Her study examined the cognitive functioning differences in American children when they moved from "poor nature" housing to housing that offered more natural spaces, which included natural yards and views. Her results, which ruled out extraneous variables through the study's longitudinal design, showed that the children who moved into homes with the most improved natural spaces tended to show greater attentional capacity after living there for several months. These findings were consistent with other research she reviewed.

Grahn, Mårtensson, Lindblad, Nilsson, and Ekman (1997) compared two Swedish preschool programs that were similar in many aspects, such as pedagogical style and family lifestyles. Although both programs had outdoor play spaces, one offered spaces that were left in their natural state. The researchers compared the children's motor function and imaginative play and found that the children playing in natural settings showed more pronounced motor

function, particularly balance and agility. As well, they found that the children's imaginative play was more varied and complex.

A study by Fjørtoft (2001) compared the development of young Norwegian children playing in two different settings: a traditional playground and a forested area. Fjørtoft (2001) found that the motor fitness of the children she observed in the natural setting improved, especially in the area of balance and coordination. She concluded that these improvements could be attributed to the varying landscapes and "loose parts" (Nicholson, 1972). These loose parts are open-ended materials from the natural environment that have no fixed purpose, yet they can be used in multiple ways in contributing to more creative types of play.

Dyment's research (2006), using a mixed-methods approach of interviews, case studies, and questionnaires, showed that adults found elementary school-aged children interacting in school ground naturalized spaces had fewer "discipline" problems, showed more pro-social behaviour towards peers and adults, communicated more successfully, and were more enthusiastic and engaged in their learning. They also reported that children were thinking and playing more creatively, and were able to retain knowledge and skills more effectively. These results were consistent across all schools studied.

Gorges' (1999) work is consistent with the conclusions made in the research described above. He questioned how children who had attended Waldkindergarten programs in Germany fared in grade one compared to children who attended traditional kindergarten programs. Gorges developed a questionnaire that asked teachers to rate children using a variety of criteria: creativity, socialization, ability to concentrate, and improvement in academic skills, interest, and enthusiasm. His results showed that children from Waldkindergarten programs did as well as, and in some cases exceeded, the academic achievement of children who attended traditional

programs. It would be interesting to see his study extended longitudinally to see if these results are sustained.

In their research, Faber Taylor, Kuo, and Sullivan (2001) used skill-testing tasks and questionnaires to examine the impact of exposure to natural spaces on children's abilities to concentrate, delay gratification, and inhibit initial responses—all concrete signs of self-discipline. The authors suggested that children who have these skills are better able to cope with frustration and stress, less likely to be mentally fatigued, and more likely to do well academically and socially in school. The participants were children aged 7 - 12 who, together with their parent or primary caregiver, were living in a large public housing development. The development was chosen because the view from apartment windows varied; some looked out over trees and other natural environments while others looked out onto paved environments. They found that girls exposed to nature views performed the self-discipline tasks significantly more effectively than those who were not. Interestingly, the results for boys were much different; there were no significant differences between boys living in homes with views of nature and those with views of human-made environments. The authors ruled out several factors that might have caused this difference. The one factor they believed could have had an influence is that boys generally spend less time at home and possibly spend more time in play spaces that were not natural. I find it quite remarkable that even a view of nature can have such an impact. The results certainly provide some insights into the impacts of natural environments on young children, but more research is required.

This sampling of research indicates that natural settings, even small additions to human-sculpted environments, can provide opportunities for developmentally appropriate, holistic, learning experiences. More importantly, as described above, natural settings provide

experiences and support development in ways that indoor/human created spaces do not. As Kellert (n.d.) summarized,

> This extraordinary formative influence of nature in children's health and development underscores this connection is not just a matter of physical fitness and intellectual capacity, but as well emotional capacity, identity, basic values and even our moral and spiritual condition. (p. 2)

For young children, extended periods of time in self-directed play have been shown to be the most effective early learning approach. Hewes (2006) expressed her concern about a trend to incorporate more direct instruction into early learning programs, at the expense of uninterrupted, child-directed play. Using then current research as a base, she presented a sound argument in support of play as "essential to children's optimal development" (p. 1). The ELECT document, as a provincial early learning curriculum framework, takes an approach similar to Hewes's research. One of the aforementioned ELECT principles stated that, "Play is a means to early learning that capitalizes on children's natural curiosity and exuberance" (BSEP, 2007, p. 15). The document mentions research that cautions educators about moves to shift from play to more formal, teacher-directed, skill-based instruction, which could actually hinder learning. Concisely summarizing research that shows how play fosters holistic development, the document is a tool educators can use to argue for support of play-based programming.

Canning (2007) sheds further light on the role of educators in supporting children's play. In her research she explored the importance of adult-free play. Through non-participative observations, she analysed how children engaged in play situations. She described the "influence an adult can have on children's play spaces, by bringing 'adult agendas' to the play

situation, and how this may ultimately disempower children" (p. 227). She advocated for children to have extended periods of time to freely engage in self-directed play, in environments that offer stimulating, challenging, and open-ended materials and experiences in developmentally appropriate ways. She maintained adult intervention should be minimal during these times, and when adults engage in the children's activities they should avoid directing or overshadowing their play.

A part of play should also include opportunities for risk-taking, which has been defined by Sandseter (2009a) "as thrilling and exciting forms of play that involve a risk of physical injury" (p. 439). Gill (2007) stated that providing certain types of risk taking opportunities can help children learn how to manage these risks effectively, as well as offering developmental benefits such as physical health, resilience, and self-reliance. Sandseter and Kennair (2011) theorized that risky play has an evolutionary function. They claimed:

> It is possible that risky play is a natural way of reducing many phobic reactions that are functional when the child has a low level of mastery of the fear provoking conditions. Thus adaptive fear, necessary to keep the child safe and alert and careful when learning to cope with potentially dangerous situations for young children, is countered by the positive emotions that are typical of the adaptively thrilling experience involved in moving the boundaries of what is safe and what is dangerous. (p. 275)

They also postulate that hindering risky play might lead to increased levels of "neuroticism and psychopathology in society" (p. 257).

Unfortunately risky play opportunities have been significantly curtailed in many societies in recent years. Gill (2007) provided insight into why risk-averse attitudes are growing and also explored the impacts these attitudes may have on children. Gill proposed strategies

that might help to balance the benefits of risk-taking with children's general well-being. Although he addressed this issue from an overall societal perspective, his work offers educators an opportunity to reflect on and challenge their own practices. Gill emphasized that we need a balance, that each circumstance should be assessed based on "the nature of the risk, the age and developmental stage of the children under consideration and other specifics" (p. 16).

Sandseter's (2009b) research helps to clarify Gill's assertion. She observed risky play in two Norwegian preschool settings. She categorized the characteristics of risky play into two areas: environmental and individual. Environmental characteristics relate to the actual physical environment and the degree of adult supervision. Individual characteristics include how the children engage in the play. She found that children were able to assess the risky situation and moderate their activity based on their abilities and fears. Sandseter claimed that when examining the actual risk present in play situations, both environmental and individual characteristics should be considered.

In another study, Sandseter (2009a) compared the opportunities for risky play in two Norwegian preschool outdoor play spaces. One setting was in a traditional fenced playground and the other was set in a natural environment that was not in a fixed area nor fenced. (It is important to note that the opportunities for risk-taking activities described in the traditional playground were significantly more prevalent in Norway than what one would generally observe in Ontario licensed early learning programs.) Through videotaped observations and interviews with the children, Sandseter (2009a) found that both settings provided ample opportunities for risky play, such as climbing, play with high speed, jumping down and balancing. There were, however, some differences that are worth noting. She found that there were no differences in the restriction of and interference in children's play by educators but the

fence itself did restrict children's ability to move around freely (independent mobility license). (The participants in my study had an opportunity to reflect on this interesting concept, which is discussed in Chapter 4.) Overall, Sandseter (2009a) concluded that the nature site provided a larger variety of more intense and challenging physical activity that led to a higher level of risky play.

In another Norwegain study of preschool children, Sandseter (2009c) also observed how preschool children manage risks in play. Her findings showed that children assessed risks and seemed to "seek risks and thrills suitable for their individual level of acceptable risk" (p. 8). The other, more relevant, finding was in regards to the educators' management of children's risk-taking play. Her results showed that "staff usually took one of four different strategies when dealing with children's risky play: restricting/constraining, keeping a close eye, not present/distance and contributing/initiative" (p. 8). This study showed that these Norwegian educators supported exploration and risk-taking and at times gently encouraged risky play. Intervention occurred only when children's play posed a threat of serious injury. These observations led her to surmise that Norwegian educators are more supportive of risky play than educators observed by researchers in other countries. Sandseter (2009c) concluded with this statement:

> The balancing act of letting children explore and take risks while still keeping them safe from fatal injuries is not easy. The safety legislation on children's play environments and the recent growing safety concerns among parents and caretakers should not result in restricting children from engaging in risky and challenging play activities. (p. 8)

This resonates with Gill's (2007) thoughts about balancing free exploration with risk.

The difficulty in attaining this balance is exemplified in an Australian study by Bundy et al., (2009), which examined teachers' perceptions of risk. The researchers added loose parts to an Australian school playground over an 11-week period to examine the impacts on young children's play. Interestingly, the researchers reported that there were no increases in injury during the study, but through a qualitative collection of data, teachers reported that they found the playground to be less safe than beforehand. They were aware that their concerns arose from fears about litigation and other negative repercussions. The researchers commented that making changes to the environment does not guarantee a change in the way educators perceive risk. They stated:

> Teachers referred to both internal and external factors that may need to be addressed for more enduring change to occur. Such change may require interventions at both the system and the school level that explicitly target risk reframing and the value of play. (Bundy et al., 2009, p. 42)

Another factor that may affect educators' views about risk-taking relates to their view of the child. The organization, Play Wales (2008) asserted, "Our culture tends to suggest that children are incompetent and incapable—we start from a position of distrusting them to be able to fend for themselves" (p. 3). This is a significant statement and one that educators might find thought-provoking. Liedloff explored this idea in her book, *The Continuum Concept* (1975); based on reflections of time spent with Indigenous people in South America, she examined ways to regain natural well-being. She observed that children in this culture were surrounded by hazardous situations which they primarily negotiated on their own, with a low incidence of injury. She reflected:

The operative factor seems to be placement of responsibility. The machinery for looking after themselves, in most Western children, is in only partial use, a great deal of the burden having been assumed by adult caretakers. With its characteristic abhorrence of redundancy, the continuum withdraws as much self-guardianship as is being taken over by others. The result is diminished efficiency because no one can be as constantly or as thoroughly alert to anyone's circumstances as he [sic] is to his own. (p. 103)

Liedloff (1975) claimed that our "interference with nature's placement of responsibility where it works best" (p. 103) causes children in Western cultures to have more accidents than their counterparts in the South American culture she lived in.

Challenging this perception precipitates a change in how we interact with children in many ways. The Play Wales (2008) article provided some simple steps for those interested in addressing this concern and providing more risky play. First, the authors encouraged educators to examine and challenge their own fears. They also suggested that educators start small, select a location that is suitable for risky play, and get to know individual children's ability to assess healthy risks.

Play England's report, *Managing Risk in Play Provision: Implementation Guide* (Ball, Gill, & Spiegal, 2008) may also be helpful to educators wanting to challenge their views about risk-taking. It showed "how those responsible for play provision can develop an approach to risk management that takes into account the benefits the provision offers to children and young people as well as the risks" (p. 9). The concept of a risk-benefit assessment was thoroughly outlined.

To summarize this discussion about risky play, I believe a quotation by Cornelius in Carter and Curtis (2010) offers a simple, yet thought-provoking message for those working with young children:

> I strongly believe that taking risks is part of childhood, especially within the security of a child care program. If you don't get to take risks as a child, you aren't likely to have good judgment about risk-taking as an adult. Our centre's evolving discussions about this strengthened our philosophy to create a play space that would allow children to take risks and avoid letting our adult fears impede this. My sense is that often an adult watches an exploring or adventuresome child and gets fearful. This quickly translates into the adult either stopping the child in the name of protection or passing along that fear to the child…. We ask ourselves, "If a child tries to jump over a log and skins her knee, is that more dangerous than never understanding her body's capability as she grows and takes on more physical challenges?" I worry about a growing person's ability to self-impose needed limits if these limits have always been externally imposed by someone else. (p. 57)

It seems that an aversion to risk-taking is also present in our Ontario early learning programs. At a recent early learning conference I attended in Ontario, educators shared their stories about playground safety expectations. Their examples included requests by playground inspectors to eliminate uneven turf, and to remove sticks and stones. Early childhood educators have a responsibility to "maintain safe and healthy learning environments" (CECE, 2011, p. 17). The interpretation of this standard along with the climate of litigation fear, ever increasing playground safety legislation, and internal organizational safety policies, may increase educators' reluctance to support risk-taking activities in their programs. I was able to explore

participants' roles, any resulting challenges, and changes to their perspectives regarding risky play as the research setting offered opportunities for risky play. These are addressed in Chapter 4.

This section of the literature review has revealed that a nature-based program can provide a quality learning experience for young children that meet their developmental needs. In implementing such a program in Ontario, educators may encounter challenges, some of which emerged during this trial implementation and are examined in Chapter 4.

Developing a Healthy Respect for All of the Natural World

The section above outlines how children's immersion in natural spaces can be beneficial to their overall holistic development and presents approaches educators can use to best promote this development. This next section investigates ways that early childhood educators can meet another CECE (2011) standard of practice: "to provide opportunities for young children to experience nature and to understand their relationship to their natural environment and to the world" (p. 17). The importance of this connection is highlighted in a UNESCO report that examined the linkage between early childhood education and environmental education. It contended that new kinds of education are required "that can help prevent further degradation of our planet, and that foster caring and responsible citizens genuinely concerned with and capable of contributing to a just and peaceful world" (Samuelsson & Kaga, 2008, p. 9). The report claimed that this education must begin with the early years.

Research in the area of education in the early years is sparse. Davis (2009) reviewed a number of international research journals in environmental education and early childhood education from 1996-2007, specifically looking for studies at their intersection. She found that less than five percent of this type of published work addressed this area.

Within this meagre representation, three categories of environmental education research emerged:

- discussions about young children's understanding of environmental topics and issues,

- examinations of children's learning and capabilities in responding to sustainability issues, and

- explorations of young children's relationship with nature. (Davis, 2009, p. 5)

Encouragingly, research in this area is growing. In particular, studies examining methods of fostering ecologically sustainable dispositions and behaviours have recently added to this discussion (Bachman, Duhn & Harris, 2010; Davis, 2008; Duhn, 2012) along with guidebooks that provide practical strategies (Siraj-Blatchford, Smith & Samuelsson, 2010). The breadth of these studies encompasses more than connecting children with nature, and therefore is beyond the scope of this study. Further discussion regarding this aspect of environmental education is covered in Chapter 5.

An important part of this study is an examination of educators' roles in nurturing children's relationships with nature. I assume, in this examination, that educators need to look beyond just seeing the importance of a connection to nature as a benefit to humans. The following sections review ways that educators can open the door to nurturing development of an environmental ethic that helps us, as humans that are a part of the natural world, develop genuine, respectful relationships with the human and more-than-human world.

Several authors have examined the importance of providing children with hands-on experiences in natural spaces close to home. Connecting children with nature can take many forms. Kellert (n.d.) stated: "Children need to experience nature in direct, indirect, and representational ways as an integral part of their everyday lives" (p. 3). Of these three modes,

Kellert (2005) believed that direct encounters over extended periods of time have the most important role. Wilson (1997) emphasized that experiential, play-based, sensory experiences in the early years are critical to "give form to the values, attitudes, and basic orientation toward the world that individuals carry with them throughout their life" (p.7). Chawla (1998) suggested that children show more care for the natural world when they are more familiar with it. Cheng and Monroe (2012) found that "previous experience in nature increases children's connection to nature, which suggests that spending more time in nature helps children develop a stronger connection to nature" (p. 45). Providing natural outdoor spaces for children to explore helps them gain knowledge that they could not gain from a book or paper exercise.

