

Warriors of the Rainbow:

The unfolding of agency in early adolescents' environmental involvement

By

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B.A. University of Mc Gill, 1993
M.A. University of Carleton, 1997
M.A. University of Concordia, 1999

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Abstract

This study examines the meaning of environmental involvement for early adolescents based on research with children from around the world. It arises from an interest in understanding the role children play in bringing about change in society given the increase interest in children's rights. Literature on environmental education pointed to action as a focus of analysis for researching the activities of "environmentally-involved" children.

In gathering the study data, agency emerged as a more appropriate organizing concept given the depth and contextual nature of children's environmental involvement. Agency places the emphasis on defining how children interact with the various structures that affect their lives. Through the lens of agency, light is shed on children's creativity and pragmatism, with children's actions, critical thinking and imagination being of equal importance. The ability of children to maneuver through significant life experiences, beliefs towards nature, and age-defined barriers stands out. The study also shows how the

unfolding of agency is intimately linked to learning and identity-building in early adolescence. Environmental involvement becomes a medium for children to explore and define themselves in relation to others, including the social and physical environment, as they transition from childhood to adulthood.

The 2002 International Children's Environment Conference held in Victoria, Canada, which brought together 400 environmentally involved 10-to-12 year olds from 66 countries, provided the site for the research. Diverse methods served to explore the research questions: 42 open-ended interviews, using both literal and metaphorical questions, mind-mapping activities, 116 visual surveys, and field notes. Elements of grounded theory and narrative inquiry were used to analyze and present the data.

The shape of a rainbow served as a unifying metaphor to present the environmental agency model. Although the children came from different parts of the globe, I identified a collective view of the world -- attributed to their shared development process and a favourable international agenda. Six dimensions of agency are identified. In *connectedness*, children relate to nature as well as to other people. It deals with the sense of wonder, often evoked in descriptions of special place. In *engaging with the environment*, children integrate and process the knowledge gained from direct or indirect contact with nature. In *questioning*, children respond to the world awakening to its contradictions and complexities. In *belief in capacity*, children see themselves as affecting change and are hopeful for the planet's future. In *taking a stance*, children overcome the lack of adult and peer support. Then comes *strategic action*, where children select an approach to addressing environmental problems. The shape of the rainbow arc and blending of its bands reflect the interlinkages between all the dimensions.

Annotated vignettes bring to life how the six dimensions of environmental agency play out in the life of each child. Although they unfold differently, the dimensions have relevance to each environmental story. Four profiles of involvement have been recognized: initiator, creative, member, and grounded. The typology represents the variety and complexity in children's environmental activism.

There is a need to value the range of environmental experiences children engage in, of the role of process and the subtleties involved in building relationships with nature and society. Adults need to partner with children multiplying the opportunities for children to express their agency. As warriors of the rainbow, children's most intriguing contribution may lie in the way that they convey to others, with frankness and lucidity, their concern for the environment, our planet.

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Warriors of the Rainbow

“There was an old lady, from the "Cree" tribe, named "Eyes of Fire," who prophesied that one day, because of the white mans' or Yo-ne-gis' greed, there would come a time, when the fish would die in the streams, the birds would fall from the air, the waters would be blackened, and the trees would no longer be, mankind as we would know it would all but cease to exist.

There would come a time when the "keepers of the legend, stories, culture rituals, and myths, and all the Ancient Tribal Customs" would be needed to restore us to health. They would be mankinds' key to survival, they were the "Warriors of the Rainbow". There would come a day of awakening when all the peoples of all the tribes would form a New World of Justice, Peace, Freedom and recognition of the Great Spirit.

The "Warriors of the Rainbow" would spread these messages and teach all peoples of the Earth or "Elohi". They would teach them how to live the "Way of the Great Spirit". They would tell them of how the world today has turned away from the Great Spirit and that is why our Earth is "Sick".

The "Warriors of the Rainbow" would show the peoples that this "Ancient Being" (the Great Spirit), is full of love and understanding, and teach them how to make the "Earth or Elohi" beautiful again. These Warriors would give the people principles or rules to follow to make their path right with the world. These principles would be those of the Ancient Tribes. The Warriors of the Rainbow would teach the people of the ancient practices of Unity, Love and Understanding. They would teach of Harmony among people in all four corners of the Earth...”

This version comes from Lelanie Fuller Stone "The Cherokee Lady"

Chapter 1. Setting the context

1.1 Introduction

We live in an environmental crisis. Climate change, degradation of natural resources, and loss of biodiversity are among the many worrying issues. In increasingly urban environments and with ever greater technological sophistication, we have become removed from nature. As our relationship to the environment weakens, we may no longer recognize our dependence on ecosystems. In this context, what are the opportunities to bring about positive environmental change?

My daughter brought my research into focus. Noeli's first intelligible word was 'bird'. There was wonder in her face as she looked at these flying creatures. What was the significance in my daughter's fascination with every living creature that moved, with the soil, with the rocks, with the flowers and with the stars in the sky? I saw in her affinity for nature potential answers to our environmental crisis.

I turned my focus to researching the perspectives of environmentally involved children in early adolescence (Cobb, 1977; Hutchinson, 1998). These children are the beneficiaries of a century that has taken children's rights to legislation. The UN Convention on the Rights of the Child (CRC) enshrines the political, social, and economic rights of the child. Subsequent international documents (e.g., Agenda 21) have reiterated the importance of involving children in environmental issues, recognizing that they represent a growing proportion of the population and have unique contributions to offer. As a century that has paradoxically been called both the "*Century of the Child*" (Verhellen, 1997) and "*The Disappearance of Childhood*" (Postman, 1982), we need to

take a critical look at what children are saying and doing, recognizing that they are experts of their experiences.

A review of the literature shows an increased consideration for appropriate research tools (Christensen & James, 2000; Greene & Hogan, 2005; Greig & Taylor, 1999; Lewis & Lindsey, 2000). Further research is required on the nature of children's perspectives, recognizing that childhood is a social construction, continually being shaped and redefined (James & Prout, 1997). After all, as Aries (1960) points out, the discovery of the child dates only to the 16th century, and the notion of adolescence goes back two centuries (Simms, 2002; Verhellen, 1997). Gradually, children have been considered a separate group with distinct characteristics, of whom particular behaviours are expected.

Children's environmental involvement provides a compelling arena to study children's perspectives and experiences, shedding light on the potential role that children can play in bringing about change in society. In other words, how and why do these children express themselves as the Rainbow Warriors portrayed in the Cree prophecy? The focus on environmentally involved children may help identify experiences that can be replicated in the lives of other children, as proposed in research on significant life experiences (Chawla 1998, 2001; Tanner, 1980). I hope the deepened understanding of children's environmental involvement will have implications for environmental education, and the practice of children's participation.

1.2 Research questions

The research question that forms the basis of this study is:

1. What is the nature of environmental 'agency' for the environmentally involved child?

The following sub-questions serve to fully examine the main research question:

1.1. What does environmental action mean to the environmentally involved child?

1.2. What are the significant influences that shape children's environmental involvement?

1.3. What are environmentally active children's beliefs towards the natural environment? How do children perceive their responsibility towards the environment?

1.4. To what extent do children see themselves involved in affecting change at the local and/or global level? What do children perceive to be barriers to affecting change?

The focus on environmental agency as an overarching question and interpretative framework resulted from the initial data analysis. Originally, the literature on environmental education pointed to action as a focal point of analysis (Hammond, 1997; Hungerford & Volk, 1990; Jensen, 2002; Kollmus & Agyerman, 2002). In the course of the study, agency emerged as a more appropriate concept for capturing the multiple dimensions of children's environmental involvement, where children interact with the diverse structures that affect their lives (Mayall, 2001).

The International Children and Environment Conference (ICEC), that brought together 400 children between 10 and 12 from 66 countries, constitutes the site for identifying the participants and gathering the data in my study. To capture children's experiences, the study uses multiple qualitative research methods; it incorporates aspects

of case study, of phenomenology and of grounded theory. As a *bricoleur* (Kincheloe, 2001), a search for congruence of topic and method guide the development and practice of the research methods (Oberg, 2001). Literal and metaphorical interview questions, maps, and a visual survey serve as methods for collecting the data.

1.3 Dissertation overview

The thesis is organized into six chapters. Following the introductory chapter, the second chapter reviews research on topics related to the study. The review falls into four categories: (a) the implications of recognizing children's perspectives; (b) the research on sources of children's concern about the environment; (c) the value of focusing on agency in environmental education as a way of conceptualizing action more broadly; and, (d) the need for research on environmental involvement with early adolescents.

The third chapter presents the methods used in the research. It begins by setting the context of carrying out the study, discussing the origins of my research interests, as well as the implications of being an 'insider', as a member of the conference planning committee. It also presents the profile of the research participants. This is followed by a description of the three research tools —interviews (literal and metaphorical), maps and the visual survey— and how these were appropriate in answering my research questions. The chapter concludes with a description of the methods used for analyzing the data, particularly how elements of grounded theory serve to tease out the story-line.

The fourth and the fifth chapters constitute the substance of the dissertation. In these, the data are analyzed through the development of a framework named the environmental agency rainbow model. The rainbow was selected as a metaphor both

because it figures prominently in the children's own language and artwork, and because it reflects children's hope, and the nature of their environmental involvement as 'being in process.'

The fourth chapter describes each of the six dimensions, or rainbow bands, of the model: (1) Connectedness, which focuses on the sense of wonder and interrelatedness; (2) Engagement with the environment, which deals with children's direct and indirect discovery of the environment and the need for integration; (3) Questioning, which encompasses both the children's denouncing of adult's moral superiority and their realization of the complexity of environmental problems; (4) Belief in Capacity, which considers children's confidence and their optimism for the planet's future; (5) Taking a Stance, which refers to children's struggle to overcome the lack of peer and adult support; and (6) Strategic Action, which considers how children build on their strengths and sense of success. These dimensions reflect different expressions of agency that interrelate, or like the bands of the rainbow, blend into each other.

The fifth chapter applies the environmental agency rainbow model to describe individual children's environmental stories. In contrast to the cross-cutting analysis provided in the fourth chapter, the fifth chapter undertakes a vertical analysis on how the dimensions of the model play out at the level of the individual. Based on an analysis of the interviews and the concrete environmental actions carried out by children, four profiles of involvement are identified: (1) The initiators, who take leading roles setting-up environmental projects; (2) The creative, who express their involvement artistically; (3) The members, whose involvement takes place in a group context, and (4) The

grounded, whose environmental involvement is a way of life. Two annotated vignettes illustrate each of the four profiles.

The sixth and final chapter discusses implications of the study. After recapitulating the trajectory undertaken, the concept of agency is examined in light of this study. This involves on the one hand defining the structures that affect children's environmental involvement as the sense of self, the biophysical, social and international environment; and on the other identifying the mechanisms used to navigate through these structures as critical thinking, imagination and action. I then discuss the implications of the research findings for education, and the ways in which children need support in fulfilling their role as warriors of the rainbow.

Chapter 2. Locating the research inquiry

To locate the research, different fields of inquiry are drawn upon. These determine the need for the study, laying the ground for the research questions and choice of research methods. The literature review is presented under four headings. Firstly, I focus on the implications of recognizing children as participants. Included is a discussion on children's worldview, and children's individuality. Secondly, three approaches to understanding the sources of environmental concern are examined: (a) the biophilia hypothesis and versions thereof; (b) the role of fostering children's affection for the natural environment; and (c) the contributions of significant life experiences (SLE) research. These perspectives add to understanding the source of environmental concern, but on its own each is incomplete.

Thirdly, different perspectives of action in environmental education are presented. While much of the literature originally pointed to action as a focal point of analysis, the research findings resulted in revisiting the appropriateness of action, arguing for the concept of 'agency' instead. Agency is a concept used in the studies on childhood, but few studies, if any, have explored what agency involves in the context of children's environmental involvement. Fourthly, the need for doing research with children in early adolescence is discussed. While early adolescence is recognized as a pivotal period for children's expression of environmental concern, there is a need to explore these perspectives in greater depth. Finally, I restate the research questions in terms of the literature review.

2.1 Children as participants

The focus on children's voice is part of the increased research with children that has taken place largely since the ratification of the Convention on the Rights of the Child (CRC). The CRC recognizes the political, economic, and social rights of children. Amongst the key principles of the CRC is a child's right to participate. Article 12 states that every child has "the right to express those views freely in all matters affecting the child" (CRC, 1991). This right has led to an interest in children's participation, having far-reaching implications on theoretical thinking, policy, and practice in a wide range of fields (Christensen & O'Brien, 2003; Hart, 1991; Petren & Himes, 2000; Verhellen, 1997).

The CRC (1991) specifically refers to children and the environment only in Article 29 (e), which states that one of the aims of education shall be "the development of respect for the natural environment" (p.15). It has been argued, however, that environmental rights exist by implication, underlying the entire document (Bartlett, 2002). Chapter 26 of the Action Plan adopted following the Rio Conference on Environment and Development in 1992 has been considered an implementation of the CRC (Hodgkin & Newell, 1998). The chapter focuses exclusively on the role of children and youth. It begins with the statement that children and youth represent 30% of the world's population and, "In addition to their intellectual contribution and their ability to mobilize support, they bring unique perspectives that need to be taken into account" (para. 25.2). The Habitat Agenda from the Second United Nations announces in its preamble that: "The needs of children and youth, particularly with regard to their living environment, have to be taken fully into account" (UNCHR, 1997, section 1.13).

Research increasingly points to the value of children's insights (Hill, Davis, & Tisdall, 2004). Children's involvement in issues and areas that affect their lives has concrete benefits such as improving planning, services, and design, or more subtle ones such as improved self-esteem (Adams & Ingham, 1998; Chawla & Heft, 2002, Lansdown, 2001).

Recognizing children as participants has implications for learning and development. Rogoff (2003) based on her anthropological studies claims that "development occurs in participation" (p. 285). Children learn through their participation in sociocultural activities. She introduces the term 'guided participation' whereby children learn "as they participate in and are guided by the values and practices of their cultural communities" (p. 284). Participation involves observation as well as hands-on involvement in an activity. Through involvement, people change; there is an ongoing and creative process of participatory appropriation. Rogoff argues that: "learning is a process of changing participation in community activities. It is a process of taking on new roles and responsibilities" (p. 284).

Rogoff's dynamic perspective of learning echoes Hart's (1979) point that "existing conceptions of environmental learning and environmental education as the unidirectional learning of environments rather than the interactional learning about self and environment must change" (p. 341). Hart criticizes schools for not recognizing the 'resourcefulness' of children who interact with the environment: "A more realistic measure of 'intelligence' for a society concerned with long-term human survival would include initiative or resourcefulness as central qualities; qualities which enable people to competently transform what is" (p. 347).

The emphasis on children's perspectives raises the question of whether there exists a children's worldview that travels across geographical and cultural boundaries. Cobern (1994) defines worldview as "the culturally-dependent, generally subconscious, fundamental organization of the mind...it manifests itself as a set of presuppositions that predispose one to feel, think, and act in predictable patterns" (p. 7). He identifies different conceptions of the relationship between self and nature as indicative of culturally determined worldviews.

Roger Hart (1979) studied children's activities in and experience of the physical environment in a semi-urban town of the United States over a period of two years. In addition to observing children's spatial behaviour and place-use, Hart used techniques such as landscape modeling, drawings and geographic diaries to elicit children's knowledge of, and feelings for places. He used qualitative, participatory methods, as ways to reveal "something of a child as a person rather than completely limit myself to a fragmented objective account of the child" (p. 14). Hart (1979) reports on four categories: spatial activity, place knowledge, place values and feelings, and place-use. Throughout, he underlines the critical importance in asking children to define environmental categories. He identifies a high degree of consensuality amongst children; leading him to argue that there exists a child-culture relatively independent from adult uses and meanings.

More recently, a number of studies have been carried out with children in cities, as part of a UNESCO initiative *Growing Up in Cities* (see Chawla, 2002; Driskell, 2002). Interviews and mapping activities with youth conclude that across the eight countries where research was undertaken, children identified *sociophysical* characteristics as

central indicators of environmental quality (Chawla, 2002). Whether in an English Midlands City or in the neighborhood of Boca-Baraccas in Buenos Aires, children identify criteria such as a feeling of social integration, sense of safety and freedom of movement, presence of green areas for informal play and a cohesive community identity. Chawla claims that the indicators identified by the children embody the principles of sustainable development as expressed by the United Nations, which leads her to argue that: "If communities give attention to children's own definitions of healthy environments for human development, they will seek to provide for citizen's basic needs, foster community networks and events that include children. . . preserve and increase parks and other green areas, promote local ownership of land and homes" (p. 21).

At times, the emphasis on children's worldview may have led to an idealizing of children in the tradition of Rousseau (1755). Children have been portrayed as saviors, who can make unique contributions to bettering our world. The Committee on the Rights of the Child states for instance that: "Children are capable of playing a unique role in bridging many of the differences that have historically separated groups of people from one another" (CRC, Comments on Article 29, 2001). Alongside the need to avoid the idealization of children is the need to acknowledge the diversity in children's perspectives.

Snively's (1986) study on children's expression of seashore relationships in a non-Native and Native fishing community of Canada's West Coast points to children's different beliefs about specific ecological relationships. She develops a typology of six orientations: scientific, aesthetic, spiritual, utilitarian, recreational, and health and safety. Unlike Lakoff and Johnson's (1980) emphasis on metaphors as reflecting some sort of

'meta-culture', Snively considers metaphors as indicative of a child's individuality and unique relational understanding of the world. She considers metaphors as "drawing on our own experience, our knowledge and emotions" (1995, p. 62). Her findings and their implications resonate with Cobern's (1994; 2000) research with students, teachers and scientists that shows that each individual comes with divergent perspectives on the natural world.

As a whole, my methods and data analysis need to allow for both the expression of collective and individual worldviews, while being cognizant of the risks of idealizing children's voices. Below, I turn to discussing the sources and nature of children's environmental concerns.

2.2 Towards understanding the sources of environmental concern

This section examines the literature on the sources of environmental concern. First of all, the perspective that environmental connections are inherent to human development is presented. Included is a discussion on the place of spirituality in child development, recognizing that many children have spiritual experiences in the natural environment. Secondly, the role of nurturing affection for the environment through direct contact with nature and adult role models is discussed. Then, the contribution of Significant Life Experiences (SLE) research is examined. These elements contribute to understanding the nature of concern for the environment, but each is incomplete on its own. As Hart (1997) remarks: "There is a large literature on environmental education practices, but we know very little about how and why children develop a concern for environmental issues" (p. 17).

2.2.1 *The biophilia hypothesis*

Human beings' natural affinity for the physical environment has been at the centre of the biophilia thesis, a term coined by Wilson (1984) from the Greek word for love and life. According to this thesis, human beings have an "innate tendency to focus on life and lifelike processes" (p. 1). The affiliation with other organisms is at the heart of who we are as human beings: "It unfolds in the predictable fantasies and responses of individuals from early childhood onwards. It cascades into repetitive patterns of culture across most or all societies" (p. 85).

Numerous studies support Wilson's biophilia thesis in terms of its recognition of the role of the environment in human development (Carson, 1965; Kahn, 1999; Moore, 1986; Nabhan & Trimble, 1994). Research with young children by Isaacs (1930) points to how children interact with and learn from the environment through vision, smell, taste, touch, hearing, and movement. Cobb (1977), in her analysis of autobiographies and observation of the child in everyday life, explains how human beings' connection to earth provides for the ability to be creative, to wonder and to imagine: "It occurred to me that child and nature were engaged in some corresponding bioasthetic striving fundamental to the fulfillment of individual human biological development" (p. 16). She further observes that: "Self-knowledge and a sense of self-identity are achieved only by means of interplay between the organism and its total environment and that all 'knowing' emerges progressively at each level of organization, from tactile systems and functional relations with environment on up to semantic meaning and language systems" (p. 56). The environment plays multiple roles in human development.

Kaplan and Kaplan (1989) studied how people relate to different natural settings, their preferences, and what satisfactions and benefits they derive from contact with natural environments. They found most significantly that nature mattered to people, though differently. Two landscape characteristics were highlighted: (a) legibility, that one can find one's way back if one ventured further, and (b) mystery, that one could acquire more information by venturing deeper into the scene and changing one's perspective. While recognizing that the benefits are hard to quantify, the research identifies numerous psychological benefits of interacting with nature, such as the development of fascination and curiosity.

Recent research in child development further supports the importance of the natural environment to biological development. Moore and Cosco (n.d.) appropriately summarize this research as:

Natural environments stimulate play and learning in a special boundless way, repeatedly focusing all the senses working together. According to Ayers' theory of sensory integration, the young child's sensory modalities must be stimulated holistically, otherwise later dysfunctions can develop. Piaget, looking at child development from another angle, identified the sensory-motor stage of development. Play garden observations of infants bring his theory alive. The recent findings of brain research reinforce the fact that these stages of early development are genetically programmed and if they do not happen by a certain age, they will not happen later; and furthermore, later stages will be limited or compromised in some way. (para. 8)

While emphasis is placed on the role of the environment early in life, it has relevance for the later years as well. As Roger Hart (1979) argues, environmental competence—that is, “knowledge, skill and confidence to use the environment to carry out one’s own goals and to enrich one’s experience” (p. 343)—appears to be a central dimension of a child’s development. The author considers action and experience, knowledge and feelings as intricately interconnected.

2.2.2 Children’s connection to nature as spiritual development

Spiritual development is another element of human development often experienced in nature. Garbarino (2000) considers spirituality to constitute one of only two (the other being acceptance) universalities of children, and claims that spirituality:

Should be one of the frontiers for child development research in the next century—a more adequate and comprehensive understanding of the role of spirituality in development and its central importance in anchoring human behaviour, in organizing human behaviour in a positive way and bringing worth and value to human experience. (p. 62)

In effect, increasing attention is being paid to the spirituality of children (Hart, 2003; Levine, 1999; Scott, 2004;). This has involved defining spirituality, though as Hart (2003) writes, it “is a bit like trying to hold water in our hands” (p. 7). He goes on to define spirituality in terms of worldview and a process of development. It is both about addressing the big questions (e.g., Who am I? What is the nature of this life? What is beautiful?), and a process of defining one’s identity in relation to others (human and non-

human). Spirituality is experienced in a wide range of ways and settings, as much in small everyday moments, as in periods of illumination.

Tobin Hart makes special note of nature as the most common 'trigger' for wonder. He discusses the powerful recollections around special place as moments of intense oneness with nature and spiritual experience: "Childhood moments of wonder are not merely passing reveries. They shape the way a child sees and understands the world, and they often form the core of his or her spiritual identity, morality, and mission in life" (p. 53). Scott (2004) discusses how children's spiritual experiences have often gone unnoticed, and wonders about the implications of ignoring children's spiritual experiences.

While the above research suggests that the environment plays a critical role in human and spiritual development, it is much less clear whether or how this connection leads to concern for the environment. A human being's affinity for nature does not necessarily translate into living in harmony with nature. Kahn's (1999) critical analysis of biophilia shows that there is no basis for precluding negative or positive feelings towards nature. Wilson (1984) recognizes that he has no explanation for the rampant exploitation of our earth: "It is time to invent moral reasoning of a new and more powerful kind, to look at the very roots of motivation and understand why, in what circumstances and on which occasions, we cherish and protect life" (p. 139). Humanity's caring for the environment cannot be taken for granted; something else is at play. The following section discusses the place of nurturing care for the environment.