The rich integration of these first-hand experiences is reflected in a comment made by Louv during an interview with Karnasiewicz (2005):

> Kids today can tell you lots of things about the Amazon rain forest; they can't usually tell you the last time they lay out in the woods and watched the leaves move. It's not that learning about the Amazon is bad—it's great, and I'm glad it's happening—the problem is, it becomes an intellectualized relationship with nature. And I don't think there's much that can replace wet feet and dirty hands. It's one thing to read about a frog, it's another to hold it in your hand and feel its life. (para. 9)

Ghafouri (2012) added another dimension to this discussion, which leads into the important role that educators play:

> Children's interaction with nature may not necessarily be filled with senses of love and care. In their curious exploration, children may step on plants to kill them, squish worms in their hands, and even hurt their pets. Learning, including ethical and moral learning, for children is grounded in involvement, interaction, and experience. They

need plenty of time and a supportive context to construct environmentally safe, ethical, and moral choices, rather than developing damaging, destructive, and dominant desires. (p. 39)

Spending time in nature is important for children to build this connection to the natural world. However, as Ghadfouri (2012) alluded to, supportive educators play a critical role. So what is the role of the educator? Examining the dominant worldview that devalues the more-than-human world (Warren, 1995) would be a good "first step" and could open minds to valuing other ways of knowing. Additionally, Warren (1995) suggests that drawing attention to an "oppressive conceptual framework" (p. 214) can illustrate how hierarchical thinking and dualisms are used in ways that qualities of some people or other entities are characterized as inferior, which in turn justifies their subordination. Doing so opens the door to a "logic of domination" (p. 215).

According to Warren (1995), the dominant culture has embedded an oppressive conceptual framework in all aspects of Western society, with a number of different dualisms that result in a valuing of some attitudes, beliefs, and behaviours, and a consequent devaluing of others. This creates a labelled society (the "Others" defined by race, beliefs, ability, sexuality, gender) of damaging "sides." Those who are on the valued side often do not realize the impacts on those whose beliefs, attitudes, and behaviours have been "devalued." The impacts on those who are on the devalued side are often devastating, including internalizing the belief that the valued side is the better or correct side.

Generally this oppression is focused on different groups of humans but Warren (1995) provided insights to show how nature has also been oppressed by this way of thinking, with human culture being valued over nature, which is devalued. Since animals, plants and nonliving

entities are not able to advocate for themselves, it is up to humans, who are on the valued side of this dualism, to make this change.

According to some, this devaluing of nature has been ongoing for centuries, through teachings by religious organizations and the advent of science in the seventeenth century. For example, Berry (1999) has argued that nature has been seen as "an obstacle to be overcome and a resource to be exploited" (p. 103), and that this view has been deeply entrenched in our Western societal systems and psyche. Changing this human/nature dualism will require deep reflection and work. I believe that educators, especially those who are open to addressing inequities, can confront this human/nature dualism, and effect change. Warren (1995) suggested that a willingness to continually identify, acknowledge, and challenge this logic of domination is needed.

We can gain insights into how this logic of domination can be challenged from a Scandinavian perspective. In an article that examines the Scandinavian philosophy of outdoor life, Gelter (2000) described the idea of *friluftsliv*. Friluftsliv, roughly translated as "free air life," is a way of viewing the world as a "philosophical lifestyle based on experiences of the freedom in nature and the spiritual connectedness with the landscape" (p. 78). Genuine friluftsliv is "a view of oneself in the more-than-human world" (p. 82). (Gelter made this distinction to avoid confusion with a more commercialized use of the term that has arisen in recent years.) Although difficult to define, a description of his experiences while travelling in a new natural landscape helps to illuminate the essence of this concept:

> This gives me a sensation of a total integration with this land: a strong feeling of being
> at home in a place I have never visited before. Sensing myself as a part of the landscape

I experience the processes and evolution of this place unfolding itself inside my

consciousness. I get a strong feeling of knowing the ways of things around me. (p. 78)

Gelter (2000) connected these types of experiences to Næss's philosophy of Deep

Ecology that "proposes that a deep experience of nature creates deep feelings leading to deep

questions and a deep commitment for nature" (p. 78). I propose that a shift in the way that we,

as educators, view the natural world can have an impact on how we work with children in

nature-based settings. Moving in this direction can be a life-long transition; a "how-to-guide"

does not exist. However, I found that Gelter's description of genuine friluftsliv provides some

concrete examples to help those wishing to begin this journey, including the following:

- there is intent to harmonize with nature rather than disturbing or destroying it;

- nature is not changed to take control of it;

- specific activities are not required;

- nature may be used for food, shelter, and survival, and not be used recklessly; and

- skills may be mastered for survival rather than conquering or mastering nature.

 (p. 82-83)

For Gelter, friluftsliv is not just a skill that can be learned. Just as in addressing

human/nature dualisms, it is a journey that can engage educators and can shape their personal

philosophy of life and education. The importance of this journey for those working with young

children becomes apparent in the discussion of offering children opportunities to connect with

nature. Equally important is the way educators engage with children. Morris stated, "to respect

the land you have to respect yourself first and show respect to the land" (cited in Wren et al.,

1996). In order for children to learn to respect themselves they will need to be with people who

are respectful of and to them, genuinely care for them, and see them as collaborators in their learning.

The late Norwegian philosopher Næss believed that educators need to encourage children to be researchers and seekers—to talk about "what we don't know as much as what we do know" (Næss & Jickling, 2000, p. 57). As well, they should be joyful. Næss's description of an educator who finds a flower in a schoolyard and enthusiastically and passionately shares this discovery with the children, showcases the power of this vital disposition (p. 54). Pelo (2013) described this as a "disposition to delight" and further explained its significance:

> Ecological identity is bound together with ecological literacy, which is at its core, whole-hearted delight in and curiosity about and knowledge of the beyond-human world. Ecological literacy is anchored by core dispositions, habits of mind and heart that play out over time to become a person's essential ecological nature. (p. 46)

I believe that educators who are open to this journey will model and facilitate the deep and genuine connections to nature that will develop into a respect for the more-than-human world. This greater awareness, and experience in nature, can create understandings, and a context for disrupting taken-for-granted assumptions and dualisms that children might have already internalized. It also provides an opportunity to reflect with children about our collective place in the world. (Although this attribute was not easily distinguishable during the study, the participants and I had discussions that provided glimpses into their perspectives about their connections to nature and how their perspectives impact their interactions with the children and the more-than-human world.)

Research Studying Early Childhood Educators' Implementation Experiences The sections above provide insight into the impacts nature-based programs can have on children's development, the building of a deep connection with the natural world, and consequently the role that educators play in facilitating this growth. In this section, I examine other research related to my research questions.

There was little research available that explicitly examined the effects of nature-based programming on early childhood educators' beliefs about education, about their role as educators, or about factors that either enabled or hindered implementation of a nature-based approach to early childhood programs. I conducted a search using the ERIC database and the following keywords in different combinations: nature-based, forest school, nature kindergarten, outdoor education, environmental education, early childhood education, teacher/educator attitudes, teaching methods, educational practices. I also used citations and keywords from relevant papers to further search for articles. This search uncovered a few studies that specifically examined educators' beliefs and the barriers and supports they encountered in their nature-based programs for younger children.

Although not directly linked to educators, Chawla's (2006) work on "significant life experiences" sought to understand what motivates individuals to become actively involved in protecting the environment. Her research provides insight into the reasons educators become interested in implementing nature-based programs. She interviewed a diverse group of environmentalists in two countries: U.S.A. and Norway. She asked the questions: "How would you explain the sources of your commitment to protect the environment? What personal experiences turned you in this direction and inspired you to pursue it?" (p. 57). Chawla found that an overwhelming majority indicated that it was their childhood experiences that influenced

them. In these cases it was a significant person, usually a close family member, who fostered their bond with nature by allowing them the freedom to explore and play, and by modelling respectful interactions with nature. She stated:

> In my study, a close analysis of the interview transcripts suggested that significant adults gave attention to their surroundings in four ways: care for the land as a limited resource essential for family identity and well-being; a disapproval of destructive practices; simple pleasure at being out in nature; and a fascination with the details of other living things and elements of the earth and sun. (p. 72)

Not only does Chawla's (2006) study provide insight into why an educator might feel strongly about connecting children with nature, it also highlights the attributes educators themselves might exhibit. Since children in licensed programs spend a significant portion of their day with early childhood educators, these dispositions could have a significant impact on the foundation of their connection to nature.

Lindemann-Matthies and Knecht (2011) conducted research with Swiss teachers who worked with children in grades 1-3. A questionnaire was sent to several hundred teachers, from which fifteen who were "forest-experienced" (p. 155) were selected to be interviewed and then observed in their forest setting. The researchers reported a number of findings. Those relevant to this study included attention to supports and barriers. Teachers found that "bad weather, parents, the educational system, and the workload were no obstacles to forest education, nor was the forest perceived as more dangerous than the classroom or schoolyard" (p. 158). Appropriate clothing was recommended to deal with bad weather and concerns about ticks. Teachers felt they could meet educational goals and most used approaches that allowed for a more hands-on, exploratory experience. They also felt that teachers needed to be exposed to

this type of teaching experience in order to gain confidence and an understanding of the benefits. Teachers reported that it had not been part of their training. These results shed some light on the questions asked in my study. However, I did note that the type of experiences the teachers provided were very teacher-directed. Also, of the fifteen participants, very few spent more than ten days in a natural setting. This approach was different from the type of nature-based programming I experienced in my travels and that was implemented in this current study. Educators in these settings offered children daily experiences in play-based, natural settings that focussed on the children's initiatives.

The reports by Sandseter (2009c) and Bundy et al. (2009), described earlier in this literature review, also provided insights into educators' beliefs about nature-based programming. Sandseter inferred that Norwegian educators were more supportive of risky play than their counterparts in other countries. Interestingly, Bundy et al. support Sandseter's work. They found that Australian educators' perception about risky play did not change even when the data collected showed that risk-promoting environments did not increase injury.

A comparative study of Norwegian and Australian early learning approaches to outdoor learning by Sandseter, Little and Wyver (2012) provides further insights into this issue. Their meta-analysis used interview data from previously conducted studies from both countries. The description of the Australian systems seemed very similar to those we work with in Ontario, so this research seemed pertinent to the questions posed in my study. The authors contended that the pedagogical training educators receive has an impact on their beliefs about outdoor learning and associated risky play. They felt that the Norwegian focus on theories of child development and learning are more supportive of this type of outdoor learning than the approaches used in Australian educator training programs. This does provide some food for thought for post-

secondary educational institutions that are providing training for educators working with young children. If they would like to train educators to provide nature-based programming, they may need to examine their curriculum content to ensure theories of child development and learning are compatible with this teaching approach. However I was most interested in the statement about legislation that stated, "A tension exists for the Australian practitioners between their pedagogical beliefs and what they believe they can actually provide for the children within what they see as a restrictive regulatory environment" (p. 178).

Although these studies provide some insights, they do not fully address the research questions I have posed, especially since none of the studies were conducted in Ontario, or even Canada. However, it appears likely that the experiences early childhood educators have during an implementation process will be influenced by the type of nature-based program being introduced, and the culture, training, and legislative systems it is situated in. The current study will, therefore, add to the limited pool of research, and will be particularly relevant to early childhood educators in Ontario.

Conclusion

This literature review has outlined how the introduction of a nature-based program into Ontario's licensed early learning programs can meet the curriculum expectations. It also provides insights into the important role educators have in ensuring that programming is developmentally appropriate. Another key role, in a world that is faced with myriad ecological problems, is to challenge anthropocentric perspectives and to ensure that a genuine connection to nature is modeled. This research examined the insights participants brought to these and a few other issues that emerged as they implemented their nature-based program.

CHAPTER THREE: METHODOLOGY & METHODS

The purpose of this research was to examine the experiences of early childhood educators as they implemented a trial nature-based program for a three-week period. In conducting this research, I hoped to gain an understanding of the learning that these educators underwent during this process. This included an exploration of their philosophy of education along with an examination of the different roles they played in facilitating a nature-based program. I also examined the educators' perceptions of factors that were helpful in the implementation process, and challenges they discovered during this trial.

The first section introduces the methodology chosen and explains the rationale for its use. The next section outlines how the research was conducted followed by a section describing possible concerns and how these were addressed. The final section provides a reflection on my methodological decisions.

Methodology: A Qualitative Approach

I felt that the best way to explore my research questions would be to experience the program implementation first-hand and to spend time talking with the educators about their experiences. A qualitative approach best suited the needs of this study because I wanted to gain an in-depth understanding of the educators' experiences. This was done using a variety of methods that uncovered or discovered, rather than tested. As Denzin and Lincoln (2005) describe, "Qualitative researchers study things in their natural setting, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them" (p. 3). Creswell (2003) outlined a number of characteristics of qualitative research in which I engaged:

- I went to the site to conduct the research,
- I used multiple methods of collecting data,

- I actively involved the participants in the process, and

- I looked for emerging questions and data collecting methods throughout the research process.

Within the realm of qualitative research, there are many strategies of inquiry. To investigate my research questions, a case study was most suitable. Yin (2009) explains: "The case study is preferred in examining contemporary events, but when the relevant behaviours cannot be manipulated" (p. 11). Stake (cited in Creswell, 2003) further describes a case study as an opportunity to allow a researcher to explore "in depth a program, an event, an activity, a process, or one or more individuals. The cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time" (p. 15). Using this strategy of inquiry allowed for a rich collection of information that provided me with a deeper understanding of the experiences these educators underwent during their two and half week nature-based programming trial.

Validity

Morse and Richards (2007) assert that, "Validity requires that the results accurately reflect the phenomenon studied" (p. 190). In qualitative research, terms such as trustworthiness and understanding are often used to describe validity (Gay, Mills, & Airasian, 2009). These are established by addressing several key components, as explained below.

First, a researcher must take into account all the complexities in the study and address problems that are not easily explained (i.e. credibility). The researcher should also include descriptive, context-relevant statements so that someone hearing about or reading a report of the study can identify with the setting (i.e. transferability). Qualitative researchers believe that everything they study is context-bound and thus do not seek to draw conclusions that can be

generalized to larger groups of people. Therefore, qualitative researchers should include as much detail as possible so that others can see the setting for themselves and make decisions about the relevance of the study to their own contexts. According to Gay, Mills and Airasian, a researcher must also address the stability of the data collected (i.e. dependability) and the neutrality and objectivity of the data (i.e. confirmability) (p. 375).

I incorporated the process of triangulation into the data collection and analysis stages to ensure that criteria of dependability and confirmability were met, I did so by "using multiple methods of data collection strategies, and data sources to obtain a more complete picture of what is being studied and to cross-check information" (Gay, Mills, & Airasian, p. 377). I also used the following strategies during this case study to validate the research: member checking, time in the field, interviews, observations, and journaling (Creswell, 2003; Gay, Mill, & Airasian, 2009). Details are described below in the Methods of Collecting Data and Data Analysis sections.

Research Study Description

In order to answer the research questions, I observed two early childhood educators as they implemented a trial, nature-based program in their licensed, preschool childcare program. The childcare program is play-based with a focus on an emergent curriculum approach. The study was conducted during a two and half week period in the spring of 2013.

Finding a Trial Program

To begin, I needed to find a licensed program that was interested in running a nature-based program trial and that would allow me to do research with their staff. This proved to be challenging. I am happy to say that the challenges were not linked to a lack of interest, however. I initiated discussions in the fall of 2012 with a program manager who worked with a

team who were very interested in running a trial and being involved in a research study. Unfortunately, in mid-winter it became apparent that I would not be able to get ethics review approval from their institution before the program closed for the year. I then contacted the manager at another centre and asked if one of her programs would be interested in participating in a trial nature-based program where children would be in a natural setting in all types of weather. The manager felt this would be a wonderful opportunity to initiate a trial program with staff who had expressed an interest in connecting children with nature. She was also excited about involving her program in my research, so tentative dates were discussed. I was grateful that she and her staff were able to step in at the last moment. Once Lakehead University research ethics approval was received, I contacted the manager with the necessary documents and we confirmed trial program dates. The study began two weeks after the invitation letters were sent out.

Participants

The manager of the centre selected the participants. Her judgement about program logistics and interested staff was necessary, especially with short notice. She contacted the interested early childhood educators to see if they were indeed willing to participate in the study. She confirmed their interest, advising me that these early childhood educators had expressed interest in implementing a nature-based program. She also provided me with their names and the program location. Once my ethics approval was granted, I sent the participant invitation letters and the consent forms to the manager asking if she could give the relevant information to the potential participants (see Appendices A and B). In retrospect, I believe I should have contacted the early childhood educators myself directly. This would have provided a more direct connection and an opportunity to discuss the study and expectations with both before we

began. It also would have helped alleviate some confusion that arose at the beginning of the trial.

Since this program is not situated in my home community, my relationship with these early childhood educators was not close. I had met one of them at several workshops over the past few years and had not met the other before.

I had hoped to meet with both participants a few days before the trial but unfortunately we were not able to arrange meetings until the day before the trial began, due to vacation time, the short turnaround between ethics approval and start date, and the fact that this program was not in my home community. This thus was not an ideal research situation. Having time to discuss the study in more depth in advance of the research and get to know each other would have allowed for a smoother transition for all of us. Nonetheless, we persisted. During our first meeting we reviewed the consent forms and I provided them with an overview of the study, which included the purpose, benefits, and any associated risks. Both showed a genuine interest in the study and enthusiastically agreed to participate.

The strategy of using pseudonyms to provide anonymity was discussed with the participants. We also discussed the option of adding personal information that would be relevant to the study. Both agreed to these strategies and as a group we decided on the details that would be important to share. They each compiled their own profiles and chose their own pseudonym. The pseudonyms they chose were Shelley and Alison. Shelley identifies as a white female who grew up in an urban Southern Ontario setting. She has been working as an early childhood educator for less than five years. Alison identifies as a white female who grew up in an urban Northern Ontario setting. She has been working as an early childhood educator for more than ten years.

Although Alison, due to unforeseen circumstances, was only able to spend a few days in the trial program, she was able to meaningfully participate in all the interviews and I was able to capture important moments of her interactions in the program. During the times Alison was not participating, Shelley ran the program with supply staff that were not considered part of the study given it was already underway.

Setting

The centre was located in a Northern Ontario community school. The natural outdoor space was attached to the schoolyard and included access to both a fenced-in wooded area and one that was not fenced in. Both areas had tall deciduous trees that provided a canopy, and small shrubs and forest plants. Evidence of human impact was apparent, especially compacted sections where children and adults walk. This was most apparent in the fenced-in area, which the educators stated was most heavily used. As well, the program was located within easy walking distance of a large public park that had a variety of natural spaces (forests, meadows and rivers).

A small group of preschool (4-5 years old) children participated in this nature-based program. The daily group size, of a fairly even ratio of boys and girls, ranged from eight to sixteen children. The children with their two educators spent their weekday mornings (8:30 – 11:30 am) outdoors in the nearby forested areas or the park mentioned above. There were two occasions when we spent time on the traditional fenced-in program playground. The settings were assessed by the program to ensure that any hazards were managed and any other legislated or policy requirements were met.

Use of toilets, which were not available in the forested sites, was a consideration. A portable toilet was available but was not used. Instead, children needing to use a toilet were brought back to the centre for a quick washroom break that also incorporated snack pick-ups.

Time Period

A three-week period was initially planned for the trial period. I felt this would be sufficient time to reflect on, and gain an understanding of the educators' experiences of implementing a trial program and to ascertain some of the benefits and challenges of offering a nature-based program. The trial program implementation took place in late spring. There was no snow on the ground and the temperatures ranged from just above 0° C to 20+° C. There were only three days of rain. It was also before the mosquito and blackfly season began. I was able to observe two and half weeks of the planned three week trial program, due to constraints imposed by the participants' vacation time, a holiday, and staff illness. As I was unable to collect data on the days that the participants were not working, I did not participate in the program on these days, which consequently reduced the research study time period.

As with all new beginnings, the early childhood educators spent the first week making some adjustments to their routines, and by the second week a smooth program flow began to emerge. While the resulting observations occurred over a brief period, they did unearth challenges and benefits of this implementation process. Further, the early childhood educators were able to provide meaningful reflections about their experiences.

<div align="center">Methods of Collecting Data</div>

A variety of data collecting methods were used. These included the following:

- Two individual interviews with each of the early childhood educators,
- One paired interview with both early childhood educators,

- Observations over two and half weeks focused on the research questions that I noted in a journal, and

- A journal that was used to record observations of the educators and reflections about my experiences as an observer, researcher effect, biases, and assumptions. Participants each received a journal in which they were invited to record their thoughts, observations, and revelations about the process of implementing their program. Due to time constraints both participants opted out of this method of data collection.

Participants were able, at any time, to review any of my observations, and the audio recordings and transcriptions of their interviews. I emailed them copies of the transcripts and observations as soon as they were completed. I ensured that any previous transcripts and observations were sent to them before the next interview so any clarifications or topics of interest could be discussed.

Interviews

Interviews were selected as a method of collecting data because they "provide perceived causal inferences and explanations" (Yin, 2009, p. 102), allowing for rich and insightful knowledge about the educators' views and feelings. Three interviews, two individual and one paired, were conducted with each participant. The initial individual interview took place before the trial began. A paired interview, with both participants, took place midway through the trial. The final individual interview was conducted on the day the trial ended. An optional fourth final paired interview was discussed as a possibility, but the participants did not feel that it was needed. Casual conversations that occurred during the program time about our discoveries were

not recorded nor used in the study. There were very few of these as the early childhood educators were focused on their interactions with the children.

A semi-structured interview guide helped to initiate the process and I found the questions to be very helpful in keeping me on track. I was also alert to any additional questions and prompts that emerged from the data, and these were included in subsequent interviews. See Appendix E: Interview Guide for more detail.

During the interviews my role as the researcher was to guide the interview by being an active listener (Morse & Richards, 2007, p. 113) and to use a fluid line of inquiry. I was concerned that I might lose focus on the intent of the study with such an approach, so I designed interview questions that I felt would help elicit responses from the participants that would answer the research questions (Yin, 2009, p. 87). As a gentle reminder to myself, I kept the research questions at hand to ensure that the conversations remained on topic, which proved to be very helpful. Yin (2009) suggests that corroborating information in such a way that allows the participant to "provide a fresh commentary about it" (p. 107) can be very beneficial to the process. I feel I was able to do this without asking leading questions. I also avoided providing formal feedback about teaching practices, unless requested. There were times during the interview that interesting discussions arose which added to the richness of the data collected. Overall I was happy with my questioning techniques. Having the questions at my fingertips helped me to word the questions concisely and clearly although there were a few times where I rambled and confused the participants. Listening to the audio-recordings helped me to identify some of the patterns that created these situations and I feel I was able to rectify this issue in subsequent interviews.

Concerns about researcher bias were dealt with by crafting open-ended questions and through the journaling I undertook (described below). The exploratory nature of the study decreased the pressure on participants to provide the answers they might have felt I wanted to hear. Open-ended questions and discussions at the initial interview also addressed this issue.

The interviews were focused on the reflections of the participants. My journal entries, along with my observations, were intended to address concerns about inaccuracies due to poor recall (Yin, 2009, p. 102).

I anticipated that each interview would last for approximately one hour, and we were able to keep within this timeframe. The program supervisor offered her office space and time during their workday for each of the participants to take part in the interviews. Both participants reported that they were happy with this arrangement. The office ensured confidentiality and was a comfortable and inviting space. Each interview was audio-recorded and transcribed for analysis, with consent. Alison and Shelley both provided consent for their paired interview transcripts to be shared with each other. Both had access to their audio-recordings and transcriptions to ensure accuracy and to aid further self-reflection. Transcripts were emailed to each person before subsequent interviews so that they could review them to ensure that the transcriptions accurately conveyed their thoughts and opinions. I also informed them that they could request to meet with me at any time.

I used a digital dictaphone to record the interviews and had hoped to use a speech recognition software package to transcribe them. The quality of the recording was excellent, but unfortunately I did not calculate the time needed to calibrate the participants' voices into the speech recognition system, and therefore did not use it to transcribe the interviews. I transcribed the interviews myself. I initially planned to use a denaturalized format which

records every utterance (Olson, 2011), but after recording the first transcript in this way I moved towards a more naturalized format by removing repetitions, "um" and "ah" words, and using some literary conventions to properly structure sentence formats (p. 69). This allowed for a more readable flow. Paralinguistic features, such as tone, pacing, and volume (p. 71) were included only when they affected the interpretation of the data.

Each transcript was labelled with the participant's pseudonym and the date, and pages were numbered. I coded each one so that participants' quotes could be referenced in this study. The following coding system was used:

I = Interview

A = initial interview,   B= mid-study interview,   C = final interview

The numbering refers to the order of the interview recordings. For example, the code IA1 indicates that the information comes from an initial interview, and was the first one recorded.

Initial interview. As noted, each participant was interviewed individually before the implementation process began, using a semi-structured format. I used the open-ended questions I drafted beforehand (Appendix E) to help frame the discussion around the research questions. This provided a baseline of information so that each of the participants' expectations and understandings could be determined (Morse & Richards, 2007). I encouraged them to add other comments relevant to the study that might not have been covered by the questions I was asking. They were also informed that the answers to the questions would help inform our future discussions. A few of the questions about philosophies and beliefs took the participants by surprise. Upon reflection, I now wonder if providing the questions beforehand for this first interview would have given them more time to reflect on their answers and reduced their

unease. A few of the answers to other questions required me asking further probing questions that helped me gain a clearer understanding of the issues.

We also spent a bit of time discussing some of their own questions about the research, including expectations and data collecting techniques. Establishing this shared understanding proved to be important in building a trusting relationship with each other and ensuring that the participants were comfortable and confident that their reflections would be accurately conveyed.

Mid-study interview. The mid-study interview was scheduled to be a paired interview. Due to the participants' schedules this interview was scheduled not quite in the middle of the study, but in the last week of the trial. I used some of my planned questions but also included questions that arose from the initial interviews and my observations, which consequently provided for a lively discussion. The participants seemed very comfortable expressing their viewpoints with one another. Watching the enthusiasm of the two participants as they shared their ideas made me thankful that I had included this type of interview in the study. I can now appreciate the value of both individual and group interviews. Both the planned and emergent questions are recorded in the Interview Guide (Appendix E).

Final interview. At the end of the study, I met with both the participants individually to discuss their reflections on the trial, nature-based program. The format was once again semi-structured with the planned questions and emergent questions that arose from the ongoing analysis of the information collected. We scheduled these interviews right after the last session of the trial program. I now wonder if time to reflect would have been beneficial to the participants, but I found their reflections nonetheless thoughtful and insightful. These questions are recorded in the Interview Guide (Appendix E).

Observations

As an experienced registered early childhood educator, I assumed a supporting role for the early childhood educators by assisting with tasks such as snack-time and addressing children's requests for help. This still gave me ample time to observe the participants in the context of their work. I paid particular attention to the activities that had a bearing on the research questions:

1. What impact does a nature-based program have on early childhood educators' beliefs about education and their understanding of their own role as educators?

2. What factors are helpful in making implementation of a nature-based early learning program successful?

3. What challenges and barriers exist to implementing a nature-based early learning program, and how could these be addressed?

My recorded observations contain detailed and concrete descriptions of the early childhood educators' teaching strategies and ways that they modeled interactions with nature. Patton (2002) advises that observations can provide a glimpse into the events that transpire, and offer an opportunity to make "interpretations about meanings and significance" (p. 438). Observations were recorded on eleven different days, resulting in a total of 58 recorded observations (3500 words). I found my observations very helpful in recalling those moments while I was reflecting on the day's events and later during the data analysis. I sent the participants copies of my observations before each interview, and the participants reported they found them useful. The observations were also coded for use in the study; the numerals after the code O (Observation) represented the sequence of the observations. For example O8 represents the eighth set of observations that I recorded.

I also used some of the observations to spark conversations during the later interviews. They were also used to corroborate information gathered during interviews. As noted, all records of these observations from my journal were made available to the individual participants for review, which allowed for credibility validation (Gay, Mills & Airasian, 2009, p. 375).

Observations were written as objectively as possible, but I realize there is always a certain amount of subjectivity in a written observation. Most notable for me was the fact that I recorded only those moments that were significant for me, and they were recorded through my "lens." Upon reflection, I think it would have been quite enlightening to videotape a session and then analyze it with the participants in the study. I am sure that different aspects would be discovered through this method of observation, and a more accurate interpretation would be uncovered as participants reflect on their own actions. Although this would have created some logistical challenges and required a more rigorous ethical review, I think the benefits would be substantial in future research.

Reflective Journal

My personal journal was used to record my own thoughts, observations, and reflections. Some specific observations helped with the validation process. I recorded the research questions at the front of the journal to ensure that I remained focused on the intent of the study. I also utilized a strategy called bracketing to further deepen my understanding of the study and my potential impact on the data collection and findings. Bracketing, as described by Morse and Richards (2007),

> means putting your personal knowledge and the knowledge you have gained from the
>
> literature aside or making it overt by writing it down, so that you can see the research

problem, the setting, and the data with fresh eyes and work inductively, creating

understanding from data. (p. 191)

In order to accomplish this, I used my journal and answered the following questions before I

began the research:

1. What personal assumptions do I have about what is going to happen?

2. What do I think I will find? (p. 191)

Reflecting on these answers during and at the end of the study assisted me in examining any

potential influences of my prior knowledge and biases on the research. I uncovered a few biases

and assumptions that I was then better able to clearly identify. For example, following the

bracketing exercise I was able to recognize that, as an educator myself, I am used to being in

charge of an educational setting and intervening when I felt it was appropriate. The problem

from a research perspective is that I could easily intervene and find myself leading the

participants in the direction of my own biases about control, risk, and nature-based practice. To

address this potential problem, I made a conscious effort to avoid interventions of all kinds

unless specifically asked. While on-site, I simply supported the participants' own pedagogical

decisions.

To avoid introducing my own biases into the interview process, I kept a copy of my

interview guide on hand, to keep me focused on the research questions and not stray into

leading questions derived from my own biases. Also reviewing my assumptions before an

interview and during data analysis kept them fresh in my mind, so that when contradictions

arose, I was able to recognize them as such. For example, I made an assumption that educators

interested in integrating a nature-based approach would themselves be nature enthusiasts. This

assumption was challenged during an interview when one of the participants shared that she did

not enjoy spending time in nature. Recognizing that my assumption could lead to a question that might influence the participant's response, I was able to carefully add open-ended questions that reflected my research question; "What made the shift for you? What happened that made you think it was important for children to be connected to nature?" As well, identifying my beliefs about anthropocentric dispositions and how I felt the participants would act towards the more-than-human world allowed me to be open to examining the participants' responses and behaviours with a less biased perspective. Consequently I was able to uncover examples that countered my perceptions. These are outlined in more detail in Chapter Four.

Data Analysis

Due to the nature of the data collection, flexibility was required. It was important to manage the data effectively and know that it would not only inform, but might also "lead the process of inquiry" (Morse & Richards, 2007, p. 123). I needed to be prepared for new questions to emerge, and to look for different ways of collecting data (within the mandate of the study), while keeping the original research questions in mind. This required a continual management of all the collected data. I decided to record the observations at the end of each day and transcribe the interviews as soon as possible (usually within two days). These were reviewed with a view to identifying emergent questions for subsequent interviews. As mentioned, transcripts and observations were sent to the participants with a request to advise me of any inaccuracies or clarifications. At times during the trial I also asked participants to clarify specific information to ensure that my interpretation accurately reflected their thinking. Throughout this process, I did not discover any new research questions, and found that the tools I was using more than adequately provided rich data to answer the original questions.

This review led me to see some emerging themes that I then considered once all the data had been recorded. Morse and Richards (2007) suggest using a coding method to simplify and focus on some specific characteristics of the data. I read over all the data in one sitting and then using the themes identified, coded portions of the data. I used a few strategies to assist me in this process. In vivo codes (Olson, 2011) such as words, phrases, and sentences that seemed important to my research questions were underlined. I added a large right hand margin to the transcripts and observations, which provided room for my own notes. These included interpretations, connections to other papers, or thoughts that arose from reading the interviews and observations. I recorded dates beside each note to see if there were any changes in my thinking. I then reviewed my notes to see if there were any other emerging themes. Once these were established I colour-coded them, reviewed the documents again and, using the colour codes, highlighted passages that reflected each theme. Once again, to maintain a focus on the intent of the study, the research questions were on hand during the interpretation of data.

Research Limitations

Size of Study

This is a small-scale study of two participants, one of whom was not fully present for the trial. At the time of this study, I was unaware of the existence of any full-time, nature-based licensed early learning programs in our province. While I believe that the observations of and discussions with early childhood educators as they implemented this trial nature-based program do provide insight into the role of the early childhood educator in implementing this type of program, and the benefits and challenges that might occur, people reading the findings should be reminded that the experiences of these two early childhood educators are influenced by their location, culture, gender and their own personal experiences with nature.