2.2.3 *Role of nurturing affection*

Many environmental educators consider nurturing affection for the natural environment necessary for fostering concern for the environment. Roszak (1992) claims:

What the earth requires will have to make itself felt within us as if it were our own private desire. Facts and figures, reason and logic can show us the errors of our present ways; they can delineate the error we run. But they cannot motivate, they cannot teach a better way of life, a better way to want to live. (p.47)

Deri and Cooper (1993 in Clover) point out that scientific understanding cannot change habits: "You have to reach the hearts of people" (p. 14). Orr (1994) writes about the need to talk about love in the discourse of science and of education.

In general, formal environmental education programs in schools have been based on providing knowledge, and teaching of abstract environmental concepts in the classroom. Children have been overloaded with alarming statistics on climate change, degradation of natural resources and loss of biodiversity. The philosophy seems to be that "If we make human beings more knowledgeable, they will, in turn become more aware of the environment and its problems, and thus, be more motivated to act toward the environment in more responsible ways" (Hungerford & Volk, 1999, p. 9). This type of education has, however, been critiqued for severing human relationship to the natural world (Orr, 1992). Bowers (1993, 1995, 1997) explains that formal education in the modern individualistic and technologically oriented culture of consumption has been considered high-status knowledge; and everything relating to what can be considered ecologically centered cultures has been relegated to the place of low-status knowledge. Traditionally, connections with the environment were established in children's daily life

and through teachings from elders (Grimm, 2001; Knudston & Suzuki, 1992). However, mainstream education has challenged the traditional mechanisms for passing on knowledge.

Environmental educators emphasize the need for people to bond with the natural environment, to learn to love it and feel comfortable in it, in order to care for it. John Burroughs remarked that , knowledge without love will not stick. But if love comes first, knowledge is sure to follow. Sobel (1996) stated: “Our problem is that we are trying to invoke knowledge, and responsibility, before we have allowed a loving relationship to flourish” (p. 10). How does one bond with nature knowing that leaving this to biophilia is not enough? Giving children opportunities for direct contact with nature and adult mentoring have been considered critical media for fostering affection for the environment (Hart, 1997; Nabhan & Trimble, 1994; Sivek, 2002; Smith & Williams, 1999).

Researchers emphasize the importance of direct, first-hand experiences with nature (Carson; 1965; Hart, 1997; Snively, 2001; Thomashow, 1996). Nabhan and Trimble (1994) claim that no amount of classroom, museum and park education programs can replace a child’s personal experience in nature. In the context of a growing urban world, however, the nature of the physical environment children have access to is ever-changing. A study by Nabhan and St. Antoine (1993) suggests that most people over the course of their lives spend only four to five percent of their time outdoors. In the context of reduced access to outdoors, how can children develop an affinity for the environment?

More consideration needs to be given to how opportunities for direct contact with nature can be provided in urban environments. Snively (2001) remarks: “Songs, stories,

close encounters with animals in the wild, in zoos and aquariums, or even as carefully selected pets at school or in the home are excellent opportunities” (p. 5). Researchers recognize the role of adult models in facilitating children’s concern for the environment, considered critical to developing children’s caring relationship with nature (Hart, 1997). Smith and Williams (1999) in their edited book *Ecological Education in Action* present a range of experiences in formal and non-formal educational settings in reconnecting young people to nature. They speak about the role of adults and how schoolyards or local parks can be turned into ecological field stations. This echoes Vygotsky’s concept of zone of proximal development according to which children learn through their interactions with more experienced adults and peers (Rogoff, 2003).

Hart (1979), in his analysis of major influences on the child’s expression of his relationship with nature, points to how parents use the environment as an instrument of socialization by restricting or encouraging exploration of the environment. He identified two determining factors: the child’s gender and the parent’s occupation. Girl’s movements and the nature of their manipulation of the environment is restricted compared to boys, a clear indication of reproducing stereotypes, with girls practicing and being prepared for roles in their home and boys for their role outside the home. Hart expresses his concern on the negative impact this may be having on girls, recognizing that interacting with the environment builds self-confidence. In terms of parents, Hart noted a marked difference between families in which the parents are manual workers, and those in which the parents are non-manual professional persons; the former encouraging the child to explore his/her environment more than the latter.

How does the type of contact with nature impact a child's concern for the environment? Chawla and Hart (1995) hypothesize that if children's experience of the environment is solely via the world of people (i.e., parents, media, teachers), children's ecological understanding will be limited and their motives for environmental concern will be self-preservation and interpersonal preservation. Through media, children can learn about the environment, animals, and plants; and they can watch endless documentaries on places ranging from the Sub Saharan desert to the deep Amazon rain-forest. These documentaries increase children's knowledge of the world and enrich their imagination, but do not necessarily result in children being in touch with their own backyard. There is a concern about children relating to endangered species outside their doors and to ecosystems around the globe; a sense that grounding concern in a child's own life experiences may be deeper (Sobel, 1996). This has resulted in a proliferation of schools adopting principles of place-based education, where the local community and environment become the basis for teaching (Sobel, 2004). The emphasis is on hands-on and real-world learning experiences.

Research indicates that children hold various views of the 'environment' (Loughland, Reid & Petocz, 2002). Payne (1998) examined sixth grade children's conceptions of nature and of the people-environment relationship. In analyzing the responses from 15 children over a half-hour class period during five months, he found some ambivalence in children's ideas of the environment and nature. On occasions, they perceived nature as pure, and in others as including living, non-living things, and human-made objects. There was often no distinction made between nature and environment.

Alerby (2000) studied 109 drawings of Swedish children between the ages of 7 and 16 to understand children's thinking and thoughts about the environment. Four different themes emerged from their responses to the question: "What do you think about when you hear the word environment?" She identified thoughts which focus on the 'good world' as depicting clean and unspoilt nature, the 'bad world' as depicting various types of environmental destruction, dialectics between the good and the bad world, and symbols and actions protecting the environment. As for Hart (1979), an analysis of the drawings indicates that differences exist according to age and gender. Boys, for instance, about twice as often as girls, hold thoughts that give expression to the dialectics between the good and bad world, while girls more often focused on the good world. Younger children tend to express thoughts on the 'now' perspective, while the older children expressed thoughts that focus on the future. Payne and Alerby's studies suggest that children hold various beliefs towards the environment although they share a common socio-cultural context; age and gender impact their views.

In sum, this section suggests that nurturing plays a role in developing concern. It is unclear, however, how this nurturing translates into positive environmental actions? There is a need to explore the impact and nature of the experiences that lead to pro-environmental behaviour, particularly in today's world where an increasing number of children live in cities, and have reduced access to natural environments. The following section critically examines Significant Life Experiences (SLE) research.

2.2.4 Contributions of research on significant life experiences

SLE research focuses on learning from 'environmentally concerned' people. It considers that, in examining retrospectively the lives of individuals who have demonstrated informed and responsible activism, experiences which have shaped such adults can be identified. To whatever degree feasible, this understanding could assist in replicating those experiences in the education of the young (Tanner, 1980). Initial research in SLE involved an open-ended survey with 45 selected 'environmental activists' based on evidence of their contributions to selected activist organizations (Tanner, 1980). Frequent and prolonged contact with natural areas was identified as the most significant formative influence, followed by supportive parents and teachers. Similar emphasis on the outdoor experiences was identified in subsequent studies (Palmer, 1993; Palmer, et al., 1998; Chawla, 1999). SLE research with high school students identified time spent outdoors and the importance of friendly/personable role models as the most significant influences in environmental sensitivity (Sivek, 2002). Male school teachers ranked highest amongst the role models.

In one of the few SLE studies involving an international comparative component (with 30 environmentalists in Kentucky and Norway) and the use of phenomenology, Chawla (1999) found that the many hours spent outdoors and the influence of family members were most significant in an environmental activists' future commitment to the environment. Formal education figured fifth in importance. She found that special places were always close to home, and part of people's daily life. Amongst places mentioned were the garden, a nearby lake or forest, the summer cabin, a camping place, the grandparents' farm and hiking trails.

Critical attention has been paid to the methodology of SLE research and its contributions to environmental education (Hart & Nolan, 1999; S. Gough, 1999). Jickling (as cited in Chawla, 2001) argues that by directing attention to sources of environmental interests and motivations, studies of SLE have opened up an important field for research. Noel Gough (2002), on the other hand, seeing that “ignorance is a better place than truth for assessing the usefulness of educational research” (as cited in Gough, Wagner 1993, p. 15) claims that SLE research has not helped in reducing ignorance and an understanding of what makes a person environmentally-concerned. It only serves to highlight the obvious: “Much of the repetition and replication that characterizes significant life experiences research in environmental education can be understood as a rather relentless (and perhaps even obsessive) filling in of blank spots” (p. 5). He calls for alternative methods, such as stories or art, as being more effective in reducing ignorance, and shedding light on areas in which existing theories and perceptions actually keep us from understanding phenomena as clearly as we might.

Similarly, Hart and Nolan (1999) discuss how SLE overemphasizes methodological and epistemological rigor at the expense of an analysis of the ontological reality of experience both in terms of how individuals actively construct experience, and how it is a social construction of the environment and of nature.

It is noteworthy that Chawla (1998) in a summative analysis of SLE research points out that: “One conclusive finding of research on responsible environmental behaviour is that there is no single all-potent experience that produces environmentally informed and active citizens, but many together” (p. 19). The finding puts into question

the worthiness of SLE itself, and the value of ranking significant influences independently.

Annette Gough (1999) points to the need to build on the perspectives of young people given that environmental concerns and behaviours are very different from those above the age of 30: "Rather than treating students as 'innocent pets' and forcing them to replicate our [referring to those above 30] experiences we should be helping them to find their own significant life experiences within the context of the SLE of their near peers" (p. 390). She also comments on the need for SLE to carry out research with people representing a greater ethnic diversity.

My research builds on the contributions and criticisms of SLE. Like SLE research, I see value in learning from environmentally involved children, and recognize the role of formative experiences in environmental involvement. Unlike SLE research, the methodology (see Chapter 3) needs to allow me to explore children's perspectives to understand the emerging activism contextually, an approach more likely to reduce ignorance.

I also see a need to dissect the meaning of action. SLE research considers that activism is critical to environmental education, but SLE research does not explore the expression of environmental action; its focus being on the sources of environmental concern. A close look at the definition of 'activists' in SLE studies points to the perusal attention paid to action. Tanner (1998) defined an environmental activist as "one who engages directly in pro-environmental political activism and/or provides it financial support, as through contributions to selected activist organizations" (p. 400). Palmer and Suggate (1996) drew on educators attending conferences on environmental education.

Chawla (1999) broadened somewhat the definition of activists to include people involved more widely in environmental issues.

Does occupation, attending a conference, or making financial contributions appropriately define environmental activism? Chawla (2001) discusses how activism is necessary for the environmental movement but does not go deeper in defining activism. She does, however, call for future research focusing on the “antecedents of action” (Chawla, 1998, p. 19), which I consider critical in the context of research with early adolescents, and recognizing the role of the environment in human and spiritual development. The next section discusses research that has examined the meaning of action in greater detail.

2.3 Moving from Action to ‘Agency’

This section discusses the place of action in education and environmental education, and examines different perspectives on action. Before undertaking my data analysis, the literature review pointed to action as a focal point of analysis. In light of my findings, however, I returned to the literature and identified ‘agency’, a term most commonly used in childhood studies, as a preferable concept for capturing the unfolding of children’s environmental involvement.

2.3.1 *Perspectives on action in environmental education*

Different perspectives exist on the role and nature of education. Mass education is based on a need to instruct and transmit dominant attitudes and behaviours (Illich,

1970). Freire (1970) refers to this as 'banking education', whereby "the students are the depositories and the teacher is the depositor" (p. 45). At the other end of the spectrum, education is "an active process in which meaning is developed on the basis of experience" (as cited in, Duffy and Jonassen, Nieto 1999, p. 3). At this end, action is a critical component of education. Dewey (1944) states, "An ounce of experience is better than a ton of theory simply because it is only in experience that any theory has vital and verifiable significance" (p. 144). Learning results from active participation in a range of experiences. Freire (1970) introduces the notion of consciousness, where the student is critically aware of things around him, and of the need to transform them. "*Conscientizacao* [conscientization] represents the *development* of the awakening of critical awareness. It will not appear as a natural byproduct of even major economic changes, but must grow out of a critical educational effort based on favorable historical conditions" (p. 19). Action in this case is intangible; it involves dialogue, critical inquiry, and analysis.

The schism in education is also found in environmental education. Formal education considers environmental action to be a by-product of knowledge that does not necessarily require the involvement of all citizens. Many environmental educators, on the other hand, see education as transforming the way people interact with one another and the world (Smith & Williams, 1999). In this case, environmental education includes both formal and non-formal methods of education: it is "any process, in which individuals gain awareness of their environment and acquire the knowledge, values, experiences and the determination which will enable them to act –individually and collectively—to solve present and future environmental problems" (as cited in Chawla 2001, Vinke, 1992, n.p.).

In this perspective, the responsibility and potential for earth stewardship lies with everyone.

Environmental education has often focused on behaviour change rather than action. Hungerford and Volk (1990) made a significant contribution in demonstrating that knowledge is not the only prerequisite to creating citizenship behaviors. They explain how traditional educational practices based on issue awareness do not lead to pro-environmental behaviour. Instead, they suggest a process whereby “Students must be given opportunities to develop the sense of ‘ownership’ and ‘empowerment’ so that they are fully invested in an environmental sense and prompted to become responsible, active citizens” (p. 17). Kollmuss and Agyeman (2002), building on Hungerford and Volk’s research, propose a complex model that recognizes the role of both internal factors (i.e., motivation, personality traits, knowledge) and external factors (i.e., socio-economic and political factors) in accounting for pro-environmental behaviour.

The perspective that environmental education involves modifying individual behaviour has been critiqued, however, for reflecting a view of education as indoctrination and disenfranchising students (Clover, 2002; Courtenay-Hall & Rogers, 2002). Clover (2002) states:

This agenda [the awareness-raising/individual behaviour change education agenda] is disempowering and insufficient. First, it dismisses or ignores people’s knowledge and reinforces the idea that we can attribute different levels of status to knowledge, based on the rationale that, say, professionals ‘know’ and ‘others’ do not. (p. 317)

Instead of a focus on behavior change, some environmental educators propose a focus on environmental action.

Considerable attention has been paid to distinguishing action from behaviour. Emmons (1997), for instance, defines environmental action as a “Deliberate strategy that involves decisions, planning, implementation, and reflection by an individual or group” (p.35) with the intention to achieve a positive environmental outcome. She states: “Defined as such, action has an intentional quality that may or may not characterize behaviour” (p.35). Action is deliberate, taken with an intended result, whereas behaviour may be automatic or involuntary, the outcome may or may not be a conscious intention. Emmons uses an example of students recycling in a classroom to make the distinction. Placing recyclable materials in a recycling bin instead of in a garbage can occur out of habit or to avoid reprimand, making it a behaviour. In contrast, students initiating a recycling program themselves in response to their knowledge and attitudes about recycling and with the understanding and implementation of appropriate strategies, would be action. Jensen (2002) argues that viewing environmental education as involving pro-environmental behaviour is restrictive in that behaviour only refers to personal actions.

Jensen and Schnack (1997; Jensen, 2002) distinguish between action and activities in their action competence approach, stating that “The concept of action competence includes the capacity to be able to act, now and in the future, and to be responsible for one’s action” (p. 175). Qualifying as an action as opposed to an activity or behaviour requires being both: (1) directed at solving a problem, and (2) decided upon by those preparing to carry out the action. In other words, a beach cleanup could be considered an action depending on the context in which it was carried out (student

initiated or not) and the topic of study (if marine pollution does not address the root problem). Jensen and Schnack's analysis points to the need to focus on the context within which action takes place. Their definition of action is however I feel constraining and restrictive.

Hammond (1997) offers a broader perspective on action. He identifies five theories that explain action in environmental education: information-based, behavioural approaches, community problem solving/action research, integrated, and bonding with nature. He incorporates these theories in an action learning triangle that identifies the need for learning about, through and from action. While taking a broad perspective on action, Hammond remains centered on 'real action projects' as illustrated in his example of a comprehensive in-school environmental program integrated in curriculum and teacher training. Teachers take on the role of facilitators and mentors, while students learn to make decisions to restore and sustain their local and global environment. He attributes the absence of significant environmental action projects in schools to a number of factors:

A possible reason that some teachers avoid serious action projects is concern that students will get out of their depths, experience failure, and become filled with a sense of powerlessness. To this might be added the concern that student action projects will confront community standards or come into conflict with powerful vested interests in ways which will bring attacks on students, teachers, and the school, or leave teachers open to the charge of indoctrinating students. (p. 8)

As Smith and Williams (1999), Hammond recognizes that environmental education calls into question dominant assumptions of industrial civilizations, and considers that

environmental action by nature contests the status quo. His analysis remains limited however in its overemphasis on concrete projects as indicators of environmental-involvement, and a focus on the school as the preferred arena for environmental education, considering “schools as the major purveyors of contemporary culture, are in a unique position to foster the knowledge, skills and wisdom to create a society better able to sustain us in the long term” (p. 61). While this may be the case, SLE research also identifies schools as only one of the sources of environmental concern, and a lower-ranking source.

Environmental action needs to be understood more broadly to reflect children’s perspectives, and the nature of environmental change. As Roger Hart (1997) points out, adults listening to children’s perceptions may be as important as physically changing the environment. Similarly, Clover (1999) sees action as involving less tangible and subtle elements such as making a decision, posing a problem or question, or expressing a feeling. Noddings (1984) describes how action is an integral though often covert aspect of caring. She considers caring as involving a relationship: “Caring involves stepping out of one’s own personal frame of reference into the other’s. When we care, we consider the other’s point of view, his objective needs, and what he expects of us” (p. 24). Smith and Williams (1999) discuss environmental education in terms of transforming relationships, establishing personal affinity, sense of place, and experience of community. Community action research has also defined action, as encompassing less tangible outcomes. Reitsma-Street (2002) identifies three types of action: (a) changing in relationships; (b) changing of ideas on issues; and (c) changing in institutional policies and practices.

Guided by the above literature, I initially undertook my research with the intent of further uncovering the meaning of environmental action. My data analysis led me to revisit the adequacy of action, as a conceptual focus. The following section describes the theoretical reasoning for selecting agency instead of action.

2.3.2 *Appropriateness of 'agency'*

In hindsight, the appropriateness of agency flows from aforementioned discussions on recognizing children's perspectives and how children's relation to the environment is interrelated to their own human and spiritual development. Agency was overlooked as a focal point, because it is rarely, or never, referred to in the literature on environmental education, and remains overall an understudied concept (Emirbayer & Mische, 1998).

The concept of children's agency has mostly been articulated within "the new sociology of childhood" (James & Prout, 1997). According to this 'new paradigm', children are active participants in the social construction of childhood:

Children are and must be seen as active in the construction and determination of their own social lives, the lives of those around them and of the societies in which they live. Children are not just the passive subjects of social structures and processes. (p. 2)

This approach to childhood offers a different perspective of research with children (Christensen & James, 2000), one that recognizes that children's agency may be subtle and appear mundane, yet incrementally significant, leading to a constant redefining of childhood, and by extension society (James & James, 2004).

The perspective builds on Aries' (1962) demonstration that "in medieval society the idea of childhood did not exist" (p. 125), and Giddens' (1979) theory of structuration which considers change as the outcome of agency and structure interrelating in the same moment. It corroborates with Emirbayer and Mische's (1998) conceptualization of human agency as:

a temporally constructed engagement by actors of different structural environments –the temporal relational context of action –which, through the interplay of habit, imagination and judgment, both reproduces and transforms those structures in interactive response to the problems posed by changing historical situations. (p. 970)

In other words, agency determines social change and vice versa. Agency has also been described in terms of a humanist perspective. Archer (2000) shows how as individuals we give shape to our lives given our social and personal identities. The continuous and reflective internal dialogue which we practice Archer calls inner conversations, this is where our power lies, and what defines our humanity.

Few, if any studies have examined the active and complex nature of early adolescents' interaction with the environment, or the nature of the interplay between agency and structure.

King's (1995) study amongst children 5-15 years old in the United States examines how children's views on the environmental crisis are manipulated by mass-media. She sees childhood as shaped by specific historical and cultural contexts. In this case, she argues that the dominant discourse is liberal environmentalism. Messages for saving the planet accommodate capitalist social relations; environmental degradation is

portrayed as everybody's fault thereby avoiding questioning of power structures, or targeting industry. Children receive conflicting messages on their roles, their powers and future responsibilities. The researcher refers to the 'liberal-environmental paradox' defined as "a simultaneous call for children (and others) both to conserve and to consume; a diffusion of responsibility that supports the notion that the environmental crisis is everyone's fault; and simple individualistic 'lifestyle' solutions to complex socio-structural problems of global proportions" (p. 4).

King considers environmental action to be confined to personal, private decisions about changing behaviour, such as turning off the tap or recycling. Most respondents in her study identified picking up litter and recycling to the question: 'what does it mean when someone says they have to save the planet?' If the children address broader consumer behaviour, they deal with boycotting industries harmful to the atmosphere or buying only products that have minimum packaging. King calls for a radically new set of social relations between human and nature, where children have the opportunity to be "prototypical frame breakers" (p. 121).

Wals (1994) carried out action research with children, aged 12-13, living in the poorest neighborhoods of Detroit on their perceptions/ideas of nature and environmental issues. Similar to King, he places little emphasis on the role of the individual child, seeing few children who challenge the distribution of wealth and natural resources or who question the precepts of capitalism. Wals summarized the respondent's perspectives into three categories: first, a personalistic view that sees pollution as a local and physical problem resulting from individual behaviours, and that can hence be addressed by changing one's own polluting behaviour. Second, a technocratic view, most frequently

expressed by students, that sees pollution as inevitable, and prevalent in far-away places. Students see solutions being technological, and do not question industry or lifestyles. Third, a politicized view, less common amongst students, where pollution is considered to be widespread, resulting from modern industrial society, involving conflicting interests, choices, and values. Students understand complex environmental phenomena, and include new technologies and changing lifestyle habits (such as reducing, re-using and recycling) as part of the solution. While King and Wals research shed light on the environmental views of young people and their perception of environmental issues, neither study examines the nature of children's environmental involvement nor the active role played by children.

Punch (2002), on the other hand, studied children's strategies in Bolivia to renegotiate adult-imposed boundaries. She shows how children assert their autonomy by gaining control over their use of time and space. She considers this process to be a critical aspect of children's transitioning to adulthood and an expression of children's participation in their community.

Children's multiple strategies are not merely used in resistance to adults' power, but are part of a complex process in which they assert their agency, creating time and space for themselves despite restrictions from a variety of sources, including adults, other children and structural constraints. (p.33)

The social and cultural context determines the extent and the form of the negotiation. It is a focus on these, small yet significant, processes that I turn to in my study.

Agency places the emphasis on children's roles, on how children act 'in relation to', whether it be in relation to themselves and the natural environment, or to themselves

and society. This contextual aspect serves as a basis for Mayall's (2001) distinction between children as social actors and agents:

They are not merely 'actors' –people who do things, who enact, who have perspectives on their lives. They are also to be understood as agents whose powers, or lack of powers, to influence and organize events –to engage with the structures which shape their lives – are to be studied. (p. 3)

Although all people can be studied as agents who seek to influence their own experiences and their world. The perspective is particularly appropriate for a study with children, who because of their age more than most adults live in situations of dependence, their 'leverage' dependent on their interaction with the structures that affect their lives (James & James, 2004; Mayall, 2001).