Researcher Effect

Rosenthal and Rosnow (2009) discuss the many ways that researchers can influence the results of their study. This is commonly called experimenter or researcher effect (p. ix). In this case, through the bracketing exercise, I realized that I might influence the participants' feedback so that it met my expectations. The unexpected move to conduct the study in another community, where the participants did not know me, helped in this regard. There was still a possibility of influencing the participants, especially when the temptation to provide feedback arose. Also I understood that my own perceptions might affect the process.

In order to manage the researcher effect, the following strategies were employed:

- The participants and I had an open discussion before we began the research study, at which time I clearly defined my role as a researcher.

- During interviews, I tried to ensure that I did not provide unrequested feedback or suggestions, as I felt this might affect the participants' responses. This was difficult for me and I had to consciously work on it. For the most part, I felt that I was able to maintain this boundary. The journaling activity, specifically the bracketing activity, assisted in analyzing my preconceived ideas of what and how the program should unfold and how participants would behave, especially during the data analysis.

Data Collection

My intent was to work towards providing thick data using a variety of strategies including observations of the participants, a variety of interviews with both participants, the use of journals by the participants and me, and a prolonged time period in the field. A few limitations arose that impacted this data collection:

- The initial three-week research period was reduced to two and half weeks, due to variety of unexpected circumstances,

- The participants opted out of the journaling process because of time constraints, and

- One of the participants was unable to participate as fully as was expected due to a number of staffing factors.

Despite these factors a rich array of data was collected through an assortment of tools that assisted in answering the research questions.

Triangulation

To ensure that the data being analyzed was trustworthy, the following strategies were incorporated into the study.

Member-checking. Individual transcripts from the interviews and observations, as well as the analysis of the findings, were made available to participants so they could check for accuracy (Creswell, 2003). This process assisted in credibility validity.

Time in the field. I was in the field full-time with the participants during the entire two and half weeks of the trial. Creswell (2003) stated that a prolonged time in the field can "develop an in-depth understanding of the phenomenon under study and can convey detail about the site and the people" (p. 196). I felt that I did gain a deeper understanding of the process, more so than if I had just interviewed the participants. Although I assisted with the program, I followed the directions of the participants, thereby ensuring that I did not influence participants' planning. This strategy was beneficial in building credibility and transferability validity.

Interviews and observations. Both of these methods provided a rich collection of detailed information. The planned structure of both methods helped keep a focus on the

research questions, without compromising a fluid flow of discussion. Credibility and transferability validity were strengthened using these strategies.

Journaling. Keeping a journal turned out not to be as valuable a tool as I had hoped. I did not utilize as well as I could have. In hindsight, the days were full with data collection and then I was busy with transcribing, leaving me little time or energy for journaling. Nonetheless, the few reflections I recorded were very useful, and I found the bracketing exercise most beneficial.

Ethical Considerations

As stated in the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2) (Canadian Institute of Health Research, 2010), "Ethical principles and guidelines play an important role in advancing the pursuit of knowledge while protecting and respecting research participants in order to try to prevent such occurrences [risks to participants and others]" (Canadian Institute of Health Research, 2010, p. 7). A review of this policy brought to light several ethical issues in this research that needed to be addressed.

The organization gave permission for the research to be conducted. An introduction letter outlining the study and its expectations of the participants (See Appendix C) was presented to the manager of the early learning centre who signed copies of the attached consent form, on behalf of the institution, before the study began (see Appendix D). I was on-site for the trial period as an observer.

Consent

The consent process for the two participants who engaged in the research of the nature-based program was reviewed with them during the initial interview. It highlighted that participation was voluntary and that any time during the study they could withdraw from the study without

penalty. The participants were also advised that they could choose not to participate in any aspect of the study without explanation and could also choose not to answer any interview questions. The participants had an intrinsic interest in this research study, as they had expressed a prior interest in implementing a nature-based program, so coercion and external incentives were not factors. Risk was minimal.

The children were not research participants. However, the educators were observed as they interacted with the children. Parents were informed about the research study via a letter (Appendix F).

Fairness and Equity

In terms of fairness and equity in this research study, I had hoped that all the educators at the centre would be asked if they would like to participate, and from that group, two would be selected based on their interest. However in discussing the selection process, the manager shared other considerations and asked to make the inquiries herself. The interest staff had previously expressed in connecting children with nature was one of her foremost considerations. She also considered the impact on the teams (a number of new educators had just been hired), parental support and location of natural spaces. These were considerations that I had not foreseen and were valid in terms of ensuring quality programming in all areas of the centre.

Privacy and Confidentiality

A coding system to protect the identity of the participants was established. Participants selected a pseudonym which was used in all recorded observations and transcripts. All computer recorded data, including all transcripts, observations and data analysis were kept on an external drive which was securely stored at my home. All data collected during the study and related

correspondence will be stored in a secure office at Lakehead University for five years. Thereafter it will be destroyed. Given the size of the community and small sample size, it was difficult to fully guarantee the participants' anonymity, especially if anyone from the community chose to read the thesis. Paired interviews increased this challenge, along with the letter sent home to parents outlining the research study. This concern was expressed to the participants in the consent process. Using pseudonyms helped. Participants also had access to their data and the findings to ensure that the information was accurately portrayed.

Reflections on the Research Process

The use of a case study was ideal for this research. The variety of data collection strategies and the different triangulation tools provided rich data that I felt was trustworthy. I found the interviewing process most insightful in terms of data collection. It also taught me a number of lessons:

- Getting to know the participants and making them feel comfortable is key.

- Being prepared with open-ended questions and having them on hand during the interview is essential. This really helped me stay focused.

- Transcripts provided insight into the participants' perspectives and my own interviewing techniques. I found it very helpful to transcribe right after the interviews, as this helped to examine emerging themes and formulate questions for subsequent interviews. I wish that I had used my journal during the transcribing process to more thoroughly record my own interpretations.

- It was important to hone my interview skills. Reviewing the transcripts helped me see that I rambled at times. As a result I was able to work on being more concise in subsequent interviews. I also noticed that I occasionally jumped from one question

to another without a conversational flow. This might have occurred because I wanted to stay focused or simply because of my own inexperience.

- The use of a digital dictaphone was effective. I would recommend making time to set up the speech recognition program for each participant. This would have saved a considerable amount of transcribing time.

Observations provided context. I also recognized the subjectivity of personal observations. Observations recorded by the participants would have helped to corroborate these but that would have pulled them from their duties, so was not practical. Videotaping might thus have provided another useful way to collect data for corroboration and additional insights, but this would have been logistically challenging (i.e., me videotaping rather than note-taking or having an additional researcher along to videotape) as well as raising additional ethical issues.

The journal provided interesting data in another way. Besides the observations, my reflections offered insight into my interpretations and perspectives, which added another dimension to the data collected. The bracketing exercise was very effective, as well as notes made after some of the sessions.

Another valuable contribution to this research was the time spent in the field. Not only did it provide some support for the early childhood educators, it also allowed me to see the progression, consistencies, and all the conditions the early childhood educators were experiencing. This helped me to understand the context of the events they referred to during the interviews.

The final methodological lesson I took from this process involves the recruitment process. It was unfortunate that I did not make the initial contact with each of the participants. It would have been ideal for me to present/email/mail the forms directly to the participants and

have either an informal phone/email/voice call session to initiate a relationship. Building this connection would not have interfered with the trustworthiness of the study, but it likely would have helped to make participants feel comfortable with me and ultimately the study from an earlier stage.

Overall, however, I found that the methods used in this study were effective in helping me answer the research questions. Findings and Discussions follow in the next chapter.

CHAPTER FOUR: FINDINGS AND DISCUSSION

Conducting this study was a rich and rewarding opportunity to spend time with, and learn from, two dedicated early childhood educators as they ventured into the implementation of a trial nature-based program. Both Shelley and Alison shared in-depth accounts of their experiences with the trial. Before the trial began both were asked what excited them about the nature-based program they were about to embark on. Shelley focussed on the potential benefits for the children. She looked forward to seeing the children actively involved and enjoying their time outdoors. Alison was confident that the trial would be a success and was excited that it might provide discussions that would inspire other educators to explore and implement their own nature-based programs. Their excitement about running a trial program and being involved in this research study was an inspiration to me.

Implementing a trial also offers an opportunity to examine one's own beliefs and reflect on the benefits and challenges of running a program. As well, educators can evaluate how a long-term, sustainable program could be offered. The interviews and observations conducted during this study provided data that corroborated findings discussed in the literature review. I suspect that, although programs are different, these two participants' experiences will provide deep discussion topics for educators who are also interested in examining the benefits of nature-based programs, as well as food for thought about the implementation process. I believe that Alison's hope that these findings might inspire others will, indeed, come to fruition.

In reporting the findings, wherever possible I have used direct quotations from the participants. It is important for their voices to be heard since these are their thoughts and ideas. The observations and my own reflections are used to substantiate and illuminate their thinking and experiences.

Two main interconnected themes emerged from the interviews: *Connecting with nature* and *Supporting learning in nature-based programs*. A third theme arose, *Implementation of sustainable, long-term nature-based programs*, that provides a practical account about this implementation processes. Within each of these, sub-categories arose that are used to present the data in an organized way. Although veering from the tradition of separating results and analysis, I have chosen to weave the findings and discussion together in this chapter because it allowed for a more cohesive flow of understanding by making reference to the literature, especially with the many observations and transcripts of the participants' conversations.

Connecting with Nature

There were many opportunities during this trial session for educators to facilitate children's connection with nature. However, before we get to these, I want to spend some time on an important definitional issue that only arose near the end of the trial as I reflected on the data I had already collected, but which in hindsight, would have been important to address with the participants at the outset of the study: how they defined nature.

Defining Nature

I realised near the end of the study that I had not really discussed with the participants their definition of nature. This turned out to be a significant oversight, upon reflection, such clarity would have helped understand our earlier discussions about fostering connections to nature. In the last interview sessions I thus asked each person how she would define nature. Shelley defined nature as follows:

> Nature to me would be the outdoors and anything that is natural. A whole grouping of words would probably make up my definition. I think things that grow outside. But not

necessarily, because you can bring nature indoors. It would be things that grow naturally and things that come from the earth. That to me is nature. (IA4)

Before answering this question, Alison wanted to clarify whether it was based on a child's perception or her own. She felt that children's perception of nature would be different from the way an adult would perceive it. Once we established that the request was from her own personal perspective she shared the following:

> For me as an adult, nature is beauty and peaceful. It can be exciting. It can be a calming experience. I think I would say there is free nature or wild nature. And then I guess there is the nature we create [pause] and both can be very beautiful. It's a great place for me to be. (IA5).

Although there were similarities between their definitions to the one I used in my literature review, there also were some subtle differences that could easily cause confusion or misunderstanding. For example, on several days we walked to the park or spent time in the playground digging up rocks and preparing a garden bed. In my journal, I wondered why we were spending time doing these things as a part of a nature-based program. It was not until I analyzed the data that I realized my own definition focuses on spaces that are not "sculpted" by humans; Alison and Shelley's definitions included room for human interventions.

In hindsight, discussing our definitions before the trial began could have led to a shared understanding of an ambiguous term such as nature. This could have led to more in-depth discussions and shared understandings about nature and the type of programming that I had in mind that might meets the needs of children. My realization is significant; how one defines nature would have a huge impact on the type of early learning program educators might design.

However, it is also possible that discussing our conceptions of nature would have introduced a researcher bias if my definition was taken as authoritative.

Personal Connections to Nature

During my bracketing exercise I made the assumption that educators interested in running nature-base programs would themselves be avid nature enthusiasts. So I was quite surprised when, in response to the question about how her beliefs about nature might influence her teaching strategies/work with children, Shelley responded: "I've never been a fan of the outdoors. I always had seasonal allergies and I have a strange phobia of all bugs, so I've always been a real inside person" (IA1).

I was quite intrigued by this and asked Shelley what caused the obvious shift in her feelings about nature. She found this difficult to answer at first, but after some thought responded that it was partly due to maturity (IA1) and becoming more involved in gardening. She commented:

> I've always loved plants. I've gardened with my grandma and I just loved growing things from seeds, and watching them grow. I worked at a garden centre which expanded my love of plants. So that's been a part of my life for a while now. And I enjoy doing it. (IB3)

This increased exposure to nature was, as she stated, "one of the stepping stones" in her shift (IB3). She also shared how her parents had an influence on her:

> My parents aren't even outdoors people. I was always encouraged to respect everything. We were never outside a whole lot as kids. But they encouraged us to be respectful of everything as well so I think that's sort of been instilled in me. (IB3)

Alison's experiences with nature were different from Shelley's and she shared how her connection to nature was fostered. In contrast to Shelley, she spent a lot of time playing outdoors as a child:

> Well, I think it most definitely came from my childhood because I'm older than Shelley's generation and that was just a different time. We played outside all the time in the neighbourhood. My parents both liked being outside so we did a lot of camping when I was a child. So it was always a part of the way we grew up. And my mom would let us play in the garden before it was time to plant. It would be mud and we would be covered from head to toe in mud, looking for bugs and all kinds of stuff. (IB3)

In both of these accounts it appears that the adults in the participants' lives had an impact on their relationship with nature. Alison's experience reflects an assumption I had made, whereas Shelley's experience is causing me to rethink it. Chawla's (2006) study indicated that for most individuals who had a strong connection to nature, it was developed through positive childhood experiences in nature aided by a significant adult who fostered a love and respect for the world around them. Alison's reflections certainly mirror the findings Chawla (2006) noted. In Shelley's case, she had limited positive exposure to nature but was exposed to models of respectful interactions. Her story suggests that minimal, and at times negative, childhood experiences with nature do not mean our perceptions cannot change. It seems that the open-mindedness and respectful dispositions fostered by Shelley's family strengthened her commitment to helping children connect with nature. Her story should provide an inspiration to educators who find themselves in a similar position and thus may be feeling a bit hesitant about introducing nature-based programming even in the face of potential benefits for children. To me this is an interesting finding, one that I feel deserves further investigation.

Alison's description also alludes to a sense of freedom, something both Louv (2005) and Gill (2007) write about, the importance of children being able to freely explore without an adult hovering over them. Alison remarked that a generational difference now exists; she feels that children today do not have the same independence she had, the autonomy to explore and connect with nature on your own terms (IB3). This generational shift is also a concern for both Louv and Gill.

Both Shelley and Alison's reflections pose interesting questions for institutions that train educators. Not only do Alison's comments about children's lack of exposure to nature in their daily lives substantiate the need for nature-based programming, they also highlight another concern for the future. Some of these children could potentially be future early childhood educators. Educators such as Alison, who are able to integrate their personal experience and disposition to nature into their teaching methods, may become fewer in number. Shelley's story, however, provides hope—that an adult who has had no experience, or even negative experiences with nature as a child, can develop a respectful disposition if exposed to supportive and nurturing people who model respectful interactions with the world around them. Any educator-training institution wanting to add a nature-based approach to its program should consider integrating into the curriculum courses and concepts that nurture ecological ethics and provide first-hand nature experiences.

Cracking the Logic of Domination

Another assumption that came up during my bracketing exercise relates to our relationship with the more-than-human world. I assumed that the participants, growing up in a society where anthropocentric viewpoints are cultivated, would focus on benefits to humans rather than a holistic way of interacting with the more-than-human world. However, although it was not

directly addressed in the interviews, glimpses of a less anthropocentric way of viewing the world were shared by both participants.

In discussing why she enjoyed being in nature with children, Alison shared the following insight:

> It's just so healthy for them to be out in the fresh air and to experience all the things that they can outside rather than just being inside. It so free out there. And they truly need to learn to connect with that and I think even more so nowadays. If you don't have a connection to those things then I think you're missing out…. losing out on understanding the cycle of life. I mean you can get pretty deep with what they're getting out of it. You know, just making a connection to something, so as Shelley said, you have a respect for it. If you don't ever see it, or don't ever take part in it then it means nothing to you. It really does develop that sense of belonging and sense of respect and something greater than you which is really important too. That there is something bigger than me involved. That's how this all ties in for me (IB3).

Shelley too talked about the importance of respect many times during our interviews. In one instance she stated, "I still strongly believe that it's a respect thing. And I think it's something that should be transferable to all parts of their life: inside, outside, people, animals, bugs" (IB3).

These two comments, alongside other things Alison and Shelley said, show that they do not fully share the anthropocentric perspective so well engrained in our systems and, perhaps one could say, our psyches. Not only did I hear elements of these thoughts that revealed the respectful ways they interacted with the natural world throughout the interviews, I also observed them in action. This will be apparent in the observations described in the forthcoming section titled "Into Practice." However, there were times when the subtleties of our

anthropocentric ways of thinking were still evident in our conversations. Comments that separated humans from animals, implying that we are separate from the animal world, were heard several times. In one interview Shelley said, "When we've been in the forest we've been pretty much cleaning and preparing it and making it more beautiful" (IB3). With such deep-rooted beliefs well entrenched in our modern world, I believe it is a life-long challenge for all of us, that requires concentrated effort to maintain a diligent reflexivity and enable change. This will be a challenge to anyone interested in providing a nature-based program that supports ecological consciousness and nurtures the development of environmental ethics.

Supporting Learning in Nature-based Programs

Philosophies

In order to examine ways that environmental learning can be supported, we need to begin with another important foundation, one's beliefs about education. Therefore our initial interviews began with a discussion about Shelley and Alison's philosophy of early childhood education. Expressing their beliefs provided an opportunity to later discuss whether or not a nature-based program could meet these philosophical expectations. Shelley believes that it is important to provide children with a homelike atmosphere that is safe and comfortable. She feels that the program should provide an environment that allows children to grow in all developmental areas, especially in the social domain. She believes that learning should be in the moment and commented that, "it's far easier for children to grasp it when they are in the moment and they are seeing it and experiencing it" (IA1). She also stated that one of the main roles of the educator is to be a model.

Alison believes that childhood should be "a time of play and imagination and freedom with those special adults giving boundaries to keep them safe" (IA2). She feels that children

should have many opportunities to freely explore inside and outside where they can engage and succeed in experiences they typically wouldn't have. She believes that children are "being robbed" (IA2) of opportunities to spend time in nature and she strongly believes that connecting children with nature should be a huge component of an early learning program. She also believes that the educator is a role model, commenting that "if you want children to learn certain things or behave certain ways you have to model those" (IA2). Both Alison and Shelley affirmed that their personal philosophies aligned with their centre's philosophy.

An educator's philosophy of early childhood education will have a significant impact on how children's learning will be supported. In a nature-based program, connecting children with nature becomes a large part of this learning process. The following section highlights some concrete examples of the ways Shelley and Alison supported the children's learning throughout the trial.

Into Practice: Supporting a positive early learning environment in a nature-based program
Alison and Shelley supported children's learning using a number of different strategies, including supporting children's play. They provided ample time for the children to freely explore their natural environments without adult direction. These opportunities to play in "wild" spaces occurred in the two forested areas (one of which is fenced). I had a sense that Shelley and Alison were alert to what the children were doing but they did not hover over them or interrupt their play.

Alison commented that it was important to ensure that children have materials available that they can use in their play. She added that it was also important to encourage children to tread lightly while playing. An example she provided was a reminder she might offer children: "Rather than breaking branches off of trees, go searching for branches that are on the ground"

(IA2). Both Alison and Shelley found that the children had ample supplies of materials and were deeply engaged in their play. Shelley commented, "Outside there is no shortage of things" (IC5).

At times the educators would approach the children while they were playing and add comments, but more often it was the children who approached them. A sampling of these interactions, which supported connections with nature, was captured in the following observations of Shelley's exchanges with the children:

- The children returned to a hollowed out stump. They added found natural items to the top of the stump. They commented that only green things could be added to the log. Shelley reminded the children that if the green things were attached to something it must be left because it is still growing. (O8)

- Shelley examined a tree which had been pulled down by children in previous play. She looked for buds and told the children that the tree was still alive. She tied the tree to another [tree] close by and supported its upright position with rocks. (O8)

- A child showed Shelley a worm. Shelley listened carefully as the child described how it was found and where he would like to leave it. Shelley discussed two options with the child. She acknowledged how gentle and caring he was being with the worm. (O26)

These observations show how Shelley respectfully interacted with the more-than-human world. She reflected a genuine care for the world around her and modelled behaviours that demonstrated this attribute.

This leads to one other interesting observation. During Shelley's initial interview, she mentioned her "phobia of bugs" of all kinds (IA1, p. 6). Interestingly, she quickly added, "I

don't want to impose my thoughts on the children so I try to be very open-minded and just keep how I feel to myself. I reiterate the caring and the respect" (IA1, p. 6). I observed how Shelley was able to do this many times and it is best illustrated through the following observation: During snack a spider crawled onto the table. Shelley calmly asked one of the children to move the spider since he is so gentle with animals. The child eagerly assisted (O28).

Had Shelley not shared her discomfort I would not have guessed that she was uncomfortable with arachnids. She was able to mask her own feelings in a way that modelled a respectful interaction with the animals who lived in their shared space. I find it inspiring that an educator can recognize how her fears can impact children's growing understanding of the world around them and then find ways to deal with those fears in such a way that genuinely models respect. There may still be the occasional discrepancy which the children may pick up but that was not evident in the interactions I observed.

The display of the participants' wonder and enthusiasm in the world around them flowed down to the children. This "disposition to delight" (Pelo, 2013, p. 46) proved to be very powerful, as the following observations show:

- Shelley discovered a plant and excitedly exclaimed, "I think it's a strawberry plant." She examined it carefully with a child who had joined her. (O13)

- Alison intently searched under rocks. Children approached her asking what she was doing. They excitedly joined in, looking for worms and other animals. (O21)

- During the snack routine, Shelley saw a bird. She shared this with the other children and asked them to speak quietly so the birds would not fly away. Shelley and the children sat quietly watching the birds as they climbed about on a birch tree. She wondered with the children if the birds might like some of their leftover bagel. She

got up and placed several pieces under the tree. They all watched to see if the birds would return. (O38)

- Shelley excitedly pointed out a vine she found to the children close by. She showed them the buds and talked about the shapes. The children joined in the discussions and eagerly pointed out other plants they saw. A child asked about the strawberry plants they found and the trees they planted. Shelley and the child started to look for the plants. (O42)

Shelley and I briefly discussed some of these moments of sharing her wonder with the children. She responded, "That was the kid inside me. I was excited about seeing those things" (IC5). Shelley's comments confirmed what I had witnessed, that her excitement was genuine. I believe these sincere expressions of wonder are what children sense and respond to. It was certainly evident in this program.

Another strategy revealed in the data was the respectful way these early childhood educators interacted with the children. The observations above, and those following, showcase the types of connections that I consistently observed during the trial period:

- During snack, a child pointed out birds that were in the trees. Shelley and the other children looked for them. Another child pointed out nests high up in a tree and Shelley asked the child to point them out to the others. (O45)

- Alison approached a group of children who built a shelter with long branches. The children proudly showed her what they built and she acknowledged their work, by describing what she saw and asking questions about what they had done. (O53)

The importance of modelling came up quite often during the interviews. The educators modelled daily tasks and children were invited to participate, or to watch, or not engage at all.

This was quite apparent from the observations I recorded of the following event:

Shelley began to rake leaves. A few children asked to help and quickly joined in while

others ran off to play in different parts of the forest. Shelley laid out a tarp and proposed

a plan, "I have an idea. This time we'll rake the leaves into the tarp." They all began to

rake. Once the tarp was filled with leaves, she directed interested children to grab an

end of the tarp and they dragged it outside of the fenced area. Shelley said, "I think this

is a good dumping ground." They tipped the tarp over, dumping the leaves on the side

of the trail and then they returned to their forest area. The children continued on with

their task of raking. (O3)

In the interviews, both Alison and Shelley said that it was important to model

enjoyment. Alison stated:

If you're always complaining that it's too hot, too cold, too windy, then the children will

pick up on that. Obviously when conditions are ideal, that's the most fun. But when I'm

outside in the winter I try to find the good things about being outside and I think that I

translate that to the children. And in the rain? Well, it's fun to be out in the rain. There

are splashes and puddles… (IA2).

During this trial I found that both Alison and Shelley were engaged with the children in ways

that displayed enjoyment. I did not once find that they had looks of boredom, displeasure, or

disinterest during the trial.

Alison and Shelley agreed that it was important to be models of the behaviours and

dispositions that displayed respectful interactions. Alison also acknowledged that when

children are having a hard time connecting to nature, or are unsure of what to do, she provides

little provocations—things the children might be interested in doing. Sometimes it means

bringing things into the forest like some logs (IA2). An example of how she provoked an exploration was identified earlier in the observation in which she began searching under rocks.

Following children's lead was also a strategy both Alison and Shelley discussed in our interviews. This type of experience was illustrated one day when Shelley and some of the children observed a deer run across a nearby forest (O51). Shelley shared her feelings about this experience:

If they weren't facing that direction they never would have seen it. That was such a heart-warming experience… to watch a deer run through a field. That was so lovely. I think something like that… the learning stems from them. I didn't give them a big story. It was more, "Let's look at the deer. Oh where's he going? Is it a baby deer?" and that's where their questions started to stem from. (IC4)

On another morning a group of children ran over to Shelley to share their discovery: the children exclaimed, "We found a frog." Shelley joined the children and they showed her where the frog went. Shelley joined the children on a search for the frog. A lot of frog stories were shared during the search (O30).

These examples of children connecting with nature also show how little moments of the day can be used to provide meaningful learning experiences that support development in all of the domain areas. As children share their stories they learn to listen to each other, develop vocabulary, and understand the nuances of storytelling. Their questions foster creative thinking and help to clarify their understandings of concepts. Their interactions with peers and adults provide opportunities to recognize and accept that others have ideas that may differ from their own (BSEP, 2007). Alison stated that during these times it was important to "expand the

children's knowledge and to give them information when they're ready to hear it and when they ask questions rather than giving them all the information that we have in our heads" (IA2).

I observed many of these single events where Shelley and Alison followed the children's lead and turned them into teachable moments. During our paired interview we discussed ways that such emerging interests could be connected not only to the children's learning outdoors but also to the "regular" program. Although this was not done during the trial, we used the children's interest in the seedlings they found in the forest to explore ways it could have connected their learning to their regular program. Ideas were generated, such as starting seeds indoors and examining the plants emerging in the playground garden (IB3). The possibilities for a rich engagement of learning based on the children's interests became quite apparent.

Alison mentioned that at times some children may need help to see things differently, especially those who may not have spent much time in natural settings. She commented:

And then there's some children who every once in a while they need your help to see something differently—say like those boys that day. Those are children who don't have a very strong connection to nature. I think one child in particular—I don't know how much time he gets to spend in exploring outside. So that, to me, was a case where they needed a little bit of direction to start to look for something. So you know, it depends on the child. Some might need a little bit of a push to explore; they may not know that they can find something under the ground. Maybe they've never dug under the earth. Maybe they've only dug in the sandbox where you're not going to find any worms. So for those children you have to find little tools that will get them started and hopefully then grab them. (IB3)

In one of our interviews, Shelley mentioned that there are times when she does not point things out to the children. She tries not to constantly chatter at the children: "not to necessarily point things out and make them notice things. It's them noticing it on their own and then bringing it back to you" (IB3). She mentioned that one of her strategies is to silently observe her surroundings. Her hope is that the children might notice how she is looking around enjoying "her time and the space" and hoping they may notice things on their own. I observed this strategy in action. From my observations: "Shelley stopped to observe a squirrel. Some of the children stopped and looked up into the tree. A discussion ensued with lots of questions posed by both Shelley and the children" (O40).

This was further emphasized one morning when Shelley found a jelly-like substance on the bark of one of the trees. She explored and wondered with me what it was. Her enthusiasm was quite infectious (O56). After her thorough investigation, she surprised me by walking away without calling the children over to see what she had found. Later a group of children ran over to Alison and Shelley exclaiming enthusiastically that they had found "jello" on a tree (O57). I imagined their moment of discovery, the questions they posed to each other, and the excitement of being able to share it with others. What a powerful learning experience for the children. It is an interesting strategy that, based on what I have witnessed over the years, I do not believe is often used in educational settings.

I found the combination of all these strategies to be effective teaching methods. The children had opportunities to uninhibitedly explore their environment, providing many hands-on, sensorial experiences and the potential to discover the complexities and marvels of nature. The educators modelled respect and a sense of wonder in a way that nurtured a more holistic way of looking at the more-than-human world. They provided information in meaningful

contexts without turning them into organized, didactical "lessons" about nature. Not only do these combinations of strategies help to build deeper connection with the more-than-human world, they are also sound practices for building a healthy, positive, developmentally appropriate learning environment, as described in the literature review.

Riskful Play

We had lengthy discussions about this topic and it was very evident from the passion both educators exhibited that they wholeheartedly supported risky play. Shelley commented that children playing in the indoor space do a lot of climbing and other risky experiences. She talked about the difference in the kinds of climbing experiences children have indoors and outdoors:

> It's riskier inside because they feel like they have a level of security because they can stack the blocks on flat ground and then things get a little too high or too much. Outside they really have to test the water before they get into it. You can see that they have to make more judgements. You never know what's going to happen when you're on a tree. (IC4)

The implication that children's overconfidence in controlled environments may cause more injury than in settings where there is an element of the unknown is interesting and adds to the discussion about risky play. I did not come across this concept in my literature review of risky play; further research in this area may add to the discussion about this topic.

She added that children were "very instinctual and that they know if they're not ready to do something" (IA1). She continued, "And if they fall and get a scrape, well now they know. There's Band-Aids and we're there to help them and comfort them. But they need to do those things in order to learn" (IA1). Shelley further reflected her feelings about her need to protect:

Sometimes a part of me kicks in and I feel that I have to be super protective but I know that I have to stay away so that they can play. I know that if I was over there, I would be, "Oh don't," "Watch out for this," and "Watch out for that." But you know if someone gets a bump and even if they were crying over there, I think they would manage to figure it all out on their own. What a valuable learning experience that is. (IB3)

Alison also felt that risky play needed to be supported. She commented:

You know we tell children a hundred thousand times a day to be careful. They don't know what we're talking about. Be careful of what? We end up developing these children who are afraid to do almost anything because something might happen. So I think risky play is good. I think it's healthy. (IA2)

She also added another dimension to the risk-taking discussion. She spoke about the responsibility she has to parents to keep their children safe and how she has found a balance where she is comfortable in some risk-taking experiences. She developed this balance by monitoring and supervising children's play and completing environmental and activity risk assessments. She labelled the strategies she used to provide children with risky play opportunities "safeguarded risks" (IA2).

On one of our last days, the children found a tree that had fallen and was wedged into another tree. A few children began to climb it (O54). It was interesting to watch Alison and Shelley as they observed this activity progress. I made a note in my journal about their initial trepidation and how the discussion between them seemed to help them reaffirm the benefits of the activity. I enjoyed watching the way they supported each other. Alison's reflections provide insights into their experience:

And just seeing all the learning that took place on that log for those children, in that short amount of time. We couldn't have done that for them inside. We just couldn't. Even if we gave them something to climb on inside. There's so much going on there that we couldn't have taught them—the fact that it was wet and the fact there were so many variables they had to consider. And how quickly some children, who were already very strong climbers, climbed up. They got as high as they needed to and then they swung, and they balanced, and then they jumped down, and those two boys were done. That was it. That's all they needed. And then the rest of them stayed and explored a bit more. It reiterates how important I think riskful play is. (IC5)

Alison added that it would have been wonderful to videotape this experience to initiate risk-taking discussions with other educators.

For the most part, the educators did not restrict play while the children were playing in the fenced-in natural areas but the fence certainly restricted their movement. Near the end of the trial we ventured out to the unfenced forest area situated beside the centre's building, which provided an opportunity to see independent mobility license in action (Sandseter, 2009a). Shelley described her experience illustrating her feelings about mobility license:

I mentioned to you the other day that they go far and just as I'm about to call them back they come back. So they really know their boundaries and even as we experienced today—I feel like the children have more intuition. In a sense they feel when there is something not right or they can't go any further. I see that all the time with them and also to the checking in. They'll just for the sake of it show me something that they didn't probably feel they needed to show me but it's an excuse to come back to home

base and then take off again. Or they'll call my name or something. "Yup, okay." And,

then they'll keep playing. They need to make sure too. (IC4)

One might question if this self-regulation would have persisted in this way if more time had

been spent in this unfenced area. Sandseter's (2009a) research implied that this does not have

an impact. In Scotland, I witnessed how educators and children negotiated boundaries by

walking the perimeter and discussing hazards and limits together. These would be revisited

when either the educators or children wanted to review or extend boundaries.