Agency has at times been considered interchangeable with the terms of empowerment or power (Reitsma-Street, 2002). Empowerment defined as a "capacity to define clearly one's interests and to develop a strategy to achieve those interests" (as cited in Marable, Clover 1999) emphasizes the individual's intentional positioning. Similarly, power defined as "the right to have your definition of reality prevail over other people's definition of reality" (as cited in Rowe, John 2003, p. 47) does not capture the richness and subtleties of children's participation and the role of process and connectedness. While John (2003) takes a broad definition of power to include such things as children's fantasies, power does not highlight the role of relationship-building, figuring out, and understanding. This is clear from John's brief analysis of the International Children's Environment Conference as an illustration of children and young people requesting to be partners in decision-making.

Agency deals with power but goes deeper, placing the focus on the multiple ways that children deal with the structures that shape their lives. The concept is also appropriate in understanding how children's perspectives can contribute to social change. It recognizes that social change depends on the outcome of the meeting of internal and external factors.

While agency is a term increasingly used in the context of working with children and of children's relationships with parents (Kuczynski & Lollis, 2004; Mayall, 2001) and siblings (Punch, 2001), as James and James (2004) comment: "It is not always quite clear what this [agency], in practice, might mean" (p. 23). My study proposes to examine the nature of environmental agency for the environmentally involved child. The focus is on early adolescents because as explained below this appears to be a pivotal period in children's connection to the environment.

2.4 Significance of early adolescence

Classic theorists of child development, such as Freud and Erikson, have devalued the significance of early adolescence. Freud's stage theory identified middle childhood (six to twelve years) as a latency period as if it were a time of waiting with nothing of importance happening (Borland et al., 1998). Erikson, like Freud, emphasizes the early years of development and considers five to thirteen as characterized by 'industry.' Piaget, while still lumping children of seven to twelve years old under the 'concrete, operational stage', recognizes that children of this age actively engage in their physical and social environment. Piaget (1961) and Kohlberg have also elaborated on the nature of moral

judgments recognizing that at nine or ten children understand rules as arbitrary and context-dependent rather than absolute.

Buried in the literature is an indication that early adolescence is a special period (Boyden et al., 1998). One of the rare books focusing on this period describes middle childhood in Britain to be “a period when children and the other key players in their lives negotiate an increasingly complex and fast-changing world. . . With the marked physical dependency of early childhood over and the transitions to economic and other forms of autonomy still some way off, it is a time when children, parents and others have to manage a range of tensions and competing principles” (Borland et al., 1998, p. 173). Of significance in this description is the recognition of children’s capacity. Autonomy and economic independence on the other hand need to be examined contextually. Research on working children shows that many children in early adolescence are economically contributing members of their own development (Boyden et al., 1998).

A number of researchers on children and the environment identify middle childhood as pivotal (see Hart & Nolan, 1999). Cobb’s (1977) analysis of 300 adult autobiographies indicates that the innate relation to the environment is most strongly established during middle childhood. She challenges Freud labeling this period as latent; she refers to the child’s “paedomorphic sensibility and intelligence” and their remarkable cognitive powers, and claims that “when he [the child] is poised, so to speak, halfway between inner and outer worlds” have been “neglected” and “unnoticed” (p. 54). Hutchinson (1998), based on a review of earlier thinkers including Cobb, Froebel and Shepard, concludes that “for each theorist, it is the unity of selfhood and world, between

the ages of about six and twelve, which establishes middle childhood as the sensitive period for the acquisition of an ecologically sensitive cosmology of the world” (p. 101).

Interestingly, Scott (2004) also identifies middle childhood and early adolescence as significant in children’s spiritual experiences both in terms of their abilities and the depth of their experiences. He describes children’s “relational attunement” where “children have the capacity to transcend themselves and enter into a moment or series of experiences without distraction, caught up in the event that may lead to a sense of oneness beyond the self” (p. 182). It is noteworthy that early adolescence is also the critical turning point for numerous spiritual leaders (i.e., Buddha, Joan D’Arc, Samuel).

These aspects of early adolescence have often gone unnoticed, the emphasis being on building personhood, identity formation and the role of peers (Adams & Berzonsky, 2003; Marshall, 2001; Rice, 1996). Sobel (1996) points to the importance of curriculum honouring the different stages of child development. He identifies three stages of development: early childhood from ages four to seven, the elementary years from eight to eleven, and early adolescence from twelve to fifteen. Sobel suggests that in early childhood, environmental curricula should centre on developing empathy with the natural world, while in middle childhood it should be on exploration, and only at twelve involve social action. The latter corresponds to a child’s increasing attention to society, which until then has mostly focused on the development of the self. Only once the relation with the environment has been established, and children have reached an appropriate level of development, should children be involved in complex environmental problems. Snively (2001) makes a similar point in stating that complex environmental problems should not be dealt with until Grade 6.

Smith and Williams (1999; see also Hart, 1994, 1995, 1997) recommend that action education should first deal with local rather than global issues. Children can engage in more personal ways in addressing local environmental issues, and they are also likely to experience greater success in affecting change, all of which can be important in building children's self-esteem. Sobel's analysis of children's drawings of maps suggests that while children's geographical ranges expand, at each stage there is a desire for immersion, solitude and interaction in a close, knowable world. Authors (see also Nabhan & Trimble, 1994) have discussed the value of children's special places, and how children need to be provided with opportunities to nurture relationships to specific places.

My study will contribute to an understanding of the nature of environmental concern for early adolescents. Unlike Cobb or Hutchinson, it will benefit from being based in early adolescents own descriptions rather than the memories of adults looking back at their childhood.

2.5 Recapping the basis for my research questions

The above discussion informs the research question and sub-questions that have guided the development of the research methods and data analysis. My overarching research question, "What is the nature of environmental 'agency' for the environmentally involved child?", arises from the initial data analysis, and a need to recognize the implications of children's participation, the multiple sources of children's environmental concern, and having a broad understanding of action in children's environmental involvement. Four sub-research questions are identified to examine this question.

The first sub-research question is: What does environmental action mean to the environmentally involved child? As identified earlier, action as an integral component of agency needs to be examined in light of children's perspectives. Environmental educators often identify action as a desirable goal, yet little analysis has been made of children's expression and perspectives on action.

Drawing on SLE, my second sub-research question is: What are the significant influences that shaped environmentally involved children's involvement? As with SLE research, I recognize that one can learn from an analysis of environmentally involved children's formative experiences. I focus on the nature and the role of both people and places.

The third sub-question focuses on: What are environmentally active children's beliefs towards the natural environment? How do children perceive their responsibility towards the environment? This comes from a recognition that children's beliefs towards the environment may contribute to their environmental-involvement.

The fourth set of questions involves children's perceived capacity to affect change: To what extent do children see themselves involved in affecting change at the local and/or global level? What do children perceive to be barriers to involvement? These questions arise from a realization that children are constrained by the structures of their societies, but are also active in dealing with these structures.

All in all, I consider these questions critical to move forward environmental education, and to our understanding of children as global agents of change in this new century.

Chapter 3. Methodology

Any gaze is always filtered through the lenses of language, gender, social class, race and ethnicity... Subjects, or individuals, are seldom able to give full explanations of their actions or intentions; all they can offer are accounts, or stories about what they did and why. (Denzin & Lincoln, 1994, p. 12)

The methodology chapter begins with my own journey in selecting the research topic, followed by a description of the context for gathering my data, and the implications of being an 'insider'. I then situate my approach as a qualitative research which draws on mixed methods like the *bricoleur*; and describe the three research tools: (a) a visual survey, (b) maps and (c) open-ended interviews, including literal and metaphorical interviews. These methods were chosen both to answer the research question, and because they are, in combination, appropriate for doing research with early adolescents. I then discuss the approach to data analysis explaining the use of elements of grounded theory. All sections in the methodology chapter contribute to defining the validity of my research study, recognizing that validity rests on the "quality of craftsmanship" (Kvale, 1996, p. 240).

3.1 Research interests

As a researcher, I espouse the perspective that in order to produce less distorted accounts of the social world researchers need to be "more aware of how their own

positions and interests are imposed at all stages of the research process –from the questions they ask to those they ignore, from who they study to who they ignore, from problem formation to analysis, representation, and writing” (Hertz, 1997, p. viii).

Having worked on children’s rights since 1996, I have consistently been interested in understanding children’s perspectives, and their active role in bringing about change. I see in children the potential to contribute to bettering our world. As Knutsson’s (1997) states:

The child needs us, but we need to adopt the perspective of the child if we are serious about improving lifestyles, realizing human betterment and managing the governance and security of a complex world. If we realize this, then perhaps this world can unite, step by step, not against something but for something. (p. 149)

Children have a freshness that brings us back to the basics of life, calling into question the inequalities and unsustainability that exist in today’s world. At the same time, children are shaped by a society. So, in what ways can children contribute to social change? What degree of maneuvering is available to children? These questions underlie my thesis.

I focused on children in relationship to the environment. When I embarked on my doctorate, my daughter uttered her first intelligible word: “bird”. For the following three months of her life, it would be her only word. She connected to the non-material world in profound ways. For a short while, I considered working on toddlers relationships with the environment (personal communication, Roger Hart, August 2001), but felt too unfamiliar with the methods of working with young children. I turned to older children.

I was drawn to the insight in Hart's (1997) point that "planning, monitoring and management of the environment is an ideal place for the practice of children's participation, it seems to be clearer for children to see and understand than many other social problems" (p.3). I also considered the environment to be the greatest teacher, as it was for my daughter. In understanding children's relationship to the environment, I would learn about human betterment as well as education. I had always seen the truth in Orr's (1991) statement that "all education is environmental education" (p. 140).

Having grown-up in different parts of the world, being fluent in Spanish, French and Bengali, and married to a Kelabit from Sarawak, Malaysia, I was interested in having an international element to my research. I initially proposed to do a comparative case study in the different countries to which I had links. My committee raised methodological questions that made me turn away from the idea.

The International Children's Conference on the Environment (ICEC) provided an unprecedented opportunity to carry out my research. I realized this in conversation with my supervisor, and remarking on my fascination with a keynote address by Ashford (2001) on portraits of four twelve-year-old environmental activists and the lack of research on children this age (personal communication, Jan 21, 2002). The ICEC combined my interests: it was for and by children, it was about 10-to-12 year old children, and it was international. Silverman's (2005) comment that "contingent events related to personal interest, access or even simply being in the right (wrong) place at the right (wrong) time often determine which data you are able to work upon" (p. 303) could not have been more true. In the following, I further describe the context for gathering my data, and my position as an insider to the conference.

3.2 Context for data collection

The ICEC held in Victoria, Canada, May 2002, for children ages 10 to 12 resulted from the recognition of the need to involve children in pressing issues of tomorrow. The idea originated at the 1992 Earth Summit, and the adoption of Agenda 21, that specifically addresses the need to pay attention to the concerns of young people in environmental issues. The conference in Victoria was the fourth of its kind, one previously held in Eastbourne (UK) and two others in Nairobi (Kenya). The United Nations Environment Programme (UNEP) sponsored the conference, though the host country was responsible for delivery. The conference was a big undertaking in many respects; with a total budget of \$ 1.5 million, and a committee of 20 people representing 15 organizations.

I had an opportunity to become involved in the conference's program committee through my work at the International Institute for Child Rights and Development (IICRD). As an organization working on children's rights, we had been contacted during the bidding process for holding the event in Victoria, and were later invited on the conference committee. Given my interest in children and the environment, I volunteered to attend the meetings. At a time when I was struggling to define my dissertation topic, this presented itself as a unique context to collect my data.

The conference was organized for 10-to-12 year-old children with the overall theme of "Local change can make global change." Significantly, this was more than a four-day event. There was a nine-month planning period with a 12-member junior board which included one face-to-face meeting of the entire board three months before the

event. As advertised in the ICEC Sponsorship Opportunities Package, it is “unique because children design and conduct the Conference. There is a Junior Board comprised of children who participate in the Conference design, chair the sessions and lead discussions with their fellow delegates.”

In the conference itself, there were four daily themes: (a) water —the essence of life and survival; (b) climate change —each of us can make a difference; (c) healthy communities, healthy children; and (d) resource conservation —reducing our impact on the environment. Each day, there were plenaries, workshops, and break-out groups (called friendship groups) for children to work on their recommendations on conference themes to the 2002 World Summit on Sustainable Development.

3.21 *Being an 'insider'*

Being part of planning the conference was critical to making the research possible --a reality increasingly recognized in qualitative research as contributing to the research itself and a basis for validity rather than an impediment to be dismissed (Coffey, 1999; Denzin & Lincoln, 1994; Hart & Nolan, 1999; Hertz, 1997; Kvale, 1996; Lather, 1993; Maxwell, 1992). I was able to obtain support from the conference committee at large, to which I made a formal presentation about my research. I also included reference to the research in the parent/ guardian release and authorization form included in the main registration package of all registrants, thereby giving me right to access all of the conference's data (see Appendix A).

As an insider, I was able to integrate the research into the program. This was facilitated by having an ally on the Conference Board (Doug Ragan, head of the

Environmental Youth Alliance (EYA)) with whom I worked closely for research to take place within the conference's busy schedule. This is how the idea of the friendship groups came about.

The friendship groups, where children would broke-out into smaller groups everyday to work on the conference's themes, met the conference's objectives and facilitated my research. Through the friendship groups, I distributed the survey, the facilitators took notes on the individual maps, and also helped identify interview participants. Without the support of EYA in developing the idea and training the 40 volunteer facilitators, the groups would not have happened.

I also naturally became involved in the conference's legacy project. Nearing the event, the conference committee held discussions with the Troubadour Institute on planning a legacy project from the conference. After the conference, a proposal was submitted to the Vancouver Foundation for funding to collect stories of children according to the four conference themes (water, healthy communities, climate change and resource conservation) and publish them in a children's book with introductions by well-known environmentalists. Troubadour received a grant to carry out the project. The year following the conference, I was involved in the story collection. My 50 interviews were transcribed and served as a basis for selecting the stories to be profiled in the book. We followed-up with the chosen individuals to elaborate on their stories, and gathered stories of more marginalized children whose voices were not represented at the conference.

While the legacy project did not constitute an integral part of my thesis, it allowed me to remain immersed in the topic well beyond the conference. In order to complete missing pieces of the story, I re-interviewed some of the children. I also worked closely

with one of the junior board members who sat on the book legacy committee. We made presentations, and published two articles (see Blanchet-Cohen & Rainbow, 2004; Blanchet-Cohen, in press).

While acknowledging concerns associated with being an insider, I consider that the benefits accorded to my research outweigh potential pitfalls. As Mayall (2001) argues, generational differences between adults and children cannot be eradicated in research; rather these must and can be worked with. Being in the planning committee could have contributed to the power imbalance between children and the adult researcher (Christensen & James, 2000; Lewis & Lindsay, 2000). At the same time, investing myself in the planning of the event was a form of reciprocity. As identified by Eder and Fingerson (2002), "By giving something in return for receiving this information, researchers can reduce the potential power inequality" (p. 185).

The position of an insider reflects my perspective that as researchers we need to be involved at many levels, not exclusively in the gathering of data. I recall in doing my master's thesis how I started my interviews for the research only after I had spent hours supporting the Indigenous women's movement (Blanchet-Cohen, 1997). Only then did I feel I had earned my right to access information. In this case, being an insider helped establish a rapport with the children. I knew about the dates of the meetings, I participated in the social events for the junior board, I introduced my daughter to them, and in conversations, I discussed conference details.

It also helped with the conference planning team, who, knowing about my research interests and trusting me, gave me access to information. This meant, for instance, knowing about the flight arrivals of the junior board, and contacting the children

about my interview beforehand. The official introduction provided me with credibility. My relationship with the planning team also resulted in my acquiring 80 group maps. I had not planned to collect them but when organizers offered them, I could not refuse. They ended up being part of my data analysis, and served as a basis for a published article (see Blanchet-Cohen, Ragan & Amsden, 2003).

3.2.2 Research Participants

The conference selection criteria determined the subjects of the study. The children's application package involved completing a 500 word essay describing one of the following: (a) a school or community group's environmental project, and how it is making a difference; (b) an environmental problem in their community, and how they and other children are helping to solve it; or (c) a plan to create an environmental group in their school or community and to mobilize children to become involved. A selection committee used a point system to choose amongst the 1,000 applications, included in the criteria was the person's country of origin. In the end, 400 children representing 66 countries attended the conference.

Based on the application package, I consider these children self-identified themselves as environmentally involved. This assumption is further confirmed by the survey results which indicate that a high of 76% strongly agree with the statement: "When I think about the Planet, what is most important to me is doing something to protect or save it." In the context of my research, the purposeful sampling strategy is considered appropriate; as articulated in SLE research there is value in doing research with environmentally involved children, rather than children at large or seeking an

accuracy of representation of the world's children (see Chapter 2). Thus, "what is useful and meaningful needs to be seen in the context of how well it will allow you to generate data and ideas which advance your understandings, and these are always theoretically informed" (Mason, 2002, p. 121).

I recognize that the conference was not equally accessible, and therefore better-off children were likely over-represented. Numerous factors contributed to children not being able to attend, beginning with whether or not they heard about the conference. The conference was mainly advertised in Canada through schools and internationally through the UNEP network. Whether or not this information reached the children depended on adults informing them about the procedures and supporting them in completing the application requirements. Travel costs to Victoria as well as conference fees of \$325 to cover accommodation and meals also prevented many children from attending. There was only a limited number of sponsored positions. The survey indicates 38% of father's and 36% of mother's hold a non-manual profession (including that of teachers). Otherwise, parents are either self-employed (10% of fathers, and 5% of mothers), manual workers (9% of mothers and 17% of fathers), or do housework (14% of mothers). No children indicated that their parents were unemployed. This was quite a contrast from the children who completed the pilot survey in schools with parents from lower-income background. On this basis, I deduce that the children who attended the conference were mostly from middle-income earning families.

Table 1. Research Participants Profile

| Sample Characteristics (%) | | | | | | | |
|----------------------------|---------------|--------|------------|---------------|----------|-------------|-----|
| AGE | 10 | | 11 | | 12 | | 13 |
| | 16.5 | | 42.2 | | 39.4 | | 1.8 |
| GENDER | GIRL | | | BOY | | | |
| | 56.9 | | | 43.1 | | | |
| LOCATION | Rural Area | | Small City | | Big City | | |
| | 25 | | 35.3 | | 39.7 | | |
| REGION | North America | Europe | Africa | Latin America | Asia | Middle East | |
| | 49.1 | 7.8 | 12.9 | 18.1 | 10.3 | 1.7 | |

Children's socio-economic strata impact children's perception of the environment and environmental issues in multiple ways beginning with the quality of their home environment (Andersson-Brolin, 2002; Satterthwaite et al., 1996). Acknowledging this is part of establishing the validity of my research, knowing that in qualitative research:

Validity represents the always just out of reach, but answerable, claim a text makes for its own authority. (After all, the research could have always been better grounded, the subjects more representative, the researcher more knowledgeable, the research instruments better formulated and so on). Lincoln & Denzin, 1994, p. 579

Had I done my research with children from different socio-economic backgrounds, my findings could have been different. Yet in the context of my theoretical framework and research questions, there is a basis for focusing on these children, and not looking at all children non-selectively.

An analysis of the survey (see Table 1) completed by the participants indicates that the majority of children were between 10 and 12 years of age, with a slightly higher number of girls participating (56.9%). An overwhelming majority consider they live in either a small or big city, 25% reported living in a rural area. Almost half of the participants were from North America, probably because of the easier access to information and funding, and the lower cost of travel. The second largest region represented was Latin America. The participants from Africa were mostly from Kenya given the location of UNEP headquarters.

3.3 Situating the research methods

In selecting the research methods, I had several concerns. My first consideration was using an appropriate research method for working with 10 to 12 year olds. The work of Boyden (2001) and her findings on methodology resonated with my own perspective:

For adults to understand better children's problems and needs, they require children to interpret their childhoods: children must be encouraged to provide real insight into their feelings and experiences... It also implies the need for new research methods and methodologies that are child-centered, and provide psycho-social data that are sensitive to the cultural context. (para. 8)

A related concern was finding a method appropriate for exploring the research questions.

As mentioned in the literature review, I initially examined the methods of Significant Life Experiences (SLE). SLE research, however, places an overwhelming emphasis on quantification, to determine, for instance, the percentage of respondents who identify outdoor experiences as an influence on their interest in the environment (see Chawla, 1998; Palmer, 1993; Palmer & Suggate, 1996; Palmer et al., 1998; Tanner, 1998). Sivek (2002), one of the few published studies of SLE with young people, carried out a two-phase study with high school students that involved a focus group with students and a survey mailed to 150 teachers/advisors attending a conference on the environment.

I turned to the growing literature on doing research with children (Christensen & James, 2000; Lewis & Lindsay, 2000; Punch, 2002). Dominating these discussions is an emphasis on children's capacity for communicating their perspectives and reflecting on their own lives. While historically there has been an emphasis on ethnography as the only method that respects children's integrity, increasing attention is being paid to using innovative or adapted research techniques that recognize that children are similar to adults, yet possess different competencies (James et al., 1997; Johnson et al., 1998; Punch, 2002). While Piaget's stages of development are rejected on the grounds of being too rigid, age cannot entirely be ignored (Boyden, et al., 1998; Woodhead, 1990). As Garbarino et al., (1989) explain:

There is an increasing body of information about child development that provides information about differences in the capabilities of children of different ages. Of course, it cannot tell us how an individual child will perform at a specific time.... Rather than giving us a precise map, this perspective gives us some principles of the social geography of adult-child encounters. (p. 14)

Research techniques need to be made more suitable to children; it is part of respecting children and “adopting practices which resonate with children’s own concerns and routines” (Christensen & James, 2000, p. 7).

The three research methods in this study were developed with the above points in mind. The visual survey, the maps and the open-ended interviews (with literal and metaphorical questions) combine both the need to answer the research question and to be appropriate in doing research with early adolescents.

My research, like many contemporary studies, does not fit into a single tradition (Kincheloe, 2001). In crossing between boundaries, I consider myself to be a *bricoleur* as described by Kincheloe “carefully exploring the relationships connecting the object of inquiry to the contexts in which it exists, the researcher constructs the most useful bricolage his or her wide knowledge of research strategies can provide” (p. 686).

The current research has aspects of a case study, of phenomenology and of grounded theory. It is a case study in that I am studying a group of children who came together in the context of an event, similar in age and commonly interested in the environment (Merriam, 1988). The case study also uses different methods for data collection that can be both, or either, quantitative or qualitative, which fits well given my research tools. It is not a case study per se, however, in that the focus is not on the context or setting of the conference whereby the context is hypothesized to contain explanatory variables about the phenomenon (Yin, 1993).

The research also has aspects of phenomenology in its interest in the meaning of lived experience, in how children conceive of environmental action based on their lived experiences (Creswell, 1998; Maggs-Rapport, 2001). Phenomenology fits particularly

well in addressing 'what' questions, and the meaning of a given concept. However, the research is not a phenomenology study per se in that the focus is not on the essence of environmental action. Phenomenological research is the conscious practice of "thoughtfulness", states Van Manen (1990, p. 12). Nor is the emphasis on 'bracketing', whereby one sets aside taken-for-granted orientation. Phenomenology also generally uses interviews; a tool like a survey does not fit within phenomenology.

The research has elements of grounded theory. Not in the method of collecting data, which Strauss (1987) describes as a "style of doing qualitative analysis that includes a number of distinct features, such as theoretical sampling, and certain methodological guidelines, such as the making of constant comparisons and the use of a coding paradigm, to ensure conceptual development and density" (p. 5). There are, however, elements of grounded theory in the data analysis, as described below

Ultimately, there has been something inherently intuitive throughout the process, which has continued to unfold throughout the data analysis. Like a *bricoleur*, I recognize the appropriateness of Kvale's (1996) concept of craftsmanship as a measure of validation: "Validation comes to depend on the quality of craftsmanship during investigation, continually checking, questioning, and theoretically interpreting the findings" (p. 241).