Alison's description echoes Shelley's thoughts regarding mobility license:

A part of me wants to jump in when the children are doing something or when I called

to those boys because I thought they were going too far and I then I just stopped instead

of hauling them back. Now, had I hauled them back, all that would've been lost. So I

think maybe this has given me a little bit more of an incentive to stop and think before I

put a limit or to look at it first before I say, "No, come on back" because I'm

uncomfortable. Then maybe just go a little step further sometimes. (IC5)

I found that Shelley and Alison's reflections about risky play mirrored those expressed

in the literature. It appears that Shelly and Alison consider both the environmental and

individual categories of risky play described by Sandseter (2009b). Both are challenging their

perspectives, looking to find a balance that meets children's needs and their need to provide a

safe environment. In reviewing the four different strategies educators use to deal with

children's risky play outlined by Sandseter (2009c), I found that Shelley and Alison closely

observed the children as they played in their natural settings using the "keeping a close eye"

strategy. Their insights reflect an understanding of societal views about risk, yet show how they

are challenging these ways of thinking through their belief that risky play benefits children's

lives. Early childhood educators working in licensed programs are cognizant of their legislative obligations regarding supervision. A roundtable discussion with legislators and early childhood educators to address perceived and real obligations regarding supervision would be a positive move to alleviate some anxiety educators and families have about risky play.

Participants' Discoveries

After sharing their beliefs about early childhood education in the initial interview, both Shelley and Alison were asked if they felt the implementation of this trial would support, or challenge, those beliefs. Both believed that this type of program would support their philosophies. Alison felt that it especially supported her belief that children should be exposed to nature more. "Obviously if you're doing an outdoor program then the children get to experience that every day and the wonderful part about that is they get to experience firsthand, hands-on, the changing seasons" (IA2). Shelley commented, "I see these next few weeks as an opportunity to do what we do inside and just take it into the outdoor setting" (IA1). I interpreted this to mean that she would be able to meet curriculum expectations in the outdoor setting in a similar fashion to indoor settings.

As the trial progressed, both participants noted positive differences in the learning opportunities that arose in the outdoor natural space. Shelley commented that she found she was not seeing as many conflicts and issues arising when the children were in the forest areas. She stated:

> I find them more constructive outside than when they are inside. It's a lot of redirecting indoors and I find that I am mostly doing my thing and some children come and help. And the ones that aren't really interested in helping me, they manage to figure stuff out

the whole time we're up there. I don't have to manage too much. They do it on their own and they have been happy and busy. (IB3)

Another significant difference observed by the participants, then, was how differently the children interacted with their environment in the forested areas compared to the indoor program settings. Shelley noted that the children were more engaged in the natural setting. She felt that in that setting there was no shortage of things to do (IC4). She commented several times about the more frequent and deeper levels of learning she observed:

> More opportunities I think, more questions come up, and I think the children asking me things and wanting to learn and know things. They ask me things inside but they are pretty—not mundane questions but—I feel like when we are outside these are things that they'll remember and they're going to take with them and they're actually learning. (IC4)

Later she added:

> I think I found it almost more valuable what we learned outside than what we do inside. Just a little bit more life lessons in a sense that I think will carry over and make more things make sense to them. Inside they're quite specific questions about what I'm doing. There are not too many "outside the box" things that they ask me up there [inside]. When I start something or do something, if I'm sewing on the sewing machine, they'll ask me about that, for planting they'll ask me about that — but as far as things that they experience within the room there's not too many questions. Outside I felt like there were lots of things that we were curious about and that I could try to answer to the best of my ability. (IC4)

One might wonder if this could be attributed to the novelty effect of a new environment. Yet, I know that the children had spent time in this environment before so it was not entirely new to them. Each day the children discovered naturally occurring changes, such as the emergence of little seedlings, signs of animals, or pools of water. Being in these natural settings appears to provide a continual array of newness with opportunities to deepen children's understanding of the world around them.

Alison observed that the children's experiences in the forested area forced them to be more imaginative:

As much as we try inside to open that [imaginative play] up we still have so many things that are in place of, or we give to them. So outside, because we don't bring anything out there with us, it really pushes that envelope for them. (IC5)

Shelley made an interesting comment that I discovered only during the data analysis after the trial. She mentioned that she was feeling herself more relaxed in the forest (IB3). She seemed to imply that this occurred because there were fewer conflicts to deal with. I wish that I had noted it earlier. I think some enlightening discussions could have been initiated to provide further insights into how each felt emotionally in this natural setting and why this might be.

In our final interviews I asked both if they felt this nature-based program affected their understanding of early childhood education. Shelley stated, "My philosophy towards education was totally fulfilled being outside." (IC4). Alison elaborated:

I think reinforce is probably a better word. Or maybe even changed because I may have had doubts here and there with what children are capable of or what they really get out of their environment. The importance of backing off a little bit and letting them play—to give them their space to explore and see where it takes them. (IC5)

She added, "It solidifies in my heart and my head what I have already felt—that being outside for children is a fantastic opportunity" (IC5). Her comment illustrates the passion and enthusiasm both participants exhibited throughout this trial, something I feel fuelled the success of this trial program.

Supporting Learning: Conclusion

It is evident that the experiences these early childhood educators had during this trial followed early learning best practices. Shelley and Alison provided a warm, welcoming space and respectful interactions. They were able to able to support a rich, play-based, developmentally appropriate learning environment that fostered development in all domain areas: physical, socio-emotional, language and communication, and cognitive. They actually felt this environment provided richer, more deeply engaging opportunities for critical thinking, problem solving, questioning, imaginative play, and social experiences, along with a positive emotional climate. These benefits corroborate the research and literature reviewed in Chapter 2.

Within this learning environment, experiences that nurtured connections to nature were also obvious. The forested area fostered many self-directed, firsthand, hands-on experiences with the more-than-human world that Chawla (1998), Cheng and Monroe (2012), and Kellert (2005) purported were vital to children developing a deep connection with nature. Equally important, Shelley and Alison used their teaching strategies to respectfully model and guide interactions with the more-than-human world. Many of their interactions helped challenge anthropocentric ways of viewing the world.

In reviewing the key components of nature-based programming outlined in the literature review, I feel this trial effectively met many of the components Warden (2010) defined: provision of opportunities for uninterrupted child-directed play with many open-ended

resources, treatment of children as competent and capable, adherence to developmentally appropriate practices, and modelling of respectful interactions with the more-than-human world.

Implementation of Sustainable, Long-term Nature-based Programs Throughout each of our interviews, Shelley and Alison provided substantial thoughts about the supports and challenges of implementing licensed early learning, nature-based programs. It was quite a treat to watch the two of them brainstorming during the paired interview. Their belief in the benefits of this type of program shone through during this session. In analysing the interviews, there appeared to be two main themes connected to the success of an implementation. The first related to the people involved, while the second referred to logistics. **The People**

In our initial interview, Alison first discussed the importance of the people involved in the trial. She commented on Shelley's willingness to try new things and how critical that is in making the trial program a success (IA2). She also discussed the role of other support people, especially the cook who, along with her commitments to the other programs, had to come up with a snack plan. In addition, she spoke of the crucial role parents play. Alison also felt that there may be a need for education to help parents understand the benefits of nature-based programming. In our final interview, she reiterated these thoughts by stating how important it was to have the whole team committed and open to the process (IC5).

Naturally the educators working directly with the children are crucial to the success of the program. In order to gain insight into the characteristics of the participants that made this trial a success, Shelley and Alison were asked to share the strengths they felt they brought to the program. Shelley identified her strengths as "a respect for the outdoors" (IC4) and a "work

ethic, doing things outside and enjoying what you do" (IC4). She also felt she had some understanding of the outdoors that she was able to share with the children. Alison felt the strengths that she brought to the program included her optimism, curiosity and enthusiasm. She elaborated:

> When I see something outside that I think is truly great, I like to point that out to them. Or my enthusiasm that they get to just be free out there. Or if they find something, I love to watch them engage in that, or be so excited. And optimism because there are times when children complain and I try to flip that a little bit into a positive. So I think I'm a fairly positive person, especially when I'm around the children. And my own enthusiasm and curiosity for the outdoors. (IC5)

I observed many examples of these attributes Shelley and Alison shared, along with a few others that they did not identify. In examining both their reflections and my observations, I believe the following traits also helped this trial implementation meet the key components of a nature-based early learning programs (Warden 2010). Many of these traits are similar to the ones Chawla (2006) identified in her study. First, both participants displayed an openness to learn and try new things. Tied to this quality were ingenuity and resourcefulness. Along with their willingness to participate in this trial and my research, both, and especially Shelley, assessed each day's events and came up with solutions to barriers that arose. Shelley captured this in the following comment:

> It's a learn-as-you-go, especially for me because I'm not an outdoor person. I was impressed that I could hang that tarp because I've only gone camping once before. I've never hung a tarp before and it worked out well. (IB3)

She added, "I just don't know that kind of stuff and I've never had to do it or been exposed to it so I'm kind of learning as I go. I like it." (IB3)

Enthusiasm is definitely another trait that drove this trial. As described above, both Shelley and Alison enthusiastically explored the world around them with the children in a respectful manner. This enthusiasm was also obvious during our interviews. Shelley's own wonder the day she found the jelly-like substance on the tree was testament to this genuine "disposition to delight" (Pelo, 2013, p. 46).

Respectfulness was also a very prominent characteristic. Its importance was conveyed to me by both participants, in all of the interviews. Shelley and Alison clearly shared how important this was to their own and their centre's philosophy. Not only did they model respectful interactions with nature, they also spoke and treated the children and their colleagues with respect. The many examples described above highlighted how they integrated this into their practice.

Facilitating learning in a way that allowed for child-centred, exploratory, and risky play was also illustrated in the examples listed above. Their interactions were most often led by the children's interests, and both Shelley and Alison were very reflective about their teaching practices.

The final trait I found was passion for the work they did and a willingness to share what they had learned. Both Shelley and Alison were optimistic and enthusiastic about the trial. Their passion in wanting to provide the best for children was fervently expressed throughout the interviews and this was easily corroborated by the observations in the field. Alison made a few comments about wanting to share information about what they learned with other educators with the hope that it could spark interest in nature-based programs (IA1, IC5).

In may be helpful for managers wishing to implement nature-based programs to consider finding educators who display these types of dispositions as they seem to be critical to ensuring that the key components of nature-based programs are fostered and wholly integrated. Developing methods to assess potential educators to run such programs is another area that deserves further investigation.

In reflecting on their strengths, Alison and Shelley also shared areas they felt they would like to work on. Shelley indicated that "more knowledge of the outdoors" (IC47) would have been useful. She reflected, "Just more information about things in our area. Knowing about different trees and knowing what was on the tree today could be information I could offer if they asked me" (IC4). She added that having some resources and activities might be helpful too (IC4). Alison would like to gain more practical, handy skills like how to build lean-tos (IC5). These are skills and knowledge I gained myself through the Nature Kindergarten training I completed. I found the practical skills useful and confidence-building, especially things like shelter building and learning how to safely introduce and use fire in an early learning setting. This kind of knowledge can also connect us to our heritage through activities such as making maple syrup and creating elderberry whistles. Knowledge about Indigenous ways of being on the land also could enrich a program and could be incorporated through hiring considerations, or inviting an Elder to participate in the program.

Gaining more knowledge of the world around the site is also important. Knowledge of plants that are toxic is obviously essential, as is an understanding of plants and animals that may be endangered. This awareness can also help to make the intricacies of the world around us more apparent. For instance, knowing that in the spring some of the little black specks on the

snow are actually insects called springtails or snowfleas can lead to interesting activities such as bringing out magnifying glasses to help discover this unexpected life on the snow. As valuable as this knowledge of the natural world is, I do not expect that educators necessarily would have that prior to being hired, and I feel that these are skills that can be gained as educators engage in nature-based programs. They could even be researched with the children as interest arises. The attributes I outlined at the beginning of this section seem to me to be far more critical to ensuring a nurturing, developmentally appropriate learning environment.

The number of early childhood educators facilitating the program was also discussed. In Ontario a legislative act called the Day Nurseries Act (1990) dictates how licensed early learning programs operate, which includes child/adult ratios. Shelley mentioned that it would be ideal to decrease this ratio so that an additional adult could be included: "I think that it would make it a better situation for the children and the educator. Everything would run more smoothly to have that extra person" (IC4). Alison shared a story that supported Shelley's position:

> So I decided to go with them to see actually where they were. And because I knew that you were there as well, I felt it was okay that there is little bit of the distance between the other children and me. Had I been by myself I may have had to bring those girls with me. So having extra people is definitely a benefit to an outdoor program. And so financially the daycare would have to look at supporting that. Can we? (IC5)

Alison's comments about costs will be addressed further below and is definitely an issue programs need to consider. Perhaps it would mean running a program where a minimum of two educators would be hired. In a younger preschool setting this would mean that sixteen children would need to be enrolled. Another option might be to offer a parent cooperative

licensed program which allows parents to step in as an adult in charge. The ratio then decreases: one early childhood educator, two parents and sixteen children. Other financially viable options should be further explored.

Last but not least to consider are the children. Some might wonder if children even want to be outdoors in these natural settings. In this case, Shelley and Alison both commented on the children's participation. Shelley said:

> I was surprised at how adaptable they were. I had predicted a little bit of complaining, especially with the weather. But they were actually excited to be out there in the rain, and that's totally not the reaction I had anticipated. (IC4)

Alison echoed these thoughts. She found that the children were excited and eager to be outside every day (IB3).

I believe that the success of any nature-based program needs the support of all the people involved and it was evident that, in this instance, this sense of a team existed and contributed to the success of this trial run.

The Practical Side: The big and little things that make a difference

Shelley and Alison shared many of the challenges they uncovered during the implementation of their program, and suggested ways to overcome them. They also discussed the little things that were supportive. The initial interview unearthed ideas that continually arose in subsequent interviews. It was quite fascinating to witness the brainstorming session that arose during the paired interview. During that session, Alison and Shelley discussed many ideas to overcome barriers and other details to provide a sustainable program. It was quite a testament to the importance of open-mindedness and teamwork.

Time. Providing extended periods of time that allows children to deeply engage in their exploration and play without adult-driven agendas was identified in the literature review as an important aspect of a quality early learning program and a method of connecting children to nature. An issue that the children would be bored and that time would drag was an initial concern for Shelley: "I was concerned that we would have too much time outside and we wouldn't have things to do but it's amazing how quickly time passes" (IB3). Later she added, "There was no shortness of stuff to do; they were always busy and that was nice to see" (IC4). Finding time to fit in any planned activities was also mentioned by Shelley:

> I noticed the little activities that I have planned are taking a lot longer, getting up there
> [to the site] and going at the day's pace. Even today I noticed—oh my goodness—it's
> quarter to ten. And we hadn't had snack. (IB3)

Alison thought that once the program was more established, routines and other planned experiences would flow more easily (IB3).

Time may be a factor that needs to be considered when implementing a program. Based on this trial, concerns about the children being bored during an extended time period in the forest setting did not seem to be warranted. Time is also needed to establish routines and as Alison alluded, the trial period did not provide sufficient time to do this.

Space. A suitable location for a nature-based program is an important requirement. The site makes a difference—this site had forested areas adjacent to the program and was within walking distance of several community natural spaces. Shelley commented, "There are so many other sites that are not in such a prime location. What an opportunity—how close we are to parks and the forest and all the spaces around us. We have so much" (IC4).

Weather. As expected, weather played a role. It certainly came up in our discussions. Alison identified it as a potentially major challenge:

> And then, of course, keeping up that enthusiasm when it is raining and really cold. Like I said, I don't mind being outdoors but keeping that enthusiasm when I'm feeling wet and cold. Those could be some challenges—to get over your own personal feelings about those things like weather. (IA2)

Since the trial was scheduled in the spring, we had a range of weather (just above 0 °C to 20+° C), with a few days of rain. The rainy days were a concern. Shelley said:

> I was surprised how well it went on the rainy day. I had been dreading it all weekend. It didn't really rain when we first got there—it was wet. It did pour later but we were on our way back [from a walk]. I thought, "We are dressed and we will be fine." Perhaps had it rained all morning I don't think I would have felt that way. It was okay. I think it was more me being upset. The children seemed to be pretty content. (IB3)

Alison added, "On the walk home not one child complained about being wet" (IB3).

> Shelley and Alison ensured that the children had on their raingear, using either their personal or centre gear. All the adults were also dressed appropriately. Shelley observed:

> I think you had noticed and said that it's funny that the children said, "It's raining—let's go inside." It was immediate—like they don't think to stay out in the rain. That was really eye-opening. (IB3)

Alison elaborated:

> We talk about how conditioned we are and now how conditioned the children are that as soon as it's raining we go inside, because for the most part children are not dressed to be full blown outside in the rain. (IB3)

She ended this thought with, "That's another thing. A lot of our staff don't come prepared to go outside because, like I said, we're conditioned—if it's raining we don't go out" (IB3).

We all agreed that having good rain gear that kept you dry was crucial for both adults and children. Since the gear makes a difference, programs might be able to provide gear for children and/or adults in a number of ways: purchase rainwear, offer a rental program, or sell the gear at discount prices. Changing attitudes might be a bigger roadblock. As reported by both Shelley and Alison, the children quickly adapted; it might take a little more to convince adults to make that leap. Since they tend to make the decisions, educator reluctance could be a stumbling block. Shelley's story might be an inspiration to those who are feeling hesitant about spending time outdoors in the rain.

Examining where these attitudes come from might be another way to overcome this aversion to rain. Alison wondered if it might come from our experiences in school: "When I was in school we didn't go outside when it was raining. We had rainy day recess. Everywhere I know they just don't go outside" (IB3). Not only would adults need to be open to going outside in all kinds of weather, they should also model enjoyment. As Alison stated, "If you're not enjoying it, they won't either and they'll pick up on that. So if you're always complaining that it's too hot, too cold, too windy, the children will pick up on it too" (IA2).

When we discussed the possibility of a long-term program, a discussion about the cold of winter ensued. Shelley commented, "I don't know how possible it would be to be outside in the dead of winter that long because it is just too cold sometimes" (IA1). Alison also had similar misgivings, "So in all honesty, I must admit that the idea of an outdoor program all winter long, every morning, for three hours—not so sure about that" (IC5). A few ideas were discussed including having a shelter on site, and having proper clothing. Another trial in the

winter might shed insight into the challenges and benefits of running a program during this season. In Europe, fire pits are used as places for children to warm up and for cooking. In a few centres, warm-up sheds with wood stoves provide a little shelter from the cold and rain.

Misconceptions parents have about the weather were barriers Alison has come across. "A lot of parents believe that you catch a cold if you go out in the rain" (IB3). Alison also mentioned one other possible barrier. She could imagine parents asking, "Are you going to take them outside in that?" (IA2). Providing parents with information about the benefits of spending time in natural settings and facts dispelling misinformation would be crucial to ensuring that parents are supportive.

The smell after a rainstorm, observing raindrops nestled in the cup of a leaf, the feel of rain running down your face, the numbing cold of picking a shard of ice out of a puddle. These are all experiences that awaken our senses and give us firsthand interactions with all the weather conditions the different seasons bring. Overcoming the barriers that prevent programs from experiencing the various forms of weather will provide rich learning experiences for children. Alison and Shelley's insights provide provocations for change.

Shelter. Shelley first mentioned the importance of a shelter in a discussion about weather. What is needed is "something a little more stable to protect you from the elements: the sun, the rain, the cold. It could also house supplies so that materials wouldn't need to be carted back and forth" (IC4). She suggested that a structure such as a storage shed or even an enclosure with two walls could be constructed (IC4).

Alison wondered if a permanent structure was needed, presenting a different viewpoint:

So I think running a nature-based program you sometimes have to go with the

unexpected. So to have things always in place is kind of like running an inside program,

outside. You kind of lose part of that. Because now you've lost the natural part of it right? I mean that's how I feel. If I was the educator out there all the time I might feel a little bit differently. Even something that they put up and could take down with the children, rather than a permanent fixture. (IC5)

In the absence of a permanent structure, Shelley set up a tarp, between four trees, that provided a little protection from the rain. Snack was served in this space which then created a gathering place. How well this shelter would hold up in the wind or snow is debatable. Having to create shelters for different weather conditions might lead to some interesting problem solving and resource gathering activities. I think both Alison and Shelley's perspectives have merit and are both worthy of further discussion.

Supplies. Shelley discussed the need for materials that helped with the flow of the day. Basics from inside such as a first aid kit, tissues, garbage bags, wipes, and a change of clothes (IA1) are needed. Shelley proposed making a daily list of supplies to ensure that nothing was left behind, especially those items that are used every day such as garbage bags (IC4). She suggested a few different methods of transporting/housing these materials:

- A wagon or a large backpack to transport materials, especially for those things that need to be replenished daily (IC4),
- A locked box on site could alleviate the problem of gathering things up beforehand and eliminate trips back to the centre to pick up supplies (IB3), or
- A permanent shelter could house supplies (IC4).

Another handy tool was a cellphone. Each of the early childhood educators carried her own cellphone, which was not only a convenient emergency tool but was also useful to notify

the cook when a late return for lunch was anticipated and to convey other important messages to the staff indoors.

Supplies are also needed to successfully provide the daily food for snack-time. The first day we went back to the room for snack-time. Thereafter we ate our snacks outdoors. The food was picked up by an adult before we went to the forested area or for a walk, or the whole group walked down to the kitchen to pick it up. Preparing and providing the snack food presented challenges. For this, the cook needed time to research and prepare appropriate foods and have them ready for pick up. Finding a way to transport and serve the snack was also an important consideration. Both Alison and Shelley felt that this was not an insurmountable barrier, but that it would require more collaboration with the cook (IA2, IC3).

Shelley also mentioned that eating at a picnic table was much easier than eating on the ground. She mentioned that "the children just don't seem to have the awareness that when they put their hand back on the ground that they're going to be covered in dirt, especially when the dirt is so loose" (IB3).Although Shelley had a blanket for children to sit on, they still seemed to transfer the dirt onto their food and drink, which over time did not seem to be an issue for the children. Shelley suggested the following ideas:

> Something that you could possibly set up in the forest—they could gather a log for snack or perhaps if we have a table that opened or a top. Something like that would probably be a little better than sitting on the ground to eat. I found it difficult to manoeuvre around [to serve snack]. (IB3)

Hand-washing is another important routine of the day and proved to be another challenge. Shelley found that using wipes to clean hands was not effective. She mentioned that she had been researching other methods and wondered about outdoor sinks that didn't require

running water (IB3). At the Auchlone Nature Kindergarten in Scotland, containers of water were transported to the forest. One was for drinking and the other for hand-washing. The water for hand-washing was set up near the gathering area along with a bar of soap and paper towels. Used paper towels were collected and later used to create paper bricks for starting fires.

The issue of toilets was probably the most problematic logistical issue. During the trial the group generally walked back to the building to use the toilets while the educators picked up the remains of their snack food. Occasionally children, especially the boys, would also urinate outside of the fenced forest area. Other times, if ratios permitted, an adult would walk a child back to the centre to use the indoor toilets. Although this caused a little disruption to the morning, the potential impact on a program with younger preschoolers became apparent to Shelley one morning when the younger preschoolers joined her group: "I noticed today when everybody was up there that the staff spent half the time just going back and forth with all the little ones needing to use the bathroom" (IB3).

Alternate options proposed by Shelley and Alison included using a portable toilet. I witnessed several other strategies during my visit to European programs. In the German Waldkindergarten, a section of forest was designated as the toilet area. Children used a little shovel to dig a hole and then used it to cover up their waste. The forester overseeing the use of the forest would ensure frequent rotations to ensure that a site was not overused. In Scotland, a "pee tree" was the designated site for urinating. A chemical toilet, placed under a tarp, was also available. Exploring additional strategies will require further research and discussion with the licensing bodies. The next section further discusses this and other possible licensing concerns.

In our final interview, Shelley offered a reflection that I believe highlights the importance of thinking through how supplies will be used in a nature-based program:

It's nice because if you are going to implement something like this you should stay true

to it. So it would be nice to have everything with you so that it further teaches and

validates the program to the children that we don't need to be inside to do these things.

(IC4)

Regulations. Another challenge that arose was licensing requirements. Every licensed

early learning program must meet the regulations set out in the Day Nurseries Act (DNA).

There were a lot of unknowns, especially around the issues of toileting, and snack-time (IC5).

Alison also wondered about regulations concerning a permanent structure or open fires (IC5).

Alison's feelings seem in line with the Australian educators who similarly expressed these

types of concerns (Sandseter, Little & Wyver, 2012). This is new territory and I believe

discussions with the licensing program advisors will be necessary to move any potential long-

term programs forward.

One of the existing regulations requires an adherence to specified supervisor to child

ratios. As well, the DNA requires that policies and procedures must be clearly established.

Establishing a long-term nature-based program would require a review and update of policies

and procedures, to ensure that they meet the licensing requirements. For instance, Shelley

identified the need for an updated weather policy:

I keep thinking back to January and February when it's too cold and they advise you to

stay inside. I think also to some things around summer. I know we don't get those days

too often, but there are some when it is too hot to be outside. (IC4)

There may be other policies that need to be revised or created to ensure that practices are

consistent, thought through, and that they meet legislative requirements. An "Animal

Encounter" policy might be a relevant addition for a nature-based program. In northern

Ontario, encounters with animals are inevitable, as evidenced by the deer sighting (O51). Bears can also be encountered as well as insects. Having clear policies can help educators feel prepared and confident that they are minimizing potential negative impacts on both the children and encountered animals, and this will ultimately allow for positive experiences for both.

Benefit-risk assessments (Warden, 2010) completed by educators can also be beneficial tools that put policies and procedures into actions. These assessments analyze the benefits of engaging in an experience, examining the risks involved, and then managing risky settings. Children can easily be involved in this assessment, offering them opportunities to learn how to manage risks confidently.

Financial viability. Licensed early learning programs operate with tight budgets. Any new programs would have to show that they are able to meet budget requirements. Alison mentioned this during our "increased numbers of educators" discussion (IC5). Creative resolutions, such as those mentioned in the People section of this chapter, would need to be examined to ensure that the program maintains quality learning opportunities while meeting financial expectations. Other large expenses, such as a permanent shelter, may also need to be met through creative funding strategies. There may also be cost-saving features. A large indoor space may not be required. Also, commercial play materials would not need to be purchased. A program would need to examine the financial feasibility of a long-term nature-based program relevant to their community. Implementing trial programs such as the one outlined in this study, or incorporating incremental expansions, would not only provide programs with data to determine the costs of long-term programming, but also give children some opportunities to connect to nature.

Findings and Discussion: Conclusion

In our final interview, after the trial was completed, Shelley and Alison were asked to consider the following scenario: If their supervisor approached them and asked if they thought their centre should consider implementing a long-term nature-based program, how would they respond? Alison replied, "I do think it would be an interesting and doable project. I think we have a lot of supports already with the group that I work with and with the families that are here already" (IC5). Shelley also felt she would recommend it (IC4). After providing the comprehensive list of challenges and benefits they experienced during this trial process, I feel they are well positioned to offer guidance to their administrators regarding this type of implementation.

Alison summed up the benefits of being involved in a trial program and this study, and certainly for me, substantiated the impetus for conducting this study:

> It's catapulted us into doing something we have been mulling over for a while. It has given us a little push to show us that it can be done. There are kinks here and there and we are learning how to iron them out. It certainly has given Shelley the little push to go forward. I don't know if she's told you this but after you leave, they are going to be meeting outside every morning (in the fenced-in forest) and staying outside until lunch. (IC5)

CHAPTER FIVE: CONCLUSION

The Journey Continues

In the midst of a bombardment of media reports highlighting issues facing children today, I found this study ignited in me a spark of hope. The findings, although from a small case study, corroborate the research conducted in other countries. Educators can meet the early learning needs of young children while fostering a connection with nature.

The research questions provoked rich and comprehensive insights. The participants felt their philosophies of education were confirmed and embodied through the trial nature-based program at their centre. They found the outdoor spaces and the available materials offered a rich learning environment that deepened the children's learning experiences, often in ways that were more meaningful than those experienced indoors. Shelley and Alison initially said that connecting children with nature was an important part of their beliefs about education and during the interviews they were able to identify strategies they used to create these connections. The strategies they discussed were also effective in facilitating the children's learning in a developmentally appropriate manner. They also discussed their feelings about risky play, which were both challenged and reaffirmed. Their experiments with risky play strengthened their belief that children are competent and capable. The observations substantiated their conclusions.

Not only did the study unveil the effective teaching strategies participants used, our discussion and the observations uncovered their dispositions; an openness to learning, enthusiasm, and respectfulness were all traits which had a significant impact on the success of this nature-based program implementation.

It is important to note that the interviews and observations showed how these two early childhood educators were able to meet provincial ELECT curriculum framework guidelines (BSEP, 2007)). As well, registered early childhood educators would recognize that the CECE standards of practice discussed in the literature review were also effectively met.

The last two research questions shed considerable light on factors that helped make this trial implementation of nature-based programming a positive experience. Both Shelley and Alison shared many of the benefits they experienced as outlined above. As well, there were supporting factors that made the trial a success. These included support from the program's directors, the cook, and families. This highlights the importance of communicating with all sectors to garner support before beginning the implementation process.

The participants also identified challenges they encountered. Most were barriers that Alison and Shelley both felt could be overcome with some creativity. They proposed several ideas to house/transport supplies and ways to provide shelter during inclement weather. They also brainstormed methods to keep costs at a minimum since funding is another potential barrier. Legislative regulations were deemed to be the biggest potential barrier to long-term implementation, and were the one challenge that was not fully addressed. This is an area that will require more consultation with the provincial licensing body to effect changes that will support the implementation of nature-based, early learning programs.

The study also unearthed new insights. An ambiguity that arose around the definition of nature is an issue that could be studied further. How one defines nature determines in important ways the type of program that is offered. A team looking to develop a program should have this discussion before beginning the process, and include in those discussions other educators, directors, parents, and the children. This would help to keep everyone in the loop to avoid

confusion. These discussions also should provide opportunities for dissensus to encourage

divergent thinking and the generation of new ideas.

Connecting children to nature can be done in many ways. Walking is a wonderful way

of expanding knowledge and sense of place. This was demonstrated on one of our occasional

walks. After a major rainstorm, a normally calm river the children were familiar with turned

into a roaring, tumultuous swell that eroded the banks of the river (O24). The children and

adults were in awe of how natural forces can change an environment (in this case assisted by

human interventions that dramatically increased runoff). On another occasion, en route to the

forest, we stopped on the sidewalk to observe ants furiously rebuilding their anthill (O58).

Experiences such as walks in the community could easily be incorporated into a nature-based

program. However, as described by Kellert (2005) and others, it is the uninterrupted, extended

periods of time to engage in hands-on experiences in natural spaces that appears to most deepen

children's understanding of the world around them. The significance of this argument was

exemplified through participants' experiences in the forest and was most apparent in the

observation of the children's excitement in finding new plants that were emerging and then

searching for other plants they had observed days before (O42). Creating structures such as the

fort children built with branches (O53) or exploring and discovering "jello" on the trees (O57)

affirm the importance of unhindered space and time without constant adult intervention. It is

these types of experiences that make nature-based programs unique.

Although our discussions examined ways that programs could become financially and

logistically sustainable, we did not directly address ecological sustainability. I believe this is a

key consideration, and in retrospect I would have liked to speak with the participants about this

issue. Alison alluded to the concept when she mentioned encouraging children to look for dead

branches rather than breaking live ones from trees (IA2). I imagine an explicit conversation about this would have elicited further ideas.

The centre that hosted this research has established a number of practices that promote sustainability, such as the use of reusable dishes and cutlery. These seemingly insignificant acts model a way of thinking and behaving that encourages ecological consciousness. However, even if the children and educators in a program consciously try to tread lightly, there would still be an impact on a location that is used daily. Issues such as soil compaction and insect habitat disruption are inevitable. Fencing in an area may also have ramifications on some ecosystems. I witnessed one potential solution during my Waldkindergarten visit. The educators worked with a forester who regularly assessed the forest and identified areas suitable for children to spend time. This might be a viable option when large tracts of land are accessible but I wonder what alternatives there might be if space is limited? Humans are a part of nature and finding ways that balance our impact with the needs of the more-than-human world is an interesting and important consideration. Investigating ways to facilitate ecological literacy, including challenging anthropocentric perspectives, and strategies to develop ecologically sustainable practices specific to the program region would make an interesting research study.