3.3.1 *Visual survey*

Initially, I would consider myself one of those who considers that "quantitative methods are relatively out of favor for researching children's perspectives" (Lewis & Lindsay, 2000, p. 193). In the context of this conference, however, with children coming

from around the world, there was a unique opportunity for collecting quantitative data, to complement and strengthen the qualitative analysis.

In developing the survey, I researched how to design questions appropriate for a child-youth friendly survey, but found little information (Creswell, 2002). In an early version of the survey, the only adaptation for children was to use simple language, also knowing that many respondents' first language would not be English. Feedback from children in piloting the draft resulted in its reconceptualization.

Children who completed the initial version of the survey showed a need for clarity in questions. The questions were being interpreted differently based on the child's own life experience. I asked a 13-year-old boy I know fairly well, a recent immigrant living in subsidized housing in the Vancouver suburbs, to complete the survey. To the question: "In my home community, the most important environmental problem I am concerned about is", he answered "anger". The follow-up question "what he could do about it?" elicited this response: "just calm down and relax." The response indicated both a weakness of the survey, and that the concept of the environment did not mean the same thing for every child. The boy also left a number of questions blank. I realized that the questionnaire was not designed so that every child could provide an answer. I had been paying too much attention to the environmentally-active children, or, at least, the way that I conceived the respondent to be. How could the survey be more exploratory, and empower those who were, in my pre-conceived perspective, environmentally active?

The need for the survey to be empowering for all children was also pointed out by a fifth grade teacher (personal communication, H. Tufts, April 16, 2002). She reminded me of children's overwhelming desire to please; a child would be unsatisfied if there was

no place for her/his response. Garbarino et al. (1989) in *What Children Can Tell Us* point to the importance of the context in eliciting children's responses: "The way children feel about being competent, their attitudes towards adults, and the ways in which they defend themselves from difficult consequences or feelings all affect their ability to provide information" (p. 18). The written-based survey was not respectful of a child's competence in the psychological, cognitive, language, and socio-cultural communication realms.

In presenting the initial version to my doctoral seminar, I received criticism from my colleagues. Aside from questioning the usefulness of the tool, they made specific comments on the survey, such as, it was "too wordy", and "there was no blank space" (class presentation, March 2002). I struggled in re-examining the survey, wanting to keep the survey to two double-sided pieces of paper. Then, as happens in moments of "aha" in research, I realized that my survey could be more appropriate if it was a visual one. By including drawings and giving an opportunity for children to express their views visually, the survey became more child-friendly (see Appendix B).

A number of researchers have used drawing to explore children's relationships to the environment. Alerby (2000) studied 109 drawings of Swedish children between the ages of 7 and 16 to understand children's thinking and thoughts about the environment. She cites Vygotsky who sees art and thinking as closely connected, and Van Manen who considers art as text. In an earlier study on children's concerns about the planet, King (1995) also used drawing to gather data. She explains, "Drawings, I have found, provide a relatively quick and easy way to gather information from and about children. . . . children are not only willing but are eager to participate in drawing sessions" (p. 57).

In using a visual survey that provided space for children's creativity, I was considering children as subjects, achieving a greater congruence between the study's theoretical framework and methods (A. Oberg, class presentation, February, 2001). I decided that the survey should begin with a drawing. It had no purpose per se, but contributed to creating a welcoming context for the respondents (see Appendix B), which is of significance, as mentioned above by Garbarino et al. (1989).

Using drawings in the survey responses had its own challenges. How could a drawing mean the same thing to each person? Drawings of happy to sad faces were easy, but others were harder. The artist of the survey was an Ecuadorian friend. Drawing neutral, non-suggestive figures turned out to be fairly easy for the artist. Her drawings of the environment, however, reflected a constructed perspective on the environment. Instead, at the end of the questionnaire, space was left for children to draw themselves and their environmental activity, or themselves and their special place (G. Snively, personal communication, May 1, 2002). A written explanation was also provided under each drawing to reduce misunderstanding.

Some questions remained difficult. One of the most challenging questions was the one relating to parents' occupation. The information was intended to indicate children's socio-economic backgrounds. With adults, multiple choice answers with brackets of income would suffice, not for a 10 year old. I initially included a question at the beginning on what their father and mother do. In piloting the survey in a poor area of Montreal where many parents are unemployed, children had the greatest difficulty answering that question. They responded by saying nothing, working, cooking and helping. I then changed the question to, "My mother's work" and "My father's work".

The survey was tested in a sixth grade in the suburbs of Victoria (with a high number of Aboriginal students). The question remained problematic, as it was not clear what to do if the child perceived the mother or father to not work, or if the child lived in separated families, with other caregivers (i.e., grand-parents). The question was moved towards the end of the survey, and more options offered for the answer (see Appendix B).

The survey was handed-out to 116 conference participants representing over 25% of children attending. It was distributed randomly in the friendship groups to the sections that had more time because of different scheduling around the dinner meal. The 98% rate of return strongly suggests that the survey was successful in engaging children. The number of missing values for the individual questions is also low (between 3 and 5%). The last question with the personal drawings had the lowest level of response, with only half completed, probably because of time constraints within the friendship groups, rather than the inappropriateness of the question.

3.3.2 *Mind-Mapping*

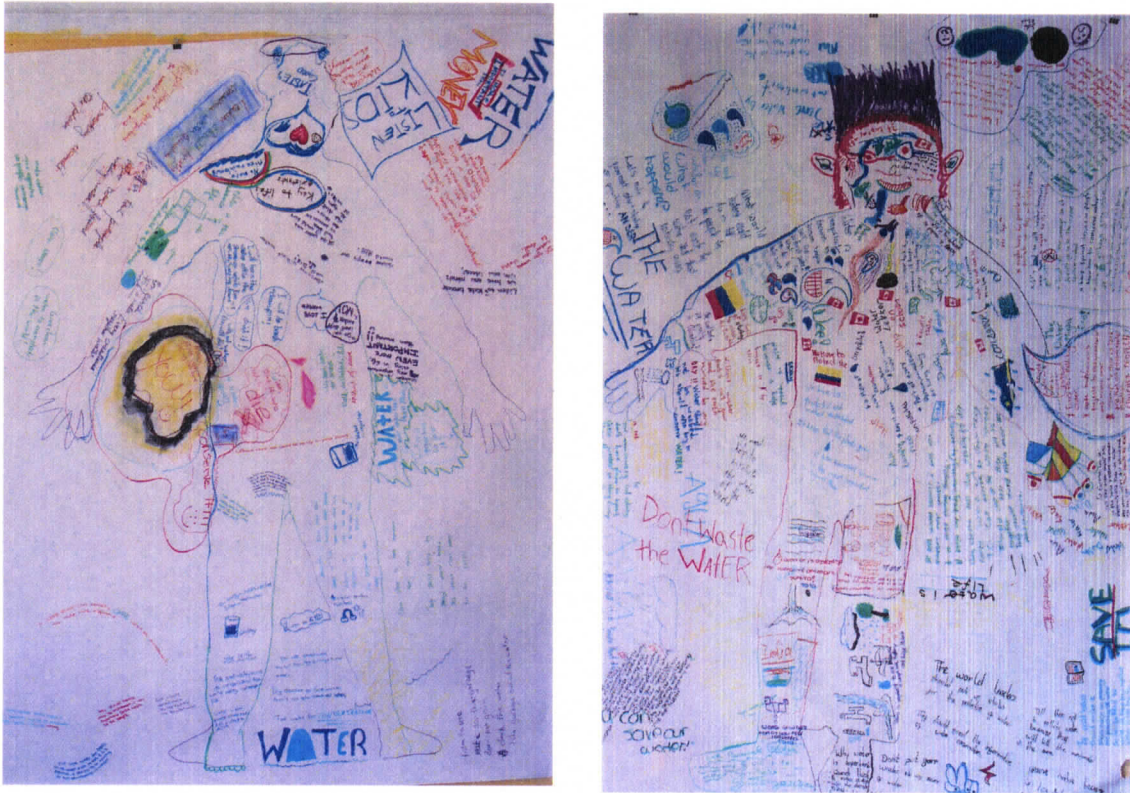
Maps are the second tool used to collect data (see Blanchet-Cohen, Ragan & Amsden, 2003). Most likely, what first comes to mind with the word 'map' are sophisticated drawings designed by specialists that locate resources, territories, and peoples. Use of the term "map" is also disorienting because there is no reference to place. A referee for an article submitted to *Children, Youth and Environments* reporting on the map analysis questioned the use of the term: "I wonder whether it may be better to use the term 'visuals' rather than 'maps'" (Feedback referee # 3, personal communication, Monday, November 17, 2003).

In returning to the roots of mapping, communities and researchers have re-examined the value and purpose of mapping as a medium for people to express their reality (Aberley, 1993; Blaut, , Stea, , Spencer, , & Blades, 2003; Kretzman & McKnight 1993). Of significance is that maps express relationship(s). The term is also appropriate in conveying the multiple metaphors, as “being able to see one thing in terms of another” (Lakoff & Johnson, 1980, p. 193).

Maps have been considered particularly appropriate for working with children, considered by Sobel (1997/98) to be an inherent skill born to every child regardless of their culture: “Mapmaking, in the broad sense of the word, is as important to making us human as language, music, art, and mathematics. Just as young children have an innate tendency to speak, sing, draw, and count, they also tend to make maps” (p. 2). Maps have been used widely by researchers working with children (Driskell, 2002; Mathews, 1996).

In the context of my research, I use mind-mapping where respondents relate one of the conference themes (either water, climate change, resource conservation, or healthy communities’) to themselves (i.e., how the issue impacts them, actions) and what they want world leaders to do to address the issue. Maps were either done collectively or individually. In the collective maps, a friendship group participant served as a child’s outline (see Illustration 1). Then, the group drew or wrote inside the outline how that environmental issue was important to them, and what they were to do about the issue. Beyond the outline of the child, participants were asked to write or draw what they

Illustration 1. Samples of collective maps



wanted world leaders doing to address the environmental issue. Children did the same in individual maps, only on smaller paper.

The mapping activity itself was a metaphor with the outline of the child representing the boundary between themselves and the world leaders. In using a child's outline as a basis for the maps, children related to the maps personally, as well as to world leaders. Maps, as metaphors, capture the cognitive and affective nature of children's environmental involvement (Snively, 1986).

During the conference, the collective maps served to identify challenges to present to world leaders. Once the children had completed the maps, they would discuss items that stood out from their collective thinking, and share the conclusions with the junior board, who then compiled responses from the friendship groups for making recommendation to world leaders at the World Summit on Sustainable Development.

Illustration 2. Me and participants examine a collective map



Initially, I planned to only use the individual maps. I expected them to be more valuable to analyze given the identification of names, gender and age as well as the transcription by friendship group leaders of each participant's explanation of their map. At the training of friendship group facilitators, I had asked leaders of eight friendship group teams to volunteer to be part of the research, and to make individual maps. In the

end, the collective maps were included in the data analysis. The latter were impressive expressions of children's collective thinking, each group personalizing their maps (see Illustration 1).

In a meeting after the event with four children participants, several friendship group leaders and myself, the interest in further researching the collective maps was pointed out (see Illustration 2). The group meeting agreed that the analysis of the maps should go beyond an issue-area analysis (i.e., water, climate change, resource conservation, or healthy communities) to look at what the maps conveyed about children's understanding of environmental action (meeting notes, July 16, 2002). As described below, this ended up being a laborious undertaking.

3.3.3 *Open-ended interviews*

Open-ended interviews were my third technique for gathering the data. Interviews are considered critical in allowing children "to give voice to their own interpretations and thoughts rather than solely on our adult interpretations of their lives" (Eder & Fingerson, 2002, p.181). Ten to twelve years is an age at which children have the language skills to articulate themselves and gather what Geertz (1973) refers to as 'thick description.' Semi-structured interviews also provide for a level of interaction between the researcher and participants and allow "the researcher to respond to the situation at hand, to the emerging worldview of the respondent, and to new ideas on the topic" (Merriam, 1988, p. 74).

Kvale (1996) refers to *inter views*; he sees interviews as being about conversations between the interviewer and respondent; knowledge being created through

dialogue on a given topic. While listening to the perspectives of children, I am entering into a conversation in the process of selecting questions that require the respondent to reflect on things they may never have explicitly thought about beforehand. I am eliciting information, knowledge on specific issues arising from the research questions.

The 19 questions in the interview questionnaire covered three areas: (a) reasons for coming to the conference, (b) story of environmental activism and (c) metaphor questions (see Appendix C). The questions were developed with the research questions in mind (see Table 2, p.70).

Interview questions were tested numerous times, bringing modifications in wording and structure. Many adjustments involved personalizing the questions, making them more relevant to children's lives, less abstract. This involved, for instance, eliminating vague questions such as: "How would you describe your relationship to the environment?", to including a more specific question, "Do you think the environment is alive?"

In the data analysis, 42 interviews between 30 and 40 minutes long served as a basis for the data analysis. Nine of the interviews with the junior board members included an additional follow-up interview between 15 and 25 minutes long. It is to noted that a total of 49 interviews were done but two interviews were eliminated because the recording cassette was misplaced, and six because of the poor quality of the interview. As explained below, not all interviews were carried out by myself, and I discovered that some interviewees rushed through the interview questions without prompting. In other cases, the participant was distracted during the interview, resulting in poor quality responses. The challenge in finding a place for the interview that was isolated from the

rest of the conference activities accounts largely for the distractions. The interviews were all transcribed.

3.3.4 *Metaphorical questions*

Four questions using metaphors were placed at the end of the questionnaire to capture the covert expression of children's environmental involvement. As pointed out by Snively (1986) metaphors allow researchers to:

examine aspects of the cognitive system which are often masked by more conventional approaches.... One of the most important characteristics of the metaphor interview is that it is non-directive. The metaphor question suggests, it doesn't define...There is a connection between the characteristics of metaphorical thinking, which are essentially relational in nature, and the responses obtained by metaphor interviews." (p. 310)

This characteristic is particularly important in the context of the research topic. I am interested in understanding the nature of action amongst a diverse group of environmentally active children. Their unique cultural background (i.e., arising from their family experiences, time spent outside, etc.) is of interest and will, presumably, be reflected in children's language and choice of metaphor.

Metaphors are also appropriate for research on environmental perspectives because they capture the interrelationships between the cognitive and affective realms. Lakoff and Johnson (1990) refer to metaphors "as one of our most important tools for trying to comprehend partially what cannot be comprehended totally: our feelings,

aesthetic experiences, moral practices and spiritual awareness” (p. 193). Feelings and personal connections to the environment are often a critical part of human beings relationship to nature.

Three metaphor questions were included in the interviews to explore children’s beliefs towards the environment, and their responsibility, or more generally, relationship to the environment. Developing an appropriate metaphor was difficult because “A metaphor won’t work if it is based on something that the student doesn’t know or hasn’t experienced” (Snively, 1995, p. 74). In other words, the success of the metaphor question depends on being able to cross socio-cultural differences. I used metaphor questions around the tree, hotel and car considering these concepts to be familiar to most children around the world.

The first metaphorical questions asks children “If the environment is like a car do you see yourself as? (a) the passenger (b) the driver or (c) the mechanic.” I expected the child’s response and explanation would reflect their perspective on the environment and their responsibility towards it. In the second metaphor question -- “If the environment is like a hotel, do you see yourself as? (a) the owner (b) the guest or (c) the employee”—I also expected the child’s answer and explanation would shed light on how they see themselves in relation to the environment. The third question -- “If the environment is like a tree, do you see yourself as? (a) the roots (b) the branches or (d) the fruits”—was another attempt at uncovering children’s perspectives of complex relationships difficult to answer in literal interview questions.

In all cases, the respondents’ explanation of their selection was critical to interpreting their answer (Snively, 1986). At the end of the interview, participants were

asked to give their own metaphor to describe themselves and the environment. This open-ended question allowed the participant to lead the researcher in the direction of his or her choice, rather than being constrained by a specific question and choices.

Children responded well to all metaphor questions, despite language concerns. It was interesting to note changes in facial expression when answering the metaphor questions, as though the children were reaching to another side of their brain. While the interviewees responded overwhelmingly well to the specific metaphor questions, fewer responded to the question asking them for their own metaphor, perhaps because of difficulty in understanding the term metaphor, particularly given language barriers. The few that gave a metaphor gave interesting responses, therefore making the question worth keeping.

3.3.5 *Interview process*

While all children at the conference were to a degree environmentally involved, those perceived as most active, or having an interesting story, were selected for the one-on-one interview. This included interviewing the 11 members of the ICEC junior board, who were chosen on the basis of their environmental essay by the Canadian conference committee and UNEP. In the case of the junior board, interviews were carried out in two stages: (a) when they attended the planning meeting three months prior to the conference; and (b) at the conference itself. Other interviewees were chosen through the friendship group facilitators. Each facilitator was given a note card with instructions to identify three individuals that stood out, based on the stories they shared during the first friendship group meeting. I specified that only one of the three children should be Canadian.

Interviews were then set up with the identified participants at times that would not interfere with the conference programming.

Given the limited window of opportunity to interview the children, five volunteers helped in the interviewing. These included two interns from EYA, one from IICRD, a friend with a doctorate degree and a friendship group facilitator with a master's degree. I prepared a package of materials for the volunteers and discussed key points to keep in mind during the interview. In the end, including interviews with the junior board, I carried out 25 out of the 50 interviews; the remaining were done by the volunteers. Given my fluency in Spanish and French, participants had the choice to carry out the interview when this was their mother tongue. Four interviews were done in Spanish and four others in French. The interviews were transcribed in the original language, then translated into English. In the process subtleties of the language were likely lost, though I consider the advantage of a child expressing him/herself in his/her mother tongue outweighs this downfall.

Children's eagerness to be interviewed was remarkable; only one person turned down the request. Children welcomed the interview as an opportunity to share their points of view. The consent forms, in respecting a child as a subject, included a clause that asked whether the child wanted their names identified with the data (see Appendix D). Unanimously, children indicated that they wanted their real names used. In my analysis, I therefore use children's first names, rather than pseudonyms. A participant strongly captured children's eagerness in sharing their perspectives in the closing comment to her interview:

I think I will take back this interview as something I will remember for my life because it is not an opportunity I get a lot in Curacao. . . This was memorable, I will take it for my life. Because it was fun, and I really like talking and explaining my feelings. (Neelam, Netherland Antilles)

As mentioned earlier, validity in part comes from recognizing the limitations of one's study. One consideration is the impact of the conference itself on the participants. Perhaps, children expressed themselves in ways unknown to them in real life. In a conference that profiled children, they had a voice in ways that they may never experience in their everyday lives. In a sense, the conference created an 'artificial' context. Maybe, this was valuable in allowing children to express themselves openly and uncovering perspectives that would otherwise not come to the surface. I realize, however, that observing children in their everyday lives would involve another study that could shed a different light (Eder & Fingerson, 2002).

3.4 Data analysis: searching for the story

The data analysis daunted me all along. Maybe it was because I had interruptions in my research (including the birth of my second child), that I had a lot of data [the 1,000 page question was only too real for me (Kvale, 1996, p. 176)], or that I felt unsettled about the outcomes of my data analysis. Constantly, I was reminded about the chaotic, messy, and obscure nature of qualitative research. In the following section, I explain the steps taken to analyze the data, and the constant need to figure and refigure its meaning (Ely, Vinz, Anzul & Downing, 1997). Qualitative researchers often do not lay bare the

procedures undertaken to analyze the data (Bryman & Burgess, 1994), yet the process is informative in conceptualizing a research as illustrated below.

Looking back, I wonder if I could have gone about the analysis more effectively. But each step provided for gradual immersion into the data. As Van Manen (1990) writes: "Human science is rationalistic... It is to believe in the possibility of understanding the world by maintaining a thoughtful and conversational relation with the world" (p. 16).

It felt logical to approach the data by focusing on the results of each tool separately, and then to look for triangulation. Accordingly, I began examining the individual and collective maps. Every written and visual statement was coded and entered into an Excel file; a labour-intensive task no doubt. A total of 1753 items were entered for the 40 collective maps (representing half of the total maps), and 489 for the 60 individual maps (accounting for all of them). In coding the maps, I received support from work-term students at Environmental Youth Alliance and the ICEC. The broad categories were identified in a meeting between myself and conference participants (see Illustration 2, p. 61). We agreed that the analysis should go beyond the topic-area. In other words, it did not matter whether the items related to water, climate change, resource conservation, or healthy communities. Subsequently, the categories were refined based on cross-verifications between the assistants coding the statements and myself (see Figure 2, p. 119). The results from the map analysis were reported on in a published article (Blanchet-Cohen, Ragan & Amsden, 2003); the significance of the findings remained however unclear.

Table 2. Interview questions according to sub-research questions

| |
|---|
| R.Q. 1. What does environmental action mean to the child? |
| Concrete activities carried out (q. 3, 2) (inc. 1st memory and current activity; pull out the action verbs) |
| Environmental Connection in Everyday life (q. 1) (time spent outside, type of special place, what does it tell us about the extent there is a personal connection) |
| Notable description speaks to their view of their awareness/role (i.e., Call for Action -urgency/fear/dramatic) |
| Message/ Appreciation (q.16) (Often summarizes key aspects of their message) |
| Advocated Strategy/approach to environmental Action (q.(2)10) |
| Extent engaged in activities other than environment (q. 9) (part of being an active child in other extra-curricular activities) |
| R.Q. 2. What are the significant influences that shaped environmentally involved children's involvement? |
| Mentor/ Hero (q.4) |
| Parents role (q. 5) |
| Teachers/ school (q. 6) |
| Books/TV/Internet (q. 7) |
| Outdoors /One-off events |
| Peers (q.8) |
| R. Q. 3. What is the child's beliefs towards the environment? |
| Environment alive (q. 11) |
| Human-environment relationship (different places) |
| Peaceful world related to how we take care of the planet (q. 14) |
| How much buy and use has impact on the earth (q.15) |
| R.Q. 4. How do children see themselves involved in affecting change? |
| If magical powers what change? (q. 2) |
| Biggest environmental problem in community? (q. (3)) In world? |
| Success/impact? (to address the big problems q. (3)(elements in other responses) |
| Children can make a difference? (q. 12) |
| Sense of responsibility? (q. 12) |
| Challenges/ difficulties for children? (q. 13) |
| If environment like a car: driver/mechanic/passenger (q.17) |
| If environment like a tree: roots/fruits/branches (q.17) |
| If environment like a hotel: owner/guest/employee (q.17) |

Second, the 116 surveys were entered into SPSS, frequency tables created and a search for meaningful relationships between variables undertaken. The results were informative; amongst the results was an indication that there was no significant relationship between children's responses and their country of origin, and only in two questions was children's gender significant (i.e., Earth is healthy and Earth is alive). Like in the maps, taken independently, it was difficult to extrapolate a meaning from the survey results.

Lastly, I turned to the interview transcripts. To make the data manageable, I began organizing the interview questions to match the research questions. Table 2 (see p. 70) identifies each interview question according to the sub-research questions. I then focused on the final research question on how children see themselves involved in affecting change. This involved methodically analyzing responses to the metaphor questions, including frequencies. The results were largely expected; they did not capture the richness of the data.

In this realization, I returned to the raw data; immersing myself in the data as a whole, rather than segmenting it into pieces. This involved, for instance, reading the entire interviews of individuals and examining the corresponding individual map or drawing. I temporarily put aside the research questions, for research questions expectedly flow from a particular body of literature, and by the same token close off doors (Bryman & Burgess, 1994). There was something underlying the data that pulled the pieces together. As Strauss (1987) comments when analyzing field data in grounded theory: "What's the main story here?" (p. 35).

In this immersion, everything became informative. I paid attention to the note cards completed by the volunteers doing the interviews. For example, one card read : “Rohan hasn’t necessarily had much environmental experience so he does not stand out with his environmental story. However, he is very articulate and very bright in articulating the science behind the environmental issues. He is also very enthusiastic about the matter” (Stephanie Wolfe). Another interviewer wrote the: “story of environmental activism not really interesting (worked with a group at school) – but other stuff about metaphors, etc is really interesting –DEEP!” (Kelly Campbell). The volunteers’ comments spoke to the need to re-examine the meaning of environmental activism.

Feedback from publishing companies on a manuscript chapter for the legacy book also became part of my analysis. Kids Can Press, for instance, spoke to society’s conditional interest in children’s voice:

The biggest problem for us is the unevenness of the stories. When you are dealing with real kids it obviously isn’t always possible to get consistently strong and dramatic stories... There was some suggestion that the stories, rather than being the focus of the book, could work as sidebars to a text that dealt with environmental issues. (V. Wyatt, personal communication, Kids Can Press, June 18, 2003)

As one of the book editors, I explicitly had chosen a range of environmental involvement stories to convey to children and adults that environmental involvement did not require heroic acts. We had also edited children’s pieces as little as possible. The publishers’ response suggested this approach would not sell.

Throughout, I was trying to identify patterns of thinking in the students responses; as in grounded theory the emphasis was on taking an inductive strategy. I was struggling with the meaning given to action. I was struck that children were not necessarily carrying out amazing activities for the environment; more significant were their reflections on and analysis of the environment. Thus, I realized that agency rather than action was a more appropriate organizing concept, and it became the overarching research focus.

The data were reexamined, the interviews serving as a basis for the analysis. I began identifying concepts, categorizing and defining relationships between categories somewhat like in grounded theory (Strauss & Corbin, 1990). The environmental agency model emerged from this process. I had reached the saturation point when each additional datum fit within my model, not adding a new dimension to the analysis (Rubin & Rubin, 1995). I decided to present the agency model, and then use the interpretive frame to present individual stories. As discussed in narrative inquiry, stories serve to “make sense of life as lived” (Clandinin & Connelly, 2000, p. 78). Narratives uncover both the complexity and cohesiveness of a person’s lives. As Hart (2002) points out “narrative inquiry helps understand reasons for actions which are motivated by the beliefs, desires, theories and values” (p. 141), making it particularly valuable to research in environmental education.

Stories are “constructions” (Clandinin & Connelly, 2000, p. 71) as the researcher seeks meaning in stories. Critics of qualitative inquiry ask questions like why a particular story is being told, why is it selected for retelling, whose voice is being silenced or privileged. This criticism is part of the crisis of legitimation, which puts into the question the authority of a text as being accurate, truthful and complete (Denzin & Lincoln, 1994,

2000). Part of meeting the critics involves researchers bring explicit about their methodological choices, and the researcher's own location (Denzin & Lincoln, 1994, 2000; Hart 2000).

In research as reflexivity, the researcher no longer hides behind a mask of objectivity but recognizes himself/herself as involved in the process of creating meaning (Hertz, 1997). It means discussing how I gained my material as well as how my own characteristics potentially impacted my data collection and analysis. Thus, in addition to what is laid out in section 3.1 and 3.2 (see pp. 41-48), I note that the fact that I am Caucasian and a 32 year old female impacts the lens of my analysis. The ethnic, gender and age differences between myself and the participants remain sources of misinterpretation. I will always remain an outsider, even though I wish to be close to the participants. The author is never absent from the text, which is part of what Lincoln and Denzin (1994; 2000) describe as the fifth and seventh moment of research. Nor does it mean, as cautions Coffey (2005), that the text becomes a source of therapy. In the realization that all knowledge is situated, I identify verisimilitude --the ability to reproduce the real -- as a criteria for determining the quality of my research.

Retrospectively, in some way, the lengthy process undergone in figuring out the meaning of the messy and obscure data parallels the children's own journey to environmental action described in the following chapter. It is in interaction, investing in relationships that children express their agency.

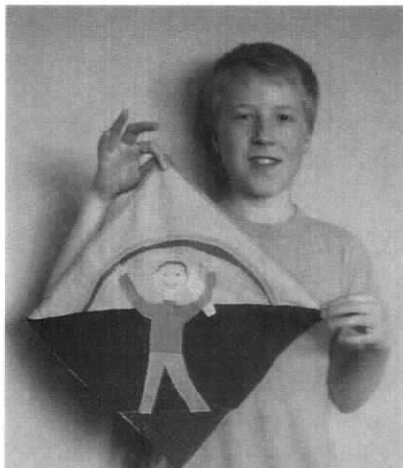
Chapter 4. The Environmental Agency Model

4.1 Introduction

The shape of the rainbow reflects the model I developed to capture the relationships that emerged from my data (see Figure 1, p. 78). I selected the rainbow as the unifying metaphor for a number of reasons but, above all, because it figured prominently in the data. Though it was not mentioned an inordinate number of times by the children, when it was identified, the references were powerful. It is a reminder that dramatic statements often suggest important themes (Rubin & Rubin, 1995).

Three references to the rainbow stood out. First, there was Brian's quilt square in which he placed a rainbow above his self-portrait to illustrate his commitment to caring for the earth (see Illustration 3). He explained the quilt square as follows:

Illustration 3. Brian's Quilt



I put a rainbow on the quilt square because in the Bible the rainbow means a promise. When I was baptised, I made a promise to help God's critters. The green on the rainbow signifies land, the blue signifies water and the yellow signifies air. Rainbow is also my last name.

Second, Ryan spoke about selecting the rainbow as a logo for his foundation which raises monies for wells. He chose the image of the rainbow to represent the hope that comes after the rain. Finally, there was Andrea's drawing of a magical woman figure with a rainbow-head (see Illustration 10, p. 190).

The references to the rainbow in my view convey the hope that underpins children's environmental involvement, and evoke children's capacity to make a difference. As powerfully suggested in Brian's quilt with the arms reaching out to the rainbow and touching it, he sees himself as a connector (see Illustration 3). He is grounded; his feet are on the earth. However, his hands reach out, expressing his relatedness to the sky, which may itself represent the environment or perhaps the imaginative realms beyond. In many myths and stories, rainbows are figuratively seen to connect humans to the spiritual world. This is the case for the Kelabit tribe in Sarawak for instance.

Certain characteristics of the rainbow also resonate with my findings. Rainbows result from a unique combination of environmental circumstances, just as the social and individual contexts for environmentally involved children are critical in determining how environmental agency develops. The relational aspect is central to understanding the meaning of environmental action for each child. There is an order to the colours of the rainbow as there is an order to the dimensions of environmental agency. As one proceeds along the spectrum, the colours of the rainbow blend into each other; aspects of the previous dimension of environmental agency remain. The intensity of colour in each band symbolizes the boldness and strength of each dimension. The shape of an arch speaks to the nature of environmental involvement for this age group as being in process,

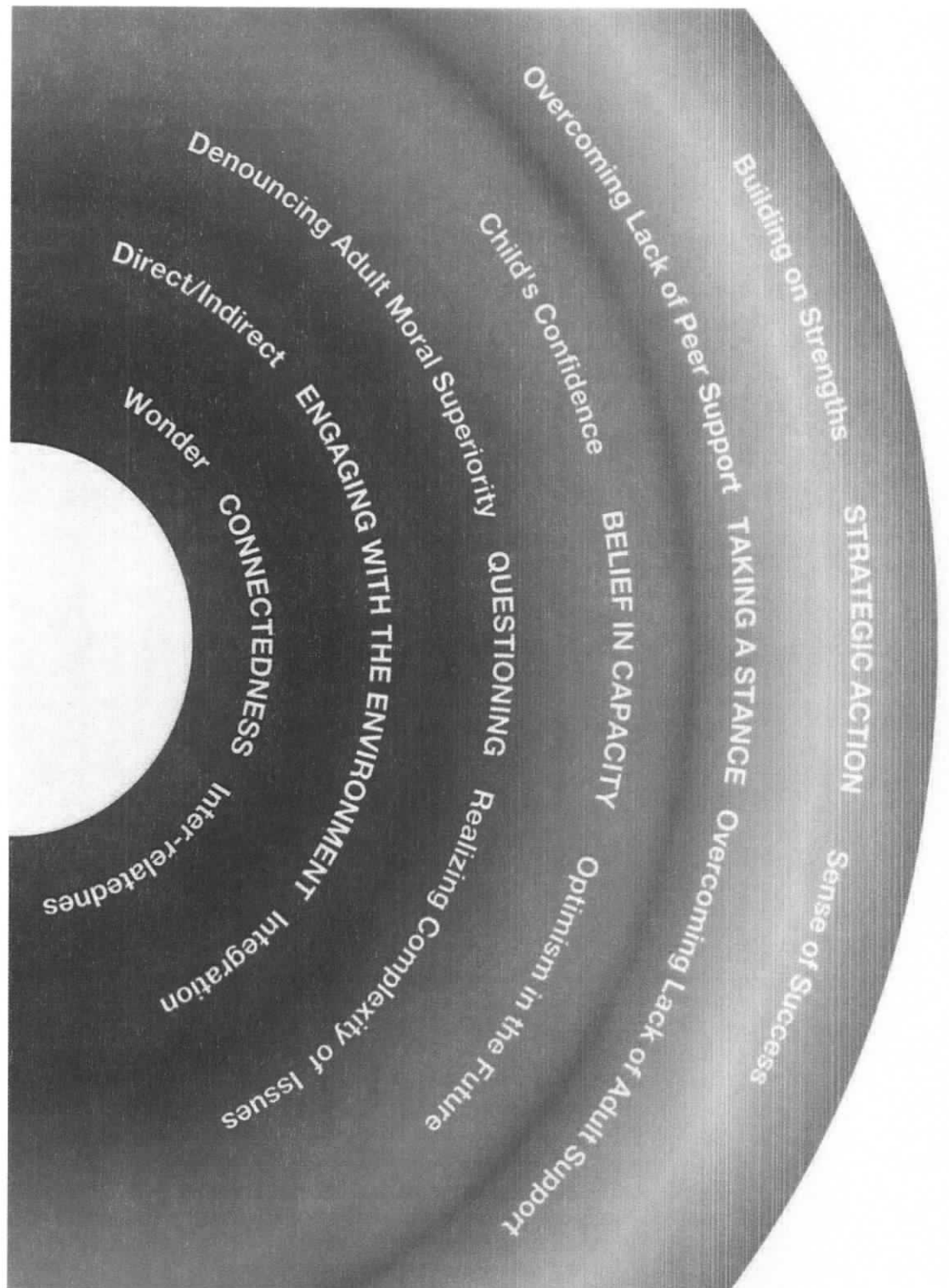
rather than having come to full circle. The rainbow also reminds us simultaneously of diversity and of oneness. As Desmond Tutu (1994) said: "We of many cultures, languages, and races become one nation. We are the Rainbow People of God." The children who were part of this research come from different parts of the world, live in different environments, yet similarly express environmental agency.

Finally, the sense of mystery that surrounds the image of the rainbow may also be related to the issue of children's environmental involvement. Though the phenomenon is scientifically explainable, a rainbow is widely believed to be a sign of good luck. Children are told to look for a pot of gold at the end of the arch. The success of children's environmental initiatives is likewise unknown but somewhat magical. This led me to the Cree prophecy (told by Stone, see p. xii), which speaks about a time when the *Warriors of the Rainbow* will come to end the destruction of the Earth and instill new values and sustainable livelihoods. Are today's children our Warriors of the Rainbow, as reflected in the wisdom of their words, and their commitment to bringing about change? More appropriately to me, children are the Rainbow Warriors, not the famous Greenpeace ship also named after the Cree prophecy.

Based on the analysis of my data, I identify six dimensions of environmental agency for early adolescents (see Figure 1). Agency expresses itself differently in each aspect.

1. *Agency in Connectedness* refers to children immersing themselves in their environments. It involves children's feelings of wonder and their interrelatedness with the natural environment that surrounds them. Accounts of special places strongly express this founding aspect of children's involvement with nature.

Figure 1. Environmental Agency Rainbow Model



2. *Agency in Engagement with the Environment* is expressed when children actively discover the physical environment. It refers to children learning about the environment through direct and indirect contact with nature. Sources of environmental knowledge are the outdoors, books, television, Internet, and significant adults. Integration, as children process their theoretical and experiential learning, is also involved in children engaging with the environment.

3. *Agency in Questioning* involves children expressing their care for the environment by being critical of the current situation and opposing themselves to the power structures, often represented by adults. It involves children going beyond a focus on themselves. Questioning deals with the critical awareness and sense of morality children express in terms of (a) denouncing adult's moral superiority and (b) realizing the complexity of environmental issues.

4. *Agency in Belief in Capacity* refers to children's confidence in their own capacity and optimism for the planet's future. Children frame themselves as capable of making a difference for the environment, and believe environmental problems are manageable.

5. *Agency in Taking a Stance* involves children voicing or acting against the status quo by positioning themselves in relation to society. This is reflected in children overcoming the lack of peer and of adult support.

6. *Agency in Strategic Action* deals with children's purposeful and conscious approach to environmental issues. The type of action undertaken is discussed in terms of how it builds on children's strengths, and reveals children's perspectives on the success

of their environmental undertakings. It results from the coming together of children's positioning with multiple structures, involving themselves, their society and the physical environment.

Drawing on the data, including the interviews, maps and survey, this chapter presents the six dimensions of the environmental agency rainbow. For each dimension, I reflect on the findings, and their implications. To draw on the richness of the data, and to gain understanding of how the dimensions play out in the life of a child, the second data chapter presents the stories of individuals through annotated vignettes.

4.2 Band 1: Connectedness

Connectedness is the first band of the environmental agency rainbow model (p. 77). When children begin to go beyond their immediate selves, they connect in one form or another and to different degrees with their surroundings. In the context of the data, I present children's expression of connectedness under two subheadings: (a) wonder and (b) interrelatedness. Wonder refers to the "constellation of experiences that can involve feelings of awe, connection, joy, insight, and a deep sense of reverence and love" (Hart, 2003, p. 48). It is about the fulfillment and contentment of being in and with nature. Interrelatedness refers to children deeply relating with *others*, nature and humans. It is part of what has been described as children's inherent relational attunement to the world around them, as their sense of ultimate goodness that provides for empathy, and intense feelings towards others (Scott, 2004). As presented below, children often reveal connectedness in their description of special places. In delimiting a place that they relate to, children engage in their physical environment; this place also meets children's developmental need for identity-building. Connectedness opens the rainbow in that it lays the ground for further interactions with the outer world.

4.2.1 *Wonder*

Children's sense of wonder in nature, or at nature was expressed in the data in detailed descriptions of places and specific moments. I found statements that spoke generally to a sense of love and reverence for the environment. Jonas from Québec, for instance, expresses his amazement of how the world works.

The environment is so much more developed, so much more interesting than all the machines and things that exist, because the environment was made on its own, it is all the procedures and principles not made by humans, it is marvelous.¹

Jonas marvels at the functioning of the earth, as being beyond the realm of humans. The sense of wonder sometimes takes root with a specific encounter. Jonas has a vivid memory of a day when, in his own backyard, he began to detect the complex workings of nature. In his interview, he tells of ordinary circumstances that caused him to pause and finally notice what had been going on around him for years.

In my backyard, because it is really big, there are many trees and squirrels. One day I was feeling very lazy, I did not feel like walking up the hill, that is really big. I laid on the ground, and I just stayed there about half an hour like that looking at the squirrels.²

Rebecca from Ontario, on the other hand, developed a sense of wonder further from home. For her simply being in her special place, is gratifying.

We have a cottage ...and we have a waterfall right beside it, and a little area, a wooded area right beside it, and I love to go up into the woods and climb the waterfall, and just be I think people [should be given the] chance to be in the environment, like experience nature.

Rebecca does not make a utilitarian assessment of her special place. Her sense of wonder comes from simply spending time there, as it did for Jonas in his formative encounter. The belief, that it is important to “be” in or “experience” nature, appeared in many of children’s comments.

¹ Original in French

² Original in French

Florence from Québec identifies a rock in the woods near her chalet as significant.

The details provided in the following passage convey the sacredness of the place:

Florence: There is a specific rock, beside the water. It is covered with moss.

Every day I go there, and once I slept there overnight.

Natasha (Interviewer): What is special about that rock ?

Florence : You have a beautiful view and it is a place where you are entirely alone with nature. There are no paths close by. My brother bicycles in the mountain and I don't like that because he does many tracks and we quarrel because he goes through places where I am planting trees and I don't like that. (laughs)

Natasha (Interviewer): But you like that rock?

Florence : Yes

Natasha (Interviewer): You feel good there?

Florence: I feel more at home than anywhere else.³

Florence portrays the rock as providing a sense of security, and offering a beautiful view. It provides for a sense of oneness with nature that she captures in her phrase “you are entirely alone with nature.” She ends with a powerful statement about feeling more at home on the rock than anywhere else. In the middle of her account, she condemns her brother for disturbing her peace, and the trees that she plants, with his mountain biking. In the portrayal of her brother, she opposes her relationship with nature to his: she savours nature (i.e., through contemplation on the rock), and restores it (i.e., planting trees) whereas he destroys it with his bike wheels.

³ Original in French

Some children share their special place with a friend or sibling. Carissa from the North West Territories shares a rock with her cousin:

Yes it is at the cabin and me and my cousin named it cliclaclucla . . . we put our names and dolls' names together. It is a big rock and a little dip in it where almost like a chair where you can sit in it and there's little flowers and mosses and behind there is a tree behind it. I use to well I still do go there and read or run around. . . Only my cousin [knows] because we found the spot.

Carissa identifies characteristics of the rock that are similar to Florence's rock: security, location, and beauty. The meticulous account demonstrates how the intricacies of nature captivate children. At the rock, sitting and running around are ways of enjoying nature, of breathing in the mystery of nature. The naming of the place provides a sense of belonging. Reading reflects children's contentment, although an activity where they are likely less aware of their surroundings.

Sarah from the United Kingdom describes a cave that she spends time in with her sister. Like the rocks for Carissa and Florence, it is mysterious and hidden: "There's a little cave in the middle of the woods, [name] Wood near where I live, and there's loads of little caves, actually. And me and sister used to sit there and just talk." Being with nature is fulfilling.

Oren, from an Island off the West Coast of British Columbia, identifies a tree that provides him with a sense of wonder:

Umm... There's this one spot on the island where there's this huge tree with eight trees growing out of it. It's just the biggest tree on the island. And that's where I like to go. Umm, well I just...well I could climb it if I wanted to, but I don't

usually climb, I usually just sit on the bottom of it . . . it's like unique, it's big, it's umm got lots of energy in it.

As in the other accounts, particular features of the tree are compelling. In this case, it is the size of the tree, and the trees growing out of it. It is notable that Oren does not need to intentionally carry out an action (i.e., climb); he feels fulfilled simply by sitting at the bottom of it.

While many children identified their special place to be removed from the human-built environment, children also located special places in the midst of human-built environments.

Ryan, who lives in a suburban town in Ontario, explains: “There is a dirt road where there is this pond where it is peaceful and quiet and there is a tree where I usually climb up and it’s just a nice place to listen to the birds.” The place is perhaps simple, but has profound meaning to Ryan. For Justin from Nova Scotia’s capital Halifax, his special place is a downtown park; he amusingly comments on his own awe of nature:

I like to go, in the summer, every day, when I was either—I was from 3-6—I liked to go to a place called the Commons. It was a park. It just brought out the child—*the real child* [italics added to reflect respondent’s emphasis]—in me. And still if I go there, I think—Wow, this is what the earth brought us: trees, grass, leaves.

The expression “the real child” shows his awareness that children respond differently to nature. Justin’s appreciation of nature in the midst of human-built environment is repeated later in his interview:

I love playing in the snow in the winter. I love raking the leaves and jumping into the piles in the fall. I love dancing in the rain in the spring, and I love, just swimming in the ocean in the summer.

He does not differentiate between the joy and fulfillment provided from natural or human-built environments.

Children also identified their special place to be located in their backyard. Sarah from a small town in England identifies a specific tree in the garden that she relates to:

Um, a tree in my garden, which I've become very familiar with, and I can climb it loads of different ways, you know, different angles. And that's probably one of my favourite places... Um, it's an apple tree. And it's among [boughs] of other trees, since we've got quite a large garden, and we've got an alder tree, and we've got all sorts of trees around it. . . Yeah, I sit up and read with Chocolate [her teddy bear].

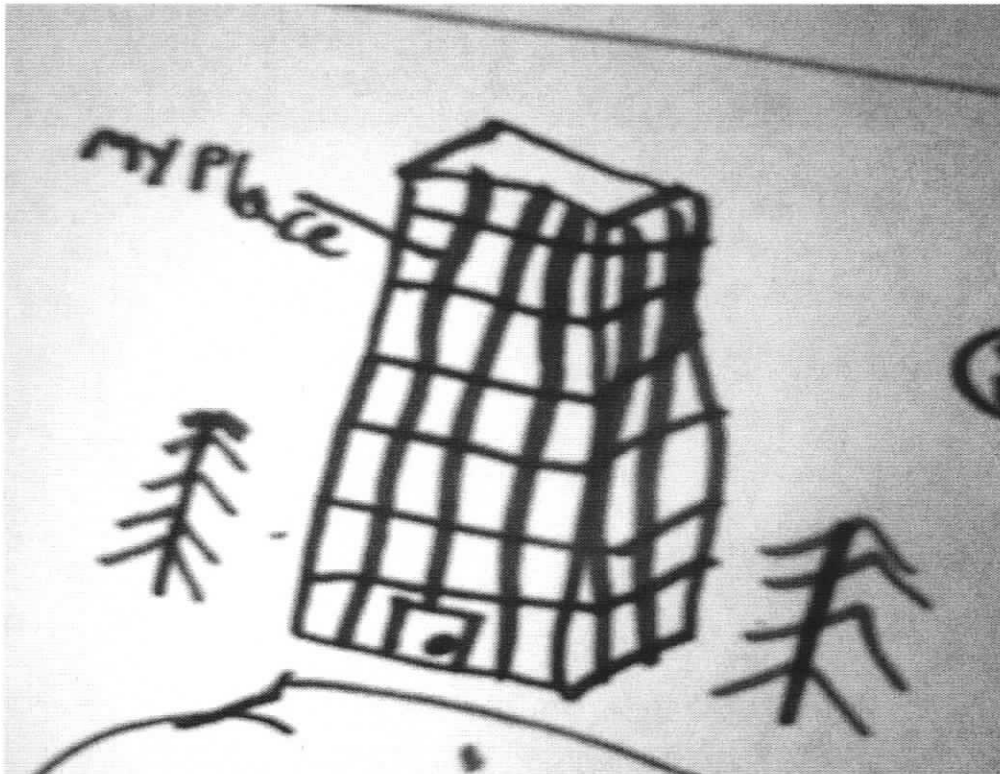
She refers to the tree as something that needs to be understood; her relationship with the trees needs to be figured out, similar to Oren who sits at the bottom of his special tree.