There is certainly more to be learned about implementing nature-based programs, and I am hopeful that this study may inspire others to investigate ways to nurture their own programs and children's learning opportunities in nature. This study has reinforced my belief that educators can deliver nature-based programs that provide rich, developmentally appropriate, learning environments that effectively meet the needs of young children. Equally important, the evidence provided in this study shows that nature-based education programs can, in their own

way, enable learning and understanding needed to create a just world for humans and the more-than-human world.

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U N I V E R S I T Y

Appendix A: Letter of recruitment to potential participants

The Role of Educators in a Nature-based Early Learning Program: A Case Study

March , 2013

Dear Potential Participant,

Thank you for your interest in my study entitled "**The Role of Educators in a Nature-based Early Learning Program: A Case Study.**" As you are aware, I am a Master of Education student at Lakehead University, and this study, supervised by Dr. Bob Jickling, is my thesis research. I invite you to be a participant in this research because of your interest in nature-based, early learning programming.

You will be implementing a trial nature-based program in the spring/summer with a small group of children in a woodlot close to your centre. If you agree, this study will focus on exploring your learning experiences as you integrate this approach into your program. It will provide an opportunity for reflection on your own teaching styles. It may also help you examine some of the benefits and challenges of implementing a nature-based program that meets the developmental needs of the children in a way that is collaborative and respectful of the natural world. If you agree, I will be present throughout the trial in order to collect information that will assist in this exploration. As a participant observer, and an experienced RECE, I can assume a supporting role for you by helping out and engaging in informal conversations. These experiences will not be recorded or contribute to the data collected.

If you agree, you are invited to participate in several ways:

- In order to gain insights into your experiences, three interviews will be conducted. There will be both individual and focus group interviews. I anticipate that each interview will last for approximately one hour.
    - The initial individual interview will provide an opportunity to discuss your expectations about the program, which will then help guide future interviews, and the logistics of when and where we will meet. It will take place just before your trial program begins.
    - The mid-study focus group and final individual interviews will be semi-structured, with questions that will emerge from our first interview and our program reflections.
    - An optional focus group interview could take place if you and your teaching partner feel this would be beneficial.
    - With your consent, the interviews will be audio recorded and transcribed. You will have access to the audio recordings and transcriptions of your interviews to ensure accuracy and for further self-reflection.
- Further insights into your learning will be gained through observations of your teaching strategies and ways that you model interactions with nature. With your consent these observations will be recorded as field notes in my journal and you will have access to these at any time during the study.
- You will be provided with a journal in which you can record your observations and reflections if you choose. You may use these for your own personal self-reflection and/or to add to the information I am collecting for the study, with your consent.

Your participation in this study is voluntary. There is no foreseeable risk or harm in participating in this study. You may refuse to participate in any part of the study and you may choose to withdraw from the

study at any time without penalty. You may choose to not answer any questions. On request, I will send you a summary of the research and a PDF of the thesis. All data collected during the study, including observations, interview audio recordings and transcripts, and related correspondence will be stored securely at Lakehead University for five years, in accordance with the university's policy. Thereafter it will be destroyed.

I intend to present the findings from this research study in classes I teach at Sault College, in educational journals, and at workshops and conferences. Your confidentiality will be protected and you will not be identified in the data, reporting, or published results. Given the size of your community, the number of participants in the study, and focus group interviews, it will not be possible to guarantee your anonymity completely.

Attached, please find a consent form that I will ask you to sign before we begin if you would like to participate. At the outset, we will review this letter and the consent form to ensure that you understand the nature of your participation in this research, and you will have a chance to ask me questions.

This research has been approved by the Lakehead University Research Ethics Board. My research study will strictly adhere to the Tri-Council Policy Statement for Ethical Conduct for Research Involving Humans. If you have any questions related to the ethics of the research and would like to speak to someone outside of the research study, please contact Sue Wright at the Research Ethics Board at 807-343-8283 or swright@lakeheadu.ca. If you have any other questions about this research study, please contact me or my thesis supervisor, Dr. Bob Jickling.

Thank you for your interest in my research. I look forward to learning with you as you experience nature-based programming.

Sincerely,

Andrea Welz

Researcher Information: The research is being conducted by:

  Andrea Welz   Master of Education Student, Lakehead University
                       Email: awelz@lakeheadu.ca   tel: 705.942.3119

Under the supervision of:

  Dr. Bob Jickling   Professor, Faculty of Education
                       Lakehead University, 955 Oliver Road, Thunder Bay, ON, P7B 5E1
                       Email: rjicklin@lakeheadu.ca   tel: 867.668.2807

The research has been approved by:
 Lakehead Research Ethics Board: Sue Wright. Email: swright@lakeheadu.ca   tel: 807.343.8283

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Appendix B: Participant Consent Form
The Role of Educators in a Nature-based Early Learning Program: A Case Study

I, _____ have read the informational letter for the study "**The Role of Educators in a Nature-based Early Learning Program: A Case Study**" by Andrea Welz, which is part of a Master of Education thesis. The thesis supervisor is Bob Jickling, Department of Education at Lakehead University. I agree to participate, and I understand that:

- Andrea Welz will observe my teaching strategies and ways that I model interactions with nature during the three week trial implementation of our nature-based program, in the spring/summer of 2013.
- I will be invited to participate in three, one-hour interviews, which will be scheduled at a collaboratively agreed upon time. I will be asked to reflect on my experiences in implementing a nature-based program. The initial, individual interview will take place before the trial begins or at its commencement. The mid-study, focus group and final, individual interviews will be semi-structured. The questions will emerge from our first interview and our program reflections. An optional focus group interview could emerge if the group feels this would be beneficial.
- All interviews will be audiotaped and transcribed. I will have the opportunity to review observations and transcripts of the audiotapes made by the researcher. During the data analysis, the researcher may request clarification of recorded information to ensure that my thinking has been represented accurately;
- There is no foreseeable risk of harm in my participation;
- There is no direct benefit to me through participation in the research. Indirect benefits include the personal and professional development that may arise through this reflective process. It may also help our program assess the sustainability of nature-based programming;
- Findings derived from this research study may be presented in college classes, at conferences, and in educational journals;
- My participation in this research is voluntary; I may refuse to participate in any part of the study, I may choose not to answer any questions, and I may withdraw from the research at any time without penalty;
- All of the data collected during the study, including audio recordings, observations and transcripts, and related correspondence will be stored in a secure office at Lakehead University for five years. After that, all the data will be erased;
- Every effort is being made to protect my anonymity. I understand that given the size of my community, and the number of participants in the study, it will be difficult to guarantee my anonymity;
- A summary of the research findings will be provided to me, if I indicate interest and provide an email address below.

I consent to the interviews being audio-recorded. ❒

Yes, I am interested in receiving a summary of the research results. ❒

    Please email this summary to: _____

SIGNATURES:

Participant: _____   Date: _____

Researcher, acknowledging receipt: _____   Date: _____

Appendix C: Introduction Letter to *Program Name*

The Role of Educators in a Nature-based Early Learning Program: A Case Study

March, 2013

Manager, *Program Name*

Dear XXXXXXX,

      I am a Master of Education student at Lakehead University in Thunder Bay, Ontario. I am enrolled in the thesis program and am designing a research study entitled "**The Role of Educators in a Nature-based Early Learning Program: A Case Study.**" I am also an RECE and have a current criminal reference check. I would like to invite your organization's participation in this study. One of your programs will be implementing a trial nature-based program in the spring or summer with a small group of children in a woodlot close to their centre. My proposed research study will explore the educators' learning experiences as they integrate this approach into their program. I will be present throughout the trial in order to collect information that will assist in this exploration. As a participant observer, and an experienced RECE, I will assume a supporting role for the educators by helping out and engaging in informal conversations. These experiences will not be recorded or contribute to the data. Data collection will consist of the following:

- Observations that will focus on the educators' teaching strategies, and their interactions with the nature and children. The focus will be on the educators' actions and responses, not those of the children in the program.
- Several individual and focus group interviews with the educators, which will be recorded. The interviews will take place at a prearranged site,
- Journal entries by the researcher and participants.

      The participating educators will be required to sign a consent form that outlines the expectations of the study and clarifies information about confidentiality, voluntary participation and secure storage of information. Risk to the participants is minimal. Participants will have access to all recorded observations, transcripts and the findings. It is my hope that this experience will also provide the participants with an opportunity to reflect on their teaching styles, and to examine some of the benefits and challenges of implementing a nature-based program.

      This research has been approved by the Lakehead University Research Ethics Board. My research will strictly adhere to the Tri-Council Policy Statement for Ethical Conduct for Research Involving Humans. If you have any questions related to the ethics of the research and would like to speak to someone outside of the research study, please contact Sue Wright at the Research Ethics Board at 807-343-8283 or swright@lakeheadu.ca.

I intend to present the findings from this research study in classes I teach at Sault College, in educational journals, and at workshops and conferences.

If you have any other questions about the research study, please contact me, or my thesis supervisor, Dr. Bob Jickling, at rjicklin@lakeheadu.ca

Sincerely,

Andrea Welz
Graduate Student in the Master of Education Program, Lakehead University
awelz@lakeheadu.ca tel: 705.942.3119

Dr. Bob Jickling
Professor, Faculty of Education, Lakehead University, 955 Oliver Road, Thunder Bay, ON, P7B 5E1 Email: rjicklin@lakeheadu.ca   tel: 867.668.2807

The research has been approved by:

Lakehead Research Ethics Board: Sue Wright. Email: swright@lakeheadu.ca   tel: 807.343.8283

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Appendix D: Consent Form – *Program Name*

I, _____ have read the informational letter which describes the research study "**The Role of Educators in a Nature-based Early Learning Program: A Case Study**" proposed by Andrea Welz. I understand that early childhood educators from the XXXXXXXXX will be invited to participate, and that additional consent will be requested from the educators who will be participating in the study.

I give Andrea Welz, a Master of Education candidate, permission to use the following methods to collect data;

- Observations of the educators;
- Interviews with the educators. These will be audio-recorded and transcribed;
- Journal entries by the educators and the researcher.

I understand that:

- The research study is part of a Master of Education thesis. The thesis supervisor is Dr. Bob Jickling, Department of Education at Lakehead University;
- The research focus is designed to explore educators' learning experiences as they integrate a nature-based approach into their program;
- The study will take place over a three week period in the spring or summer of 2013. It will also include an initial interview before the trial begins and a final interview shortly thereafter;
- There is no foreseeable risk of harm to the participants;
- Participation in this research is voluntary and participants may withdraw at any time,
- Findings from this research study may be presented in college classes, at conferences, and in educational journals;
- At the end of the study, all of the data collected during the study, including audio recordings, observations and transcripts, and related correspondence will be stored in secure office at Lakehead University for five years. After that, all data will be erased;
- A summary of the research findings will be provided to interested participants.

XXXXXX Representative: _____ Date: _____

Researcher, acknowledging receipt: _____ Date: _____

Appendix E: Interview Guide

This guide outlines the interview process that will be followed during the research study, "**The Role of Educators in a Nature-based Early Learning Program: A Case Study**" by Andrea Welz. Three interviews will be conducted with the participants.

Initial Interview.

Each participant will be interviewed individually before the implementation process begins, using a semi-structured format that frames the discussion around the research questions. Participants will be notified that the answers to these questions, along with any emerging issues that arise during the discussions, will help inform our future interviews. To begin the process, the following question will be asked:

- What excites you about the implementation of a nature-based program?

The following probing questions may be asked to gain a clearer understanding of the issues;

- What are your beliefs about early childhood education? How might the implementation of a nature-based program support or challenge these beliefs?
- What do you believe to be your role as an educator providing a nature-based program? What would this look like?
- How will you support play in this natural setting?
- How do you feel about risky play?
- How do you think your beliefs about nature will influence your teaching strategies?
- What do you think will help to make this program be successful and sustainable?
- What challenges do you think you will encounter in implementing this program?

A discussion to answer questions about the research study and expectations, reflective journals, and audio recording will be provided at the end of this interview

Mid-study Interviews. Midway through the study, we will meet as a focus group. The format of the interviews will depend on emergent issues, related to the research questions, which arise during the implementation process. These issues may be based on the researcher's and participants' observations and conversations, and there will be an openness to explore issues that were not anticipated.

Anticipated probes may include the following;

- What impact has nature-based programming had on you as an educator?
- How has your role as an educator been impacted by this program implementation?
- Have you noticed any differences in how you support children in their play?
- Have you noticed any differences in how you support risky play?
- What supports have helped you in this implementation process?
- What supports would have helped you in this implementation process?
  - If needed, supports could be identified such as: administrative, philosophical challenges, location, training, physical needs (such as clothing)

Final Interview. At the end of the study, I will meet with the participants individually to discuss their reflections of the trial, nature-based program. The format will be semi-structured with questions, focussing on the research questions, that will be determined by the ongoing analysis of the information collected.

- What did you learn from this experience as it relates to nature-based programming?
- How has this program impacted your beliefs about early childhood education?
- Have your beliefs about play changed?
- Have your beliefs about risky play changed?
- Have your beliefs about nature changed?
- Have your beliefs about nature influenced your teaching strategies? Explain.
- How was your role as an educator influenced by this nature-based program?
- What do you feel made this program successful?
- What challenges did you encounter in the implementation of this program?

Optional Interview. If the participants deem it beneficial, a final group interview will be organized. The format of this interview will be designed by the researcher and the participants to provide all with an opportunity to share their reflections.

All interviews will be audiotaped and transcribed.

Emergent Questions – Arising From the Interview and Observation Process

IA1

1. What made the shift for you? What happened that made you think it was important for children to be connected to nature? (In reference to Shelley's admission that she has never been a fan of the outdoors.)

IB3

1. I'm wondering if you found the week of the nature-based program challenged or supported your beliefs about early childhood education.
2. Do you feel that you are meeting curriculum expectations?
3. Why do you as an educator think that it's important for children to be connected to nature?
4. What influenced this belief?
5. What strategies and techniques did you use to help children connect with nature? What would you like to continue to do, maybe change or add?

IC4

1. Would you say that the learning that took place during their play outdoors was different or the same as in the indoor space?
2. How would you define nature?

IC5

1. How would you define nature?

On the letterhead of the participating program

Appendix F: Parent Information Letter
The Role of Educators in a Nature-based Early Learning Program: A Case Study

Dear Parents,

We will have another participant joining us during our pilot project. Andrea Welz is a registered early childhood educator and a faculty member in the Sault College Early Childhood Education program. She has extensive experience working as an early childhood educator and a teacher in various settings, and is keenly interested in examining the benefits of connecting children with nature. Andrea has spent the past few years travelling to several European countries to learn more about nature-based preschool programs, more commonly called *forest kindergartens*. In the fall, she travelled to Scotland to work on her Forest School certification.

Andrea is currently a Master of Education student at Lakehead University. She is very interested in exploring ways that nature-based, preschool programming could be implemented in Ontario, specifically in licensed early learning programs. She is especially interested in the role of the educator. In order to explore this she has asked to study the experiences of our team of educators as they implement our pilot project. She will do this through interviews with and observations of (name of educators) The focus of the observations will be on their actions and responses, not those of your child.

XXXXXXXX has approved her participation. Her research project has also been approved by Lakehead University's Research Ethics Board. As a participant observer, she will assume a supporting role for our program staff. She will meet all the requirements of volunteers in our program, including a Criminal Reference Check.

We look forward to supporting Andrea's work as it fits with our program philosophy.

Supervisor signature.

Researcher Contact Information:

The research project "The Role of Educators in a Nature-based Early Learning Program: A Case Study" is being conducted by:

  Andrea Welz   Master of Education Student, Lakehead University
                                   Email: awelz@lakeheadu.ca

Under the supervision of:
  Dr. Bob Jickling   Professor, Faculty of Education
                                   Lakehead University, 955 Oliver Road, Thunder Bay, ON, P7B 5E1
                                   Email: rjicklin@lakeheadu.ca

The research has been approved by:
  Lakehead Research Ethics Board: Sue Wright. Email: swright@lakeheadu.ca   tel: 807.343.8283