Karanfil from Turkey expressed the enjoyment and wonder provided from being under a particular tree in her grand-mother's garden:

My grandma was living in a—yeah—she was living in an apartment, but it had a nice garden, which is now a car park. And there was a tree which is—I don't know its name—but it smelled so good. . . I always got under its leaves, or something, and sometimes read a book. Sometimes I fell asleep there. I feel really comfortable, and you know, it's wonderful to be there.

Karanfil, as in the cases of Florence and Carissa, singles out compelling unique features. Although located in the middle of a big city, the tree provides her with the same kind of replenishment as Oren's tree. In this case, however, she witnessed the tragic destruction of her special place; a car park has replaced the garden.

Illustration 4. 'My place'



The reality of children's city life was also reflected in the drawings. As portrayed in Illustration 4, the child identifies the floor of his apartment as "my place", with two lonely trees besides the building. Below, I discuss the meaning of special place for

children in early adolescence and the significance of children's sense of place taking place in a range of environments.

4.2.2 *Interrelatedness*

Interrelatedness refers to how children are deeply connected to the environment as well as other people. In children's accounts of wonder, the environment is considered to nourish their souls. Janissa, from Netherland Antilles, captures this in the following description:

I like spending time outside because I feel like connected to nature. And when I'm inside I feel kind of locked up, so I'd prefer to be outside. I just really love it, so I just usually sit on the beach, and just watch the sunrise and sunsets.

There is enjoyment, even ecstasy from being in nature: "I just really love it." Janissa feels fulfilled as she "just usually sits on the beach", and "just watches." She feels constrained when indoors, as conveyed in the image "kind of locked up." Connection to nature provides her with a sense of liberation.

While relating to nature, children are also often connecting with themselves, and other people. Sarah mentions talking with her sister in the cave; there she shares her feelings and she feels secure. Carissa and her cousin name their special place based on a combination of their names and their dolls; thereby linking themselves and their play world to a physical place.

Oren describes the tree in his special place as having "lots of energy in it." The tree replenishes his soul. Oren also says: "I trust the environment, and I hope the environment trusts me." His hesitation reflects the depth and the veracity of the

relationship. Oren does not make any assumptions; he cannot speak on behalf of the environment.

Children often attribute feelings to the environment. Neelam from Netherland Antilles is one of those children:

People have to understand that the environment has feelings too...maybe you don't see it, but if you cut down a tree, it will hurt that tree. If you mow the lawn, it might hurt the lawn. If you shoot an animal, it will definitely hurt that animal.

She draws a parallel between humans and the environment; she understands the difficulty of recognizing that the environment has feelings: "maybe you don't see it." Animals and plants are alive, and will suffer from being destroyed in the same way as humans: "it will hurt." Cesar, Mayan from Guatemala, views the interrelatedness of humans with nature as a reciprocal relationship: "If we plant one tree there is peace with mother nature. If we take water and wash our hands and then throw the water on the plants, there is peace for the water." The cyclical view of life is similar to that of Maria also Mayan from Guatemala:

If we are happy, also nature will be happy with us, the animals. If we ask God for the life of the animals, the trees, and the plants...we will be happy and they will be happy...The stones, they are our brothers, the trees are our brothers, that is why we have to care for them, yes.⁴

Maria considers elements of the environment to be part of her family. This is the same for Yvonne who speaks about viewing herself as a twin to the environment: "because we both need each other. We need to work together. And when we are together, so much can

⁴ Original in Spanish

happen, so much good comes out of it." In her view, humans and the environment mutually support each other.

The sense of interrelatedness is also expressed in children's reflections on the origins and meanings of life. Some evoke God in their explanations. Nandhini from Kenya, for instance, states that: "God has gifted us this earth. . . He has given it to you so that you take care of it not to spoil it. So that you love it and give all your concern to it." There is an obligation to care for it. Justin from Nova Scotia expresses a similar idea without referencing God: "I don't know who created it or what created it, but it was created, I know, for certain for us. And we have to—we have to keep it. It was a gift to us, and the gift is our lives." Neelam's remark is also not religious: "I don't own the environment, I can't control it."

Responses to metaphor questions also conveyed children's respect for the environment as something that was beyond themselves. To the question if the environment is like a hotel would you be the employee, owner, or guest? Yvonne, from Kenya, specifies that it was a gift to all creatures, not only to humans: "The guest definitely because as I said before, it doesn't belong to me. It doesn't belong to *any* [italics added] of us. It belongs to, um, it's a gift from God, you know. And it's something that we have to take care of." A similar response is provided by Carissa from Ontario: "I think we're the guest because we weren't the first people on this planet. And it's really Mother Nature's. And so we're just visiting, really, permanently visiting." Another also responds guest but qualifies her response: "A guest. I think lots of people think of ourselves as the owner of our earth, but really we, we, actually, we're not . . .

maybe a worker! We should work to make our environment a better place, rather than thinking we own it all the time” (Alicia, Scotland).

In denouncing the view that humans own the environment, children are calling for a different perspective on the environment: one that recognizes the interrelatedness between humans and the environment rather than the supremacy of human species. Children recognize human dependence on the environment. Raghav from India compares himself to a fish in the ocean:

Well, I think the environment would be like ah, it would be like a big ocean and we would be like, we would be the fish in like, swimming in a big ocean. Swimming in the water, using it for all, using it for everything we get. But we don't . . . anything, we just live in it, everybody using it, totally dependent on the water. Like fishes, they cannot live outside water. So we can't live without the environment either.

Raghav realizes the scope of the environment as essential to his survival. He is a small player entirely dependent on this larger sphere for his survival.

As part of the interrelatedness between humans and the environment, environmentally involved children often express empathy for other human beings. Florence from Québec stated this outright in her interview: “Those who care for the environment also care for others.” A number of children spoke strongly about their concern for other people’s sufferings in their accounts of environmental activities. Rose-Iris from Haiti is a member of an environmental organization involved both in tree planting and helping orphans in an asylum. If she had magical powers she says: “I would like to see all children happy, because there is a happy group and a sad group.” She

deeply cares for humans: “When a soul is lost, the whole world loses something.” Nandhini from Kenya also expresses the need to reach out to others. In the margins of a drawing she writes: “Some children are very poor. And all of us have to join hands and help them.” Without making a conclusive statement, there appears to be a link between caring for the environment and other human beings. In the maps, there were many drawings of hearts.

4.2.3 *Discussion*

The above presentation identifies connectedness to be expressed in children’s sense of wonder in and about nature, and children’s feeling of interrelatedness with nature and other human beings. Children express agency as they intentionally give meaning to places, in being absorbed by the mystery of nature, and often engaging in imaginative interactions with their special place. I am reminded of my toddler son’s contentment in grasping the soil in his hands, smelling the flowers, and hearing the sound of two rocks banging together.

Children’s connectedness appears to be intrinsically linked to their own development process. Like Cobb’s (1977) claim children’s sense of wonder is intuitive, and evidence of a “corresponding bioaesthetic striving fundamental to the fulfillment of individual biological development” (p. 16). Children’s identification of a special place is part of their search for identity, a recognized aspect of development in early adolescence (Piaget, 1961). It is also an expression of agency, as children intentionally select intimate places where they can ponder.

There is a spiritual quality to many of the children's descriptions, as reflected in their reference to God or creator or expressions like "got lots of energy in it" or "the environment has feelings too." As indicated in the literature review (see Chapter 2), growing attention is being paid to considering spiritual development as integral to human development (Garbarino, 2000; Hart, 2003; Levine, 1999; Scott, 2004). Tobin Hart (2003) states: "Childhood is a time of wonder and awe as the world grabs our attention through our fresh eyes and ears. . . . Children are natural mystics" (p. 11). Children's dwelling in the environment is part of searching for answers to the big questions: Who am I in relation to the rest of the world (human and non-human)? What is the nature of life? Children share how the environment fulfills them, provides contentment and replenishes their soul.

In light of the significance of children relating to a particular physical place, it is little surprise that children find special places in a wide range of environments, natural or human-built. How does a pristine and isolated place compare to a small spot in the midst of the bustle of city life? The vignettes presented in the following chapter suggest that the geographical landscape of where a child lives and the individual characteristics of that landscape impact the significance of certain dimensions, though exactly how is unclear. From Karanfil's interview, one learns that the destruction of her special tree outside her grand-mother's apartment building motivated her to become environmentally involved. This is the same for Florence, who mentioned the destruction of the forest behind her chalet as one of the reasons for beginning her environmental club.

Based on an analysis of these data, I contend that connectedness is a founding aspect of children's involvement in the environment. Even though not all respondents

expressed connectedness in the interview, there is sufficient evidence from my data to argue that this is a significant dimension experienced by children. It is also possible that like children's spiritual experiences that are often "ignored, rendered invisible, or treated as unacceptable" (Scott, 2004, p. 171) connectedness may be underreported because of society's devaluing of it.

While identified as the first dimension, children will continue to discover and experience connectedness as they further articulate their care for the environment. Like in a rainbow where the colors merge into the next, elements of each dimension remain as one proceeds from one level to the next. I now turn to engaging with the environment as the next dimension of environmental agency.

4.3 Band 2: Engaging with the Environment

Engaging with the environment constitutes the second band of the rainbow (see p. 77). This band distinguishes itself from the dimension of connectedness in that it deals with learning about the environment, rather than the interrelationship between humans and the environment. Agency expresses itself in children's intentional discovery of nature, and in the act of learning about the environment directly or indirectly, and in processing of the knowledge.

The first section below discusses the significant sources of environmental concerns as: (a) the role of the outdoors; (b) the role of books, television, and Internet; and (c) significant adults. The following section deals with children's integration of environmental concepts.

4.3.1 Direct/Indirect discovery of the environment

4.3.1.1 Role of the outdoors

While the outdoors was significant in providing a physical space for children to connect to, children spoke most elaborately about their limited access to the outdoors. The rarity of green spaces were amongst the reasons identified. Karanfil from Turkey explains:

I do [like to go] but I can't. I'm living in a big city and there is no place that I can go, and no place that I can play. No trees, no gardens, so, I can just walk in the street, and it's not fun, you know.

Ali from Bahrain describes a similar situation: “Well there isn’t much to do in Bahrain outside, but I don’t really hang outside very much. But when I do I enjoy it.” Others spoke about the lack of time preventing them from going outdoors. “When I can I go to a park or to the. ...But I don’t have much time for that but when I can, I do.” Rose-Iris from Haiti affirms: “No, I do not play outside. I go to school, to meetings at the church and then I return home.” Parental restrictions also prevent children from enjoying the outdoors: “The forest is right behind me [our home], but you know, it’s kind of bushy, so I’m not really allowed to go there. But it’s kind of fun, it’s *really* [italics added] fun to go.” Samantha would like to go, but her parents feel the place is unsafe. Weather also prevents children from spending time outdoors: “I spend lots of time outside. It depends on the weather though. Like, if it’s a big blizzard, I’m not out there, but, um, yeah, I love to go outside,” says Justin from Nova Scotia. In some cases, there was no place to go outside close to home: “Close to home, can’t say,” comments Udit from India’s capital, New Delhi.

Children were sometimes unaware about the significance of spending time outdoors close to home. In the passage below, Bereniz from El Salvador first response deals with addressing the environment at a distance:

Natasha (interviewer): Do you like spending time outside?

Bereniz: Yes

Natasha (interviewer): What do you do outside?

Bereniz: Well, I mainly do what I say I will do...if I go on holidays I will enjoy it and to see and study new things, but if I go to a conference on the

environment I will deal with the environment, I will look for solutions for the environment.

Natasha (interviewer): But, is there a place in nature where you like to go?

Bereniz: Hmm...

Natasha (interviewer): Do you go all day? Once a week? Close to your home? Or in your garden?

Bereniz: Hmm...yes, in my garden we have many plants, I have cacti and other species because that's what I like.

Natasha (interviewer): Is there a particular cactus that you like?

Bereniz: Yes

Natasha (interviewer): What is that cactus like?

Bereniz: It is a cactus that has no spikes, it only has small points that do not hurt, and it has long leaves.⁵

Only after prompting, did Bereniz mention the plants in his garden. Do such responses suggest that distant, second-hand experiences of nature are becoming more significant for children?

In the midst of concrete cities, children identify increasingly with human-built environments. Analiza from Ecuador, subsequently selected as a representative for the 2002 World Summit on Sustainable Development, considers a park she has been taking care of with her family as possibly her special place because "from my room you can see the trees growing, so beautiful to see how they grow." In response to a question on whether she went outside of Quito, she answered: "Well, um, we go to the beach sometimes. We also go to the mountains, and ... where there is great biodiversity. And

⁵ Original in Spanish

there's a butterfly museum, so you can see all the butterflies in there. That's beautiful." Her responses suggest that she relates to the environment from a distance. Justin describes a park as his favourite place:

Well, it's a big field where it's basically the centre of Halifax. And it's just beautiful. There's lots of trees, and there's a playground where kids just—they're all over the place. And there's a pool—outdoor pool. And sprinklers that pop up, and it's just so great. . . It's about 7 kilometres, maybe a 10 minute drive, or more [from my house].

Like Analiza, Justin also identifies the Museum of Natural History as a place to discover nature: "I just love to go there and look at the beehives, and stuff... And you could see the bees fly in and out, fly in and out. I just love downtown." Both Justin and Analiza find meaning in the human-built environments available to them.

In other cases, importance is placed on the backyard and schoolyard. Neelam from Netherland Antilles remarks:

I still do love the outside, but I love it sometimes. . . see I like it when it has a lot of noise of birds, the sounds of animal... in my backyard. In the playground at school, it can be too noisy, because of the kids. I like it peaceful to have the sound of the animals. I don't like to have so many kids around, running and screaming, and you don't really hear the sound of the birds and animals.

Neelam's access to the outdoors is limited to her backyard and to the school playground; she contrasts her backyard with the "birds, the sound of animal" to the schoolyard with the "noisy sounds of the kids." Rangi Marie from New Zealand defines her experience of the outdoors to the school as: "The best place is probably at school, because our school is

very involved and mentally aware of what is happening.” Sarah, from the USA shares her experience of spending time in the playhouse in her backyard: “I have, at my house there’s a little like, house thing, made out of wood, and we call it the dollhouse and me and my friends usually go in there and play with mud.”

A number of children describe a place they visited only once as significant. This is the case for Santosi from Singapore for instance:

Yes. Well, there’s a little park, you know, I mean there’s this um, reservoir called the [chikjala] I *love* [italics added] that reservoir because it’s nice and um, cool, a lot of trees, swans and things to look at. And then we went to the um, there’s this place and I don’t really remember the name, but I went there for a camp, and there we had a lot of walking along the tracks and everything, and we saw....and everything, and how they live, and flamingos, um, trees all around.

Nandhini from Kenya mentions Sweet Water, a place she visited two or three years ago, where: “You can see the scene of the mountain, called Mt. Kenya. It’s very famous over there. It’s the biggest mountain. So you can see the view.” These examples suggest that one-off experiences are significant, contributing to children’s discovery of the environment.

4.3.1.2 Role of books, television, and Internet

With limited opportunities to spend time outdoors, books, Internet, and television play an increasing role in children’s discovery of the environment. According to the survey, 63% of respondents identify Internet and books as either often or, always useful

(see Table 3). Television appears to be slightly less used with the highest percentage of never (i.e., 28%) and sometimes (i.e., 40%) responses.

Table 3. Sources of learning about the environment

| | Never % | Sometimes % | Often % | Always % |
|-------------|---------|-------------|---------|----------|
| Books | 9 | 28 | 31 | 32 |
| Internet | 10 | 27 | 28 | 35 |
| TV | 28 | 40 | 16 | 16 |
| Mother | 2 | 27.5 | 37.3 | 33.3 |
| Father | 4.9 | 38.8 | 27.2 | 29.1 |
| Teacher | 8.8 | 25.5 | 31.4 | 34.3 |
| Other Adult | 18.4 | 49 | 21.4 | 11.2 |

The interviews draw a slightly more complex picture; pointing to the differing perspectives on the significance and relative importance of each medium. Some children, such as Tula, considers all to be valuable sources of information:

A lot. See, Internet, you just have to go onto the right website to find the most information. Books, you need, you can go to a library and there'll be tons of books on the environment. And television, I guess, well the one I like to watch the most is Discovery Channel 4, if I'm looking for environmental stuff, like animals. My first choice would be the Discovery Channel.

Others qualify their responses. While the survey suggests that books are of equal value to the Internet, many interviewees were critical of the value of the Internet. Bereniz states

strongly: “I don’t use that [Internet] much because to me it is like a vice. Since I was very little my parents taught me it is a vice.”

Of the three media, books often stood out as the preferred medium. Rebecca states: “Well, the Internet, you can have a lot of things, but sometimes you get the wrong things... And I always like books because I love to read, and they can be very informative.” Chris explains the value of books:

I think the most useful is the books. Because, when you get connected to the Internet, if you go wrong somewhere, you get connected to another place. So you forget all about the environment, and start just getting interested on the website you have gotten connected. But with books, you can get a whole library of books just about the environment.

Children realize that they have unequal access to these media. Vivek from India, for instance, mentions, “Actually we don’t have proper libraries in India” Rose-Iris from Haiti mentions not having access to the Internet. Jamie from a small town in the UK says, “when I’ve had to go into it my brother’s always on it.” Rebekah from Ontario states: “I don’t get much time on the Internet.”

4.3.1.3 Role of significant adults: family members and teachers

Most often a family member or teacher has played a critical a role in initiating and/or nurturing children’s interest in the environment. Of interest is how children speak about adults direct involvement in learning about the environment. Jonas from Québec says: “My father loves the environment, so we walk and do lots of camping in the summer.” The father is not merely telling his son about the importance of the

environment, he participates, and together, they enjoy and discover the environment. Similarly, Justin speaks of working with his father in all of his environmental activities. At other times, parents participate by sharing information. Nandhini from Kenya explains. "They [parents] do a lot of research. They research in books, Internet, computers and everything. Then they give it to me so that I can add up everything and put it together to make a good piece of writing or drawing." Adults and children are actively involved in selecting and processing the information.

In other cases, adults have been important role models. Adrian from Florida in the USA describes his inspiring grandfather:

He hmm was . . . a scientist and loved taking pictures of the environment and stuff and different bugs and hmmm. He would save so much stuff and try to help. If you were taking a bath... you know when you test the water to get it the right temperature- he would take the water that was not the right temperature and water his plants with that.

Adrian's grandfather created a compelling impression through his actions. In a child's perspective, these apparently small-scale personal behaviours based on family values have potentially more significance than large-scale and distant environmental actions.

Carissa from the North West Territories spoke about the role of her grandmother in nurturing her concern for the environment:

My grandmother, she is an Aboriginal person. She's Chipewyan I think. And before she was nine she lived off the land with her family until she moved so she could go to school. And so when we are at the cabin and stuff she tells us stories of that and it makes me want to protect it because it is not really like what she

describes like how it was with no roads or anything, and no big pollution like there's towns but not like towns. I guess villages you would call them... well she does not really tell me to do things, she just says that it is very important that we do things to protect the environment and that's what makes me want to do it.

Stories about her grandmother's childhood feed into Carissa's imagination, inspiring her to protect the environment.

Children also spoke about the role of a specific teacher, as opposed to the school at large: "It was not like many teachers, it was this one teacher" (Adrian, USA). Like in the accounts of family members, children spoke about teachers providing opportunities for engaging with the environment. "We don't do a lot at school, we do have a recycling bin... my grade 5 teacher she's very interested in the environment... [We] do lots of fieldtrips and look at stuff. We actually walked in our socks to see what would grow on them" (Carissa, Canada). It is the experience of walking in the socks that created a strong impression. This is similar for Justin from Nova Scotia who recalls the opportunities his teacher provided for connecting to the environment:

There's one teacher that really inspired me as well, her name was Mrs. Clark. My mom donated an incubator to our class, and we got eggs, chicken eggs, and we watched them hatch over 20 days. And one day me and my dad came in for something about the Eco-schools program, and I saw them hatching out. So, the 20th day they were just starting to come out. And we got to hold them, and cuddle them. And then we learned about whales, which was really interesting. [That was grade 1.] And we adopted a whale that year. And that was probably—got to—

there were 6 whales that we could pick from and they all had names. And I remember that one name, Marble.

The details he shares of holding and cuddling the chicks speaks to the impact of experiencing the hatching of the eggs. In adopting a whale and naming it, Justin connected to the animal in emotional ways.

A teacher can provide opportunities and open doors that would otherwise remain closed. Chris from Kenya explains the critical role his teacher played:

I have my mother, father and my teacher. They are all, like my parents, even my teacher....She was a new teacher—she came two years back. And when I started the club, she decided to help us. Because I know if we had another teacher, she would not even think about going to the conference. She would just think it was so much money, and like, ask what we were really going to be [doing].

The teacher believed in the children's capacity and supported their eagerness. Teachers' kindness and support of student's ideas is remembered:

Oh yes, there was this teacher in 2nd grade. She was really nice. Each time I had an idea, she supported me. One child wanted to do a big mural for the school. She immediately undertook it and we worked on it for a month. It was a big forest and we drew all the children in it with lots of animals. It was beautiful. (Jonas, Québec)

The children in this study demonstrate that engaging with the environment requires more than having access to information on the environment; it requires integrating their learning on the environment. The section below discusses this component.

4.3.2 *Integration*

The children in this study recognize the need to integrate learning as evidenced in their reflections on the importance of combining learning and doing, as well as their explanation of environmental phenomena in their own terms.

To the question: “How much time would you dedicate to learning about something or actually doing something?” a majority placed at least equal importance to doing and learning. Most said they would place more importance on doing:

I think it's maybe like, a ratio 2 to 1. Like, it's like, a whole orange divided into 3 parts. Now, you like, take one part to learn the information, but the other two parts to like, do something about it. Because playing an active role in the environment is what plays the most active role in helping the environment, and rebuilding it, than just reading and read. (Chris, Kenya)

In other words, action needs to accompany knowledge. As explains Santosi from Singapore: “You read but then you forget. So if we, if we experience it, you can remember longer.” Karanfil from Turkey makes a similar point: “Yeah, I can learn much, but I don't like, like opening the book and reading la, la, la—or working on Internet. I want to go and find it out by myself.” Mathew from Victoria, British Columbia, considers learning as something that takes place at the individual level; doing is required in order to share the knowledge with others:

More so doing. Much—definitely. Because you learn, but that—you're helping it with yourself, but you're not helping a lot of other people. If you're being—

you're becoming a lot more aware. Because you're not going to get other people aware, just yourself.

Doing is necessary to reach out to other people, and to deepen one's own knowledge.

Experiential learning is about engaging oneself to gain understanding. Rebecca from Canada explains it as follows: "I think it's best if you learn a lot, that you're comfortable in things, and you know exactly what you're talking about before you try and do anything." Interestingly, there is an active element to becoming "comfortable in things", yet Rebecca considers this different than actually doing things. Justin points to the need for personal immersion:

I've read some books but mostly experience and parents and people telling me about the environment . . . I, well, my dad teaches me. And if I hear something, I'll search it on the Internet. Or, I'll read it in a book. And then, I just pick up all of that information from people's speeches, and the Internet, and my dad, and I just put it together into my knowledge.

Justin shows that he is not a passive receptor of information; there is digestion, elimination and reformulation. The phrase "put it together into my knowledge" reflects the active process that takes place.

Oren, like Justin, acknowledges the active element involved in sorting through multiple sources of information: "I learn quite a bit of information from the books, but mostly a lot from my parents and friends and just people that I have met and known and done stuff [with]." Context determines the sources of information available to a child.

Engaging with the environment is part of children's innate curiosity. As Justin explains:

So, usually if there's a really neat idea, then you usually try it. Just like, once somebody taught me—they said—Well, if you put an egg in vinegar, in two days the shell will disintegrate. So, I tried that, and it works. But, what if it didn't work? Then I'd go back and discuss it with that person. No—it took a week for the egg to dissolve. Oh, but I used a brown egg. So, I go back, and I use a white egg.

Understanding requires personally immersing oneself in the issue, becoming close to the subject-matter.

Evidence of children's engagement with the environment is found in children explaining environmental phenomena using their own language. The process of transforming scientific information into terms that belong to children reflects comfort and familiarity with the phenomena.

I identified illustrations in the group maps as indicative of children's integration of learning. Not only do they explain environmental phenomena in their own terms, but the presentations are powerful.

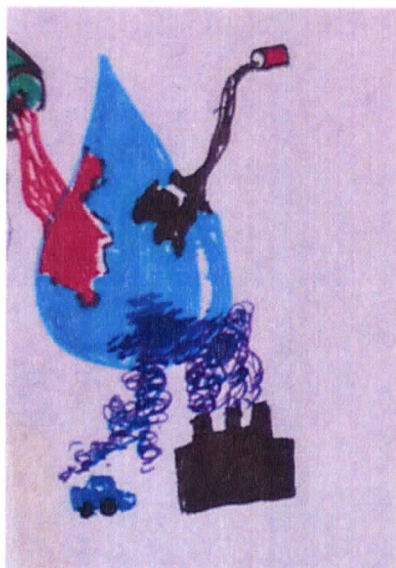
In Illustration 5 a, the child illustrates through a water drop the causes of water pollution. Both air and liquid pollution are shown to affect water quality. The choice of colours and the illustration captures water pollution simply and powerfully.

In Illustration 5 b, the child illustrates the climatic conditions that create rainbows. It shows how rainbows result from a unique combination of light (i.e., sun) and water (i.e., rain).

In Illustration 5 c, the child illustrates the importance and role of water to human beings and other non-human creatures.

Illustration 5. Environmental phenomena

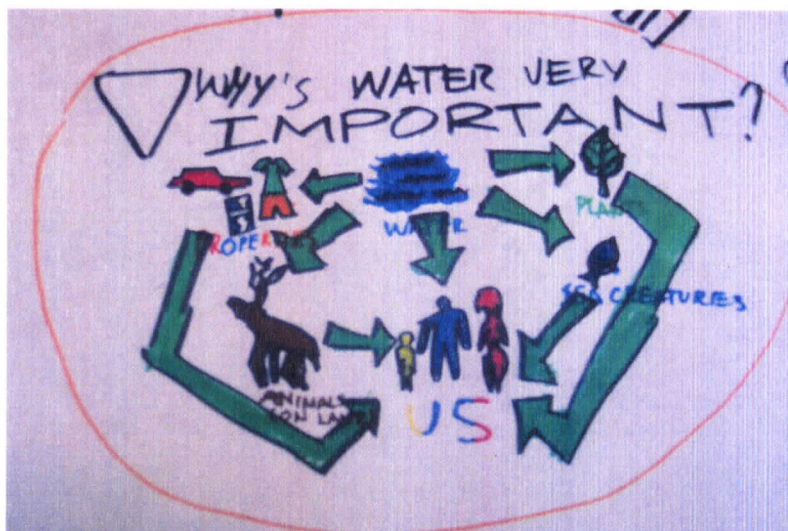
a.



b.



c.



The illustrations show how children translate knowledge into visual representations. The choice of colours and expressions reflect children's creativity, and their comfort with the phenomena illustrated.

In the interviews, I also found a number of remarks that reflected the personal comprehension of environmental phenomena. One respondent, for instance, captured the concept of sustainable development in his response to a metaphor question, "If the environment is like a hotel, do you see yourself as?": "Employee. . . . He's trying to keep the hotel clean and good, so that many, many, many generations of guests can come and see that hotel just as nice as it was when it was built, yeah" (Sam, Kenya). Another response to the same question demonstrated knowledge of the life cycle, and our dependence on the environment for survival:

Because the environment is everything to us. I mean if there were like, no trees, or like trees in the environment, trees are part of the environment, so if there were no trees, there would be no fruits, there would be nothing to eat. If there were no water then there would be no grain, no food grains. Nothing to drink, and no rain, nothing. So I think that if there—in the environment of the hotel, we would pretty much be the tourists. Very dependent, and the tourist. (Raghav, India)

Raghav reflects on the interdependence of the ecosystems.

A number of environmental stories spoke to the sequencing of engaging with the environment. This stands out in Vivek's interest in an endangered bat species called *Otomops wroughtoni* only found in caves in India, near his hometown. I asked him why bats interested him. His response: "because they had a free tail. And bats are mammals

that can fly . . . when the bat is disturbed it wags its tail vigorously like this.” He repeated with emphatic gestures: “It has a tail like a mouse and wags it like this . . . I thought this is cool and I got interested.” At the basis of his intrigue for bats, there is an element of wonder. This led Vivek to learn more about bats through books, and observation. Vivek describes his examination of bat excrement: “Some bats have long things and some bats are short. Some are fat and round things and things like that. Don’t ask me more because it’s really gross.” The experiential learning eventually led to integration. Vivek’s involvement in campaigns for the protection of bats arises from his connection to the bats; which first captured his imagination, and then his scientific curiosity.

Brian, from the suburbs of Vancouver in British Columbia, expressed a similar sequencing in his recollection of childhood memories:

Even before I knew how to talk, I would point at things and say ‘da, da?’ ‘da, da?’ wanting to know what it was. As I grew older I asked, ‘What type of bird is that?’ ‘What kind of tree is that?’ When I was 5, I did my first beach cleanup with my family.

He identifies interest as the beginning of his concern for the environment. This was followed by curiosity for the specifics and then concrete environmental action. In this case, he identifies his parents as the source of environmental knowledge.

4.3.3 Discussion

Engagement with the environment is essential to children’s environmental involvement. Children need to learn about the environment and process that knowledge in order to care for the environment. While spending time outdoors is an obvious

precursor for engaging with the environment, my data points to the increasing restrictions on children's access to the outdoors, and the growing role of one-off events, television, Internet, and books with a specific emphasis being placed on the latter. Of importance is that integration of ideas needs to accompany knowledge gained from secondary sources of information. This integration involves transforming the knowledge into children's perceptions and terminology. Children become invested in the issue not for the purpose of control, but as groundwork for caring for the environment. Experiential learning is often an important component for realizing integration. There is a parallel to be made with Hungerford & Volk's (1990) concept of ownership according to which citizenship responsibility is more likely when individuals feel personally invested, and have an in-depth understanding of issues.

Connectedness sets the foundation and engagement with the environment concretizes that connection, a basis for initiating action. The relationship is illustrated in Brian and Vivek's accounts which begins with wonder and turns into curiosity for knowledge on how the environment works. Agency is about children selecting the sources of environmental knowledge and actively understanding the information.

Should the importance of secondary sources be of concern? Literature in environmental education emphasizes the value of first-hand experience and of connecting directly to local environments (Chawla & Hart, 1995; Smith and Williams, 1999; Sobel, 1995). Environmental educators emphasize the importance of first-hand experiences, and of personal affinity with them. Research on significant life experiences amongst adult environmentalists consistently identified memories of spending many hours outdoors as most significant (Chawla, 1998). My research suggests that children's direct contact is

often difficult given their realities, but that children are creative in compensating for the lack or absence of access to direct experience with nature. They find meaning, for instance, in small green spaces. They access books, listen to environmental programs on television, and browse the Internet for information on the environment. They pay attention to parents or teachers who provide them with opportunities to engage with the environment. Of significance is that children extrapolate from the information. The resulting personal affinity may parallel that provided through direct experiences.

4.4 Band 3: Questioning

Questioning represents the third band of the rainbow. It deals with the inquisitiveness of children, and their sense of justice. It reflects the critical consciousness awakened by children's engagement with the environment, and their growing awareness of the outer world. Literature in environmental education identifies early adolescence as a period of inner change, when the child shows a maturing sense of justice (Cobb, 1977; Hutchinson, 1998). At the age of nine or ten, the child is able to separate the self from the world, and thereby take a critical look at their world. There is agency when children react to what they observe or feel by raising concerns, denouncing contradictions, or making claims on practical and moral grounds.

While in the first two dimensions children's interactions dealt with establishing themselves in relation to their environment, in this dimension, children critically engage with their society's behaviour and attitudes towards the environment. I found questioning expressed primarily in children (a) denouncing adult's moral superiority, and (b) realizing the complexity of environmental issues.

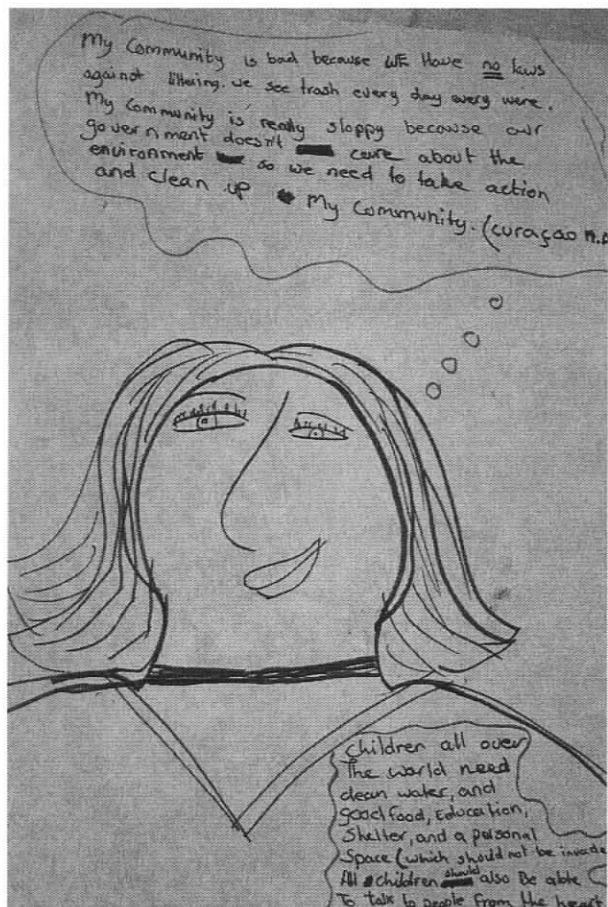
4.4.1 Denouncing adult's moral superiority

Normally, children learn from adults to whom they look for guidance. In terms of caring for the environment, however, children consider that adults as a whole are not in a position to provide guidance (see section 4.313 for a discussion of adults who play a

supportive role). Children critique adults' behaviours and attitudes towards the environment.

Illustration 6 shows the questioning of a girl who critically reflects on her community. She uses condemning words like "bad", "sloppy", and "doesn't care" to characterize her community. Within the girl's body, she identifies social and economic rights that belong to all children. She specifies a child's need for personal space, as well as participation. She alludes to an aspect of questioning in her phrase "talk to people from the heart no matter what." She recognizes children's need for frankness, and for not being constricted.

Illustration 6. 'My community'



In the bubble above:

My community is bad because we have no laws against littering. We see trash everyday everywhere. My community is really sloppy because our government doesn't care about the environment so we need to take action and cleanup.

My community. (Curacao, Netherland Antilles)

In the bubble below:

Children all over the world need clean water, and good food, education, shelter and a personal space (which should not be intruded). All children should also be able to talk to people from the heart no matter what.

Children see themselves as Rainbow Warriors, in distinguishing themselves from the adults and in bringing new values and ways:

Yeah, I think children are the one's who have to protect it more, so that way the adults can start protecting it. Because the adults weren't born with this concern about the environment, so they have a different way of thinking. And if we children don't start taking care of it, the adults probably won't. That's why.
(Analiza, Ecuador)

Adults are portrayed as the destroyers and children as those who repair:

The adults have done a very good job of ruining it, but I feel that it's—they've been the very good drivers and they've spoiled the car. So now it's up to us children, they're bringing it to us now to fix it up. (Yvonne, Kenya)

Children blame adults for the state of the environment, condemning adults' irresponsibility. Florence from Québec addresses her critique to the government:

I would like the government to listen more to what we have to say the children . . . we will stay longer after them. Besides, they say that it is not important and there are more important things than that. What are you on? There are not a hundred planets, there is only one and it is this one.

She distinguishes children from the government, referred to as "they" and "them". She questions their reasoning, and believes their undervaluing of the environment as incomprehensible.

Some children believe adults' lack of concern for the environment is rooted in adults' materialism. "Where children are so eager, and like, pick up things really quickly, and just love our world around us, and Sometimes people get caught up in the world's material world around us, and all this other stuff which isn't really so important" (Alicia, Scotland). Sarah from the UK makes a similar point, denouncing adults' egoism:

“They don’t really think about it much. It’s not the first thing that’s on their mind, it’s money, and jobs, and things to do with themselves. But they have to realize that the environment is themselves.” Children question adults’ priorities and perspectives on the human-environment relationship. They call for a greater appreciation of the environment, and of recognizing its multiple roles. Santosi from Singapore states:

Some people who are lucky enough to have all the resources should appreciate the environment, because do you see all around the flowers? So, to like, calm them down when they are angry or anything. And then they have paper and water, all because of the environment, so they have to be, um, ready—I forgot—um, happy about the environment.

He emphasizes the need to acknowledge how the environment nourishes one’s spirit (i.e., calm them down), as well as provides for one’s body. We need to become aware of our surroundings and value the role of each element, he states.

According to the children, adults cannot claim to know better on the basis of their age:

Well, they [adults] think we’re kids, and they’re like—Oh, yeah, *do what kids want*—we did this, but ... We’re older, we know how to do. We know what we are doing, And I think, yeah, that’s one of the reasons that this isn’t going so well. (Chris, Kenya)

According to Chris, adults’ attitude of “we know what we are doing” is part of the problem. Whereas children normally look towards adults for guidance, when it comes to the current state of the environment adults cannot claim moral superiority (i.e., “know what’s best for us”).

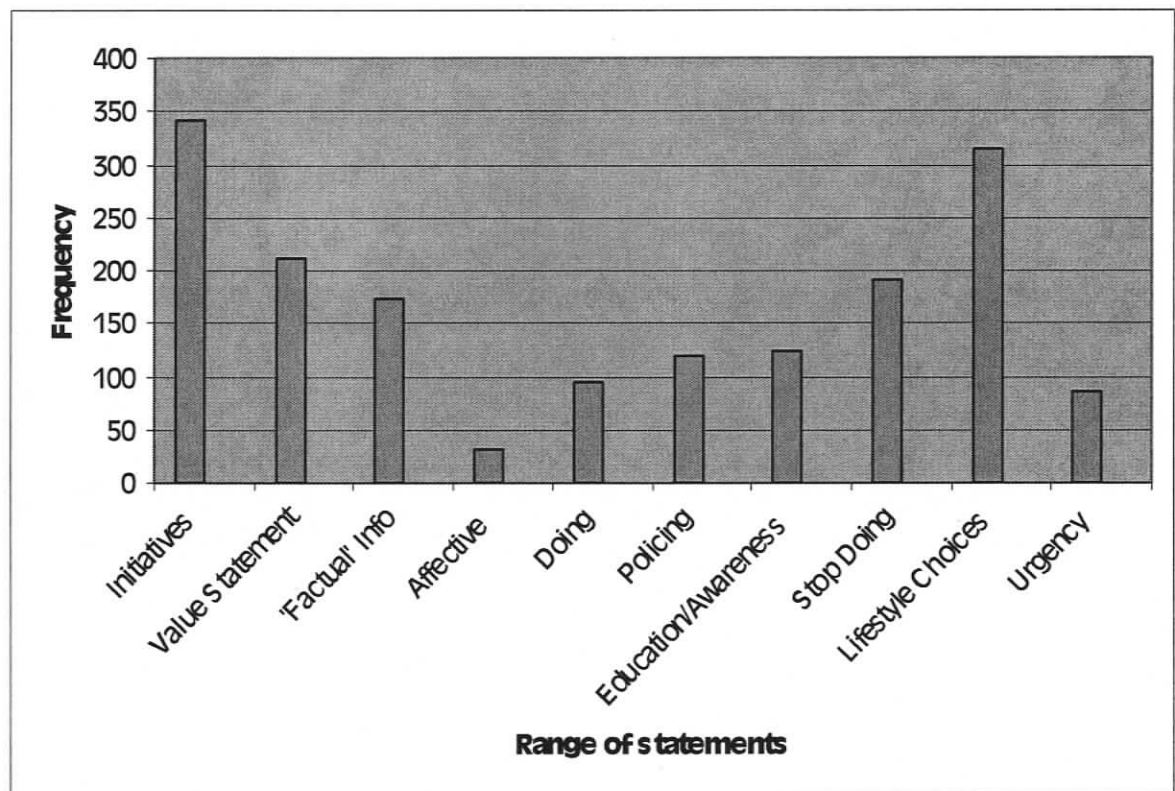
In interviews carried out with adult organizers at the conference (see Blanchet-Cohen & Rainbow, in press), adults commented on children's moral superiority. "I learned mostly that we needed to question our assumptions about what we could and could not do. The junior board forced us to go back and revisit our ethical choice of supplies for instance." (W. Avis, personal communication, April 17, 2003). Wendy Avis, member of the conference board, reflects on the frankness of children's questions. "It was hard because some kids have fabulous ideas and they don't understand why we are not doing them. There is no answer to a basic question like: why doesn't everyone have clean drinking water? These are complex social and environmental issues. It is a hard thing to say 'no' as an answer to an enthusiastic and caring child" (ibid). While children's questions left her feeling helpless, they also brought to the center issues that were being overlooked in the midst of organizational questions.

Questioning also permeates statements in the collective maps (see Figure 2). In an initial analysis of the coding into 10 categories, I focused on the low percentage of statements about children "doing" environmental activities as an indication of children being overwhelmed by the world's environmental issues (see Blanchet-Cohen, Ragan & Amsden, 2004). The agency model calls however for revising this analysis, offering a richer understanding of children's environmental involvement. I realize in retrospect that the statements reflect different expressions of agency.

Statements on values, policing, stop doing - which account for 22% of the responses (see Figure2)- involve questioning. Value statements call for deeper action, involving an ethical, or value change. For example, "People should have an equal amount of water", or "World leaders can stop wasting so much money on the military and instead

help the environment”, or “I think that governments that have plenty of water and are wasting it should share it with other countries where people are dying from thirst.” While the last phrase may practically be unfeasible, it expresses a concern for equity issues.

Figure 2. Frequency of statements in collective maps



Policing statements deal with imposing laws, fines or regulations, such as: “Enforce worldwide laws of pollution so that we cannot just travel to other countries and pollute their water”. Or, “The world leaders could also ban the owning of any type of weapon. Another thing they can do is stop or ban fast cars. So speeding cannot occur.”

Some are severe punitive calls such as “Allow death sentences for environmental law violators.”

Finally, the ‘stop doing’ category calls for the termination of specific actions, such as “Stop dumping garbage waste into water source”, and “Do not clear-cut!!! Myself and other children need fresh air so please stop clear-cutting it's bad for our climate!!!”. Underlying these statements is children’s condemnation of adults and the past system and call for a new system.

There are also elements of questioning in the initiatives categories (accounting for 20 % of responses) as an underlying judging tone often accompanies statements that call for new initiatives, or the adoption of new techniques or technology. For example, “World leaders should start a way to dump trash somewhere else than the ocean and also find a way to recycle the trash dumped on the land and ocean”; or “Provide more health care [nurse, hospital bed, first aid].” Children express their discontent with the way the world operates proposing often simple and effective changes that could help environmental problems. The following section looks at what questioning looks like as children discover and ponder on real-life environmental complexities.

4.4.2 Realizing the complexity of environmental issues

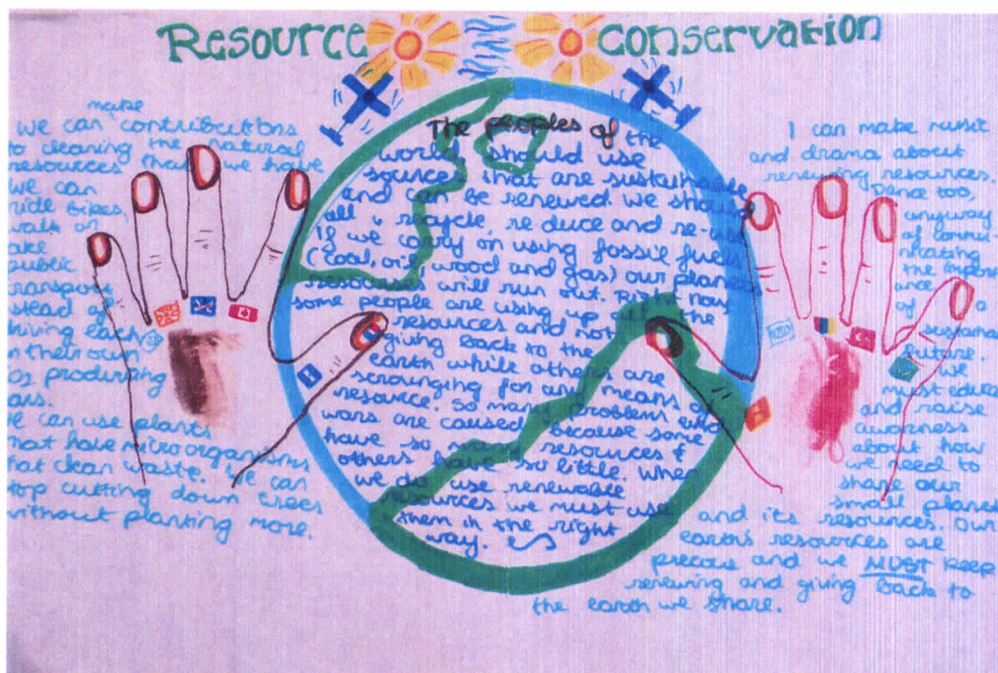
The same curiosity that leads children to investigate the intricacies of nature leads them to wonder about the complexities and contradictions that underlie environmental issues. The story of Brian and Nicole’s (from the suburbs of Vancouver, British Columbia) video illustrates the nature and role of questioning.

Amongst a number of environmental activities, Brian and his friend Nicole undertook a video project called: *What do you do with the Doggy Doo?* The idea for the video began with a puzzle: “While walking dogs for some friends, whenever it came to picking up the doggy doo I always put it in the garbage like all the signs said to. I knew there had to be a better way, but what was it?” explains Nicole. Brian and Nicole started by visiting the landfill and asking about waste disposal. They discovered loopholes in the system: despite the bylaws, the city had no effective disposal method for dog feces. They brought this to the attention of city staff:

We asked a lady at the Delta Municipal Hall in the bylaws department if you are allowed to put doggy doo in the landfill. She said ‘Yes’. We said: ‘No, the landfill says you are not allowed to put it in your garbage because it is considered offensive material.’ The lady checked this out and returned saying: ‘Oh! You are right. We are not allowed to put it in the garbage, but they will accept small quantities.’ She also explained to us that the SPCA was in charge of enforcing the doggy doo bylaws... After visiting the Delta SPCA we were told there were 9,000-15,000 dogs in Delta. We also learned that the Delta SPCA have never fined anybody for not picking up after their dogs! (excerpt from story essay, n.d.)

Adults faced with the evidence of the ineffectiveness of the system continue to defend the system, or pass on the responsibility to another department. Nicole and Brian continued their quest for effective alternatives for disposing of the doggy-doo. Questioning initiated their interest and continued to motivate them to search for solutions.

Illustration 7. Resource conservation



In the centre:

The people of the world should use resources that are sustainable and can be renewed. We should all recycle, reduce and reuse. If we carry on using fossil fuels (coal, oil, wood and gas) our planet's resources will run out. Right now, some people are using up all the resources and not giving back to the earth while others are scrounging for any means of resource. So many problems and wars are caused because some have so many resources and others so little. When we do use renewable resources we must use them in the right way.

Outside left:

We can make contributions to cleaning the natural resources that we have, we can ride bikes, walk or take public transport instead of driving each in their own CO₂ producing cars. We can use plants that have microorganisms that clean waste. We can stop cutting down trees without planting more.

Outside right:

I can make music and drama about renewing resources, dance too anyway of convincing the importance of a sustainable future. We must educate and raise awareness about how we need to share our small planet and its resources. Our earth's resources are precious and we MUST keep renewing and giving back to the earth we share.

By Alicia

Illustration 7 by Alicia from Scotland also speaks to questioning. The circle in the center of the figure, representing the earth, identifies the problem of unequal distribution of resources and over-consumption. The sense of justice is expressed in the repeated word “should”, and in identifying a contradiction in that while “planet’s resources are running out”, there are some who over-consume and others who struggle for survival. Alicia considers wars to originate from this inequality. The hands placed on each side of the planet are flat. Special attention is placed on recognizing cultural diversity: on the knuckles of each hand there is a drawing of a different flag; on the top of one hand there is a black smudge and on the other, a red one alluding to different skin colours. On each side of the drawing of the planet, there are statements about what can be done; on the left, the collective role and on the right, her role. On each side, she mentions practical acts. She identifies her role in terms of raising awareness about the importance of sustainable consumption. As in the case of Nicole and Brian, questioning leads her to act rather than paralyzes her.

Questioning is also reflected in children’s growing awareness of the complexity of environmental problems, and of how economic and political questions are at play. Nonjabulo, from Swaziland, points this out in the following description:

No, it can’t just take one person, because people have a choice whether they drink the water or not. Cause they—when we are in [Bunya] the pulp and paper industry—people said what can we do because we can’t live anywhere else. This is our only home. And we live right next to the industry. We’re breathing in this air every day and there’s nothing we can do about it because we have no mode of

transportation to get there. So you can't really do it yourself because it's up to them whether they move or not. Whether they, um, find a way to do it or not.

While she may be wrong in considering that people always have the choice to drink water, she recognizes the reality of economic and political constraints on an individual person's decision. This awareness does not prevent her from distributing flyers.

Most of the questioning targets others; there is little self-criticism. Children rarely portray themselves as part of the problem. In their responses to the question, "Do you think that how much we buy and use has an impact on the earth?" only a few acknowledge their own consumption as negatively affecting the environment. As one respondent mentions: "Ya. Some of us buy things but we don't use them. So we use them and if there is just a small crack in that we just throw it and then buy a new one." There was often laughter in the responses, maybe a feeling of guilt: "I won't name any [products] because half the kids will disown me! [Laugh]" Another one admits he is at fault: "Yeah. We buy a lot and we don't use lots. Even sometimes I do that, I know that and, my mom saw it and my mom goes crazy sometimes. [Laugh]"

In the following account, there is hesitation as Sarah from the UK realizes her own needs and desires may be harmful to the environment:

I mean, if you respect the earth, you don't pollute it, you don't pour toxic chemicals all over the place, and you don't build houses. But, you have to have somewhere to live though. But, I think nature provides that. Nature provides things that we need to live, like fruit—but um, mainly they've just been so selfish, they just want more. They want more and more and more. They've wanted to travel to different countries—which I think is a good idea, we should at least do it

in an environmentally-friendly way so that it's like solar power and it doesn't emit any toxic fumes.

She first considers not building houses as being part of respecting the earth, and then realizes "you have to have somewhere to live." She also revises her point on traveling, realizing there are some things that she benefits from and enjoys, but that are harmful to the environment.

There was also little recognition of the differences amongst children themselves, that children had different opportunities. Raghav from India however recognized this, in distinguishing himself from poor children:

Yes actually they [the poor one's] are the one's who need a better opportunity. Because they are more in number you know. They know more because they are a bit known to local areas than we are, 'cause we have to go do our daily work, go to school, so this, ride your bike, do this. So, they are more near their house so they can figure out what actually happens. So, they should be given a chance as well. . . . [at the end of the interview] I would like to add that children, especially poor ones, should be given more chance to talk about the environment. Cause they are not being given a chance to speak, to give their expressions about this.

He acknowledges that children have different perspectives on the environment depending on their livelihood, and that they do not have equal opportunity to express themselves. One other respondent referred to the role of context in dividing children, in perpetuating feelings of hatred. Yvonne from Kenya in speaking about the need for children to be exempted from United Nations sanctions reflected on her experience at the 2002 Special

Session on Children in New York. She was struck by the tensions between Palestinian and Israeli children:

There was a Palestinian child—was—they were actually on the same floor as an Israeli child, and the chaperone actually had their room floor changed because they didn't want to be on the same floor [laughing] as the Palestinians! And it was *terrible* [italics added], you know! And you know, it's not even the children who did this, you know, it's all this hate that the world leaders are creating and it's affecting the children as well. That was one of the things that I saw was *so* [italics added] upsetting, and really upset me when I was at the special session. So I think people just need to come together and we need to stop thinking of ourselves, but start thinking of our people—our children, you know.

She ridicules the basis for the adult chaperone's decision to change floors. She feels the misjudgment strongly: "it was terrible" and "so upsetting." Children are affected by the context within which they find themselves; adults transfer their tensions onto children. Yvonne calls for the need to look beyond ourselves, and our individual differences, and to work towards the common good.

4.4.3 Discussion

As described in the section above, questioning refers to the growing consciousness of children, as they awake to the contradictions and the complexity of our world, particularly in the area of the environment.

In many ways, questioning is part of children growing up as they critically take a look at their society. It is in responding and reacting that children develop their identity.

Children generally frame the questioning in terms of children versus adults because adults are the natural entity children struggle to define themselves against. Besides, adults both as individuals and collectively can easily be criticized in the area of the environment. Children see themselves as models, and initiators of change.

In their questioning, children tackle individual behaviours, as well as systemic issues. Children denounce contradictions in people and in government behaviour, the gaps between rhetoric and behaviour, and the social and economic inequalities. Children's questions are often straightforward. These often come as a surprise to adults constrained by the realities of their lives. Children point out the clutter in adults' minds bound by material concerns. It is in the wisdom of the questioning that one of children's greatest contributions to the environment may lie, though children often may not entirely grasp the complexity of environmental phenomena, as indicated in inaccurate explanations.

Questioning constitutes the third band because it involves children's consideration of the bigger picture. It takes place after children have established connectedness and engaged with the environment. Once there is a relationship between themselves and the environment, children can be critical of how things work on moral and practical grounds. The questioning will continue throughout a child's environmental involvement as indicated in the bands flowing into each other (see p. 77).

Questioning reflects agency as children take a critical look at real-life happenings, and make judgments. While the two previous dimensions take place at the individual level, often internally, questioning involves outward thinking. Questioning can be the basis for initiating concrete actions, as in Brian and Nicole's video story.

4.5 Band 4: Belief in Capacity

Belief in capacity constitutes the fourth band of the agency rainbow (see p.77). The agency involves children framing the issue positively, and viewing themselves as capable of making a difference. It has to do with an attitude, a conviction. The phrase 'belief in capacity' originates from the phrase used repeatedly by the children, "We can do it." Not personalizing the phrase, either as belief in "my capacity" or "belief in our capacity," reflects the implication in the children's phrase that both the collective and the individual have roles to play.

Belief in capacity relates to the notion of hope, identified by environmental educators as a necessary component for children to care for the environment (Hicks, 1998). Models on pro-environmental behaviour refer to the internal locus of control as the individual's belief in his/her capacity to bring about change (Hungerford & Volk, 1990; Kollmus & Agyeman, 2002). I prefer the phrase "belief in capacity" to "hope" or "internal locus of control" because of the emphasis on the importance of the individual as well as his/her belief in instituting change. Hope can be fairly abstract. It does not necessarily imply that the individual has a role to play. Belief in capacity emphasizes the active aspect of children's decision to take care of the environment. There is agency as children purposefully take perspectives on issues.

I have placed belief in capacity in the fourth band because it is a necessary prerequisite to concrete action. In some regards, belief in capacity is the element of crystallization that leads a child to express care for the environment beyond the self. In

the following section, I present the belief in capacity dimension in terms of its two components: (a) confidence and (b) optimism.

4.5.1 *A child's confidence*

Children's description of their own trajectories, or reflections on the barriers to children's involvement, point to the critical role of confidence. Collins Dictionary defines confidence as "the belief that you can deal with situations successfully using your own abilities and qualities"; thus, it is a requirement to taking a stance (band 5), and overcoming resistance. It is confidence that gives the individual the power to follow through on his or her beliefs and feelings.

Bereniz from El Salvador speaks about "will" as a critical ingredient that makes a child adopt pro-environmental behaviours:

It has become almost a vice for them to throw [away], to pollute the environment, and it will be difficult for them to stop...but it can be done, if one has the will, one can become conscientious and then they will realize that it is wrong, and they will try to solve things.⁶

In his account, he sees confidence as awakening consciousness, and bringing about action. Bereniz recognizes individual thinking as key to critically looking at what is happening around him. He asserts: "Well, mostly my own mind inspires me because my mind helps me, it helps me reason that the environment is being destroyed and we need to protect it." Children need to intentionally turn their minds to the environment.

⁶ Original in Spanish

Sarah from the UK identifies lack of confidence as accounting for children not taking a stance. She feels that children don't have the courage to be true to their feelings, to confront peer pressure and to voice their care for the environment.

I'm like, the only one that really cares a lot about the environment besides my other friend. And, most of them really, they're all—how I look—and like that. But I think it doesn't really matter just as long as you know that you can do something special. . . when I talk about it they call me a hippy and a tree hugger, and I think that's really cruel. Because they actually, I [think that] they do care deep down, but they're just not showing it because it's not fashionable.

Her account speaks to the difficulty of expressing one's convictions. One can feel the intensity of her suffering from name-calling: "that's really cruel." She emphasizes the need for children to be proud of their differences and to have the courage to uphold their convictions: "Just as long as you know that you can do something special." Tula from the United Arab Emirates also identifies lack of confidence as the reason children do not actively express their environmental concerns:

Some of them really think that they should start—they should start a club, and other things. And other people just don't want to tell anybody about what they've done—or what they want to do. They're not very confident, they think it's going to be—they think people are going to think it's going to be a stupid idea, and tease him, yeah, or her.

The issue is not so much lack of interest, but having the strength and support to act on one's convictions despite perceived community disapproval. Ali from Bahrain states:

“It’s not like nobody really cares. It’s more like they want results but they don’t want to work for the results.” Part of the “work” is acting upon one’s convictions.

Sam from Kenya discusses the critical role of confidence when he identifies defeatist attitudes as the biggest challenge to environmental involvement. The following account describes the obstacles a child meets in pursuing his or her interest in the environment:

When he tells his parents, they don’t even listen, they tell him—No, stop with—you are just reading books about the environment when you have your own school books—now stop it or else you’ll get beat down, and it stops, yeah. And also that um, no one really cares about the environment. They think reading books is . . . Surfing the net may cost a lot, just to read about this environment, to them, is useless. Or, wasting, like let’s say you want to read, and I don’t have much to read, then you go and tune to an environmental program, they think it’s a waste of time. Go for a movie!! Yeah.

Without the confidence to confront societal and parental disinterest, children feel helpless. They want to abandon their mission, as expressed at the end: “Go for a movie!!” Sam reminds us of the hardship of environmental involvement that calls for persistence and conviction.

It is significant that children portray confidence as a characteristic that can be acquired, and that can be nurtured. Ryan from Ontario comments on the capacity of all children to make a difference, if they need or want to do so:

It doesn't matter, if you are a 10-year-old boy in Africa or a 6-year-old boy in Canada you can make a difference. No matter where you are and how old you are it doesn't matter, only, if you try and you believe in yourself.

Ryan argues that neither origin nor age matter; the key is to "believe in yourself." In introducing the phrase with the word "try", Ryan recognizes that there is an element of challenge. It is unclear whether or not he is aware that different opportunities exist for children in Africa and in Canada.

Children emphasize that undertaking environmental initiatives does not require having answers to all the questions. As Samantha from Jamaica explains:

I don't think that they [children] have to have an idea of what they are going to do and why they are going to do it so that when people come over to them, 'little girl why are you bothering yourself with that for nobody going to listen to you' and you can't tell them exactly what you are about.

In other words, confidence not just knowledge carries one through the challenges of environmental action. A wise commentary in the area of the environment, where we do not have all the answers.

Some respondents shared how they gained confidence through their environmental involvement: "I've learned that if I put my mind to something and stick with it, I can do whatever I want'... Yes! Definitely [children can make a difference]. If they put their mind to it, they can do anything," explains Rebekah. The key ingredient again is "put their mind to it." Carissa explains the confidence she gained in terms of being able to do adults things: "I've learned I could do a lot more than I thought. I did not know at the age of 5 that I could plant a tree because that is something adults do."

Confidence on its own is meaningless; it needs to be accompanied by optimism. The belief in capacity dimension of agency involves positively perceiving one's own abilities and the future of the earth. The two go hand in hand. In the following section, I discuss the nature of children's environmental optimism.

4.5.2 *Optimism for planet's future*

A number of my findings point to optimism as a characteristic of environmentally involved children. According to the survey, 85% said they either strongly disagreed (i.e., 59%) or disagreed (i.e., 26%) with the statement: "It is too late to care about saving the planet." Despair is not a characteristic that can be attributed to these children. The collective maps further confirm this. Having noticed statements such as: "without water, all humans and animals would die!", or "our life is at stake, so I think we should act now!", I decided to code these statements into negative category. I found that only 5% of the statements could be classified in this category, representing the smallest of all categories (see Figure 2, p. 119).

Children are aware of the seriousness of the environmental situation, and the threat to their survival, but this does not impede them from taking action. Tula from UAE, for instance, began her interview by sharing her worries:

Well, I wanted to come because I worry a lot. And so, I was worrying about what would happen later on in life when the hole in the ozone layer got bigger and when the water got—became scarce, the fresh water, cause desalination plants are very expensive. In Abu Dhabi [that's] all we get—our water all comes from the sea, so.

She realizes the threat to her livelihood, but further on in the interview describes the actions she has undertaken (or plans to undertake). Others say the urgency of the situation propels them to action: “Because, if nobody does something, then it all collapses, and the ecosystem kind of dies out, and nothing can live properly” (Sarah, UK), or “We’re not going to be here unless we do” (Alicia, Scotland), or “If we don’t do anything about this, the environment, that tree is likely not going to be there very long” (Justin, Canada).

Table 4. Responses to metaphor questions

| <i>If the environment is like a car, do you see yourself as the?</i> | | <i>If the environment is like a tree, do you see yourself as the?</i> | | <i>If the environment is like a hotel, do you see yourself as the?</i> | |
|--|----|---|----|--|----|
| Mechanic | 26 | Roots | 19 | Employee | 22 |
| Passenger | 7 | Fruit | 15 | Guest | 9 |
| Driver | 2 | Branch | 5 | Owner | 6 |
| Other | 4 | | | | 2 |

N= 39

Responses to the metaphor question also reflect children’s optimism (see Table 4). To the question, “If the environment is like a car, do you see yourself as the passenger, mechanic, or driver?” an overwhelming number of participants (26 out of 39) identify themselves as the mechanic. They explain the mechanic’s role as “fixing”, “making it straight”, and “repairing.” Children identify with the mechanic because they are optimistic about having a role to play in restoring the health of the planet. One respondent explains: “I think I’d try—I’d be the mechanic, I’m trying to well, fix—kind

of—the world. Trying to get people to pay it closer attention” (Tula, UAE). Emphasis is placed on the effort rather than the end goal, seeing that they contribute, but not necessarily solve the issue. As another states: “I see myself as a mechanic. Because I try and fix the environment where it’s been spoiled, yeah” (Sam, Kenya). I argue that children’s optimism comes from their realism. Children acknowledge the limits of their capacity. As Oren from British Columbia points out:

I don’t see myself as fixing the planet, but I see myself as something in the planet that can help not to fix but just to help. And do what I can do. There is only so much a person can do.

Children realize they cannot produce miracles, but they can be part of the solution. They also recognize the need to be content in doing the most they can. We return to this aspect of children’s environmental involvement in the section on strategic action.

As illustrated by the metaphor responses, children are realistic about their responsibility for the planet’s problems: “I feel that everything that happens on this planet is not just one person’s responsibility, it’s every single one of them” (Janissa, Netherland Antilles). Children do not feel environmental problems lie solely on their shoulders. One respondent explains:

I know everybody has to also kind of come in with it. I don’t feel like I’m alone. I don’t feel like I’m the only one trying to do this, to make the world a better place. So, I don’t feel like I have responsibility—I do have responsibilities, like not to pollute and stuff, but I’m not the only one who’s trying to take care of the environment and change it. (Tula, UAE)

The responsibility is not overburdening because children do not feel alone, and believe everyone needs to play a role. Yvonne explains how responsibility comes from the fact that one uses the environment's resources:

Not just—I feel it's my responsibility, but not just my responsibility. It's the responsibility of everyone in the world to take care of it. But, I mean, ok, fine, if they're not drinking—if they're not using it—then they don't have to do anything, I mean if they're not drinking water, if they're not eating anything off of it. Then they don't have to do anything. I don't think there's anybody in this world who's not using some resource from the planet. There's definitely no one, unless it's an alien or something! There's no one. So, as long as you are using something from the planet then it's your responsibility to do something about it.

She provides a logical explanation; responsibility is a matter of duty not choice. Looking at environmental problems this way makes them manageable, and allows children to be optimistic about their role and the possibility to make positive change.

4.5.3 Discussion

Belief in capacity refers to children's confidence in themselves and their optimism in the future. Children speak to the critical importance of confidence in describing their own trajectories and in their discussion on children's barriers to being environmentally involved. It is confidence that gives children the courage to express their environmental concerns and carry out pro-environmental behaviours beyond their immediate world.

Confidence needs to be accompanied by optimism for the planet's future. Children need to believe that they can make a difference. I argue that children's optimism comes from being realistic about their environmental roles, and viewing the environmental problems as everyone's concern rather than only children's. Likely, if children emphasized the complexity of environmental problems, they would find the issues difficult to grasp. Children bring the issue to simple questions that everyone can relate to. Making this choice is an expression of children's environmental agency.

The belief in capacity dimension parallels the identification of the internal locus of control as an element in models on pro-environmental behaviour as the locus of control (Hungerford & Volk, 1990; Kollmus & Agyeman, 2002). My presentation of belief in capacity and placing it within other dimensions emphasizes the contextual and relational nature of this dimension. Belief in capacity sets the stage for taking a stance, the fifth dimension of environmental agency.

4.6 Band 5: Taking a stance

Taking a stance represents the fifth band of the environmental agency rainbow (see p. 77). This dimension illuminates the fact that environmental involvement in today's world is not easy for children despite the existence of national and international provisions on a child's right to participate, and growing awareness of the need to care for the environment. In the literal sense, taking a stance is about speaking out, and refusing the status quo.

Illustration 8. 'Hot Stuff'



By Jonas

Jonas' (Québec) drawing above encapsulates the notion beautifully (see Illustration 8). Jonas stands confident in fashionable attire with his community fiercely overlooking his shoulder. He is actively involved as explained by the arrow linking himself to the write-up, where he explains the work he has done for banning the use of pesticides in his community. His hand in his pocket and his head turned away from his community give the impression of confidence as he carries out his activities despite community disapproval. In fancy handwriting, he writes on the side "Hot stuff," suggesting that it is popular to be environmentally active.

Having interviewed Jonas and observed him as a member of the conference's junior board, I know that looks and popularity were important to him. His drawing combines his concern for the environment and popularity. He expresses agency in taking a stance by confronting the tension, facing community disapproval, and stating that environmental concern is cool. Taking a stance speaks to the 78% of respondents who answered strongly agree or agree to the statement: "I would speak out if someone treats the environment poorly."

What are the elements of the community a child opposes themselves to in taking a stance? According to my findings, values and perspectives held by (a) peers and (b) adults represent the greatest obstacles to children's environmental involvement. Children who express their environmental concerns have to deal with either, or both, adult and peer opposition to a lesser or greater degree depending on their situation.

4.6.1 *Overcoming lack of peer support*

Environmentally involved children perceive themselves as different from their classmates. All respondents answered that their classmates were not as interested in the environment as they were. A few were categorical: “Nobody is interested in the environment my age” (Vivek, India). The majority qualified their responses: “Some are, some are just—they really don’t care about any environmental issues” (Tula, UAE). The distinction is in the degree and depth of concern: “I think I am actually very different from my classmates. It’s like, Yes they are. But, they may not be as much as I am. . . I’m interested in the environment *a lot* [italics added]!” (Vivek, India).

The lack of peer support is also confirmed in the survey response to the likert-scale question on how often they “get help from my age friends.” The results were as follows: 23% never, 32% sometimes, 16% often, and only 11% always. Thus, “my age friends” received the highest percentage of never responses along with “learn from T.V.” (see Table 3, p. 100).

In the data, I found that children believed that the lack of peer support resulted from: (a) environmental concerns compete with other preoccupations, and (b) peer criticism of environmentally involved children.

The children interviewed comment on peers’ concerns with their own development processes, and how it prevents them from being concerned with the environment: “Maybe that’s our biggest problem—they’re [classmates] not. I mean, they’re not—we’re going to be teenagers, so they’re more just boys and girls” (Kalareit, Turkey). In entering adolescence, many focus on their image. One person explains: “Girls

in other classes are really, all they care about is their hair, and their looks and everything, so, that really gets me annoyed” (Tula, UAE).

Other than image, the environment competes with other interests: “They are more interested in like games and stuff that’s not really that important but they think it is” (Carissa, Canada). Another explains, “They are more into their own things at home...watching television, they worry they are concerned about other things. They get into fights, they play football, and they don’t care if the plants are broken” (Bereniz, El Salvador). In other words, concern with the environment does not appear as exciting as the other occupations, nor is it as popular.

Peers often voice their negative judgment harshly: “They told me that I was a fool (Vivek, India)”, “some think I’m a bit crazy doing all this stuff” (Rebekah, Ontario, Canada). Chris, from Kenya, shared a powerful account of children ridiculing him:

Most of my friends like to bully us in the club. Because, we like go around picking up the garbage. Now they see us like servants for the school. They like to bully us. . . They are my age and smaller. You can find a kid just hanging around there eating sweets and then just dropping the wrapper. And then you come and collect and he’s like ‘So the ozone layer’s back again! Good luck! I just dropped another!’

It is significant that Chris stood up to the other children. The comparison he makes to being treated like a servant captures the malicious behaviour children can have amongst themselves. There is a high price to pay for being environmentally involved.

If peers have played a role, it is in terms of a specific friend. Respondents sometimes named a friend who shares their concern for the environment, and with whom

they carry out activities. Adrian from the United States explains: “Well there’s this one friend of mine named Alex. He is a really good friend of mine and he has done these projects with me too.” Brian from British Columbia, speaks about his friend Nicole with whom he produced the environmental video. Jamie from the United Kingdom mentions his friend Charles who has also been part of the Norton Wildlife Watch club since the age of 6. Some expressed disappointment with their friends. Florence from Québec established an organization ‘Let’s Save Nature’. She encountered a friend who: “is interested and says she will do this and that, but does nothing.”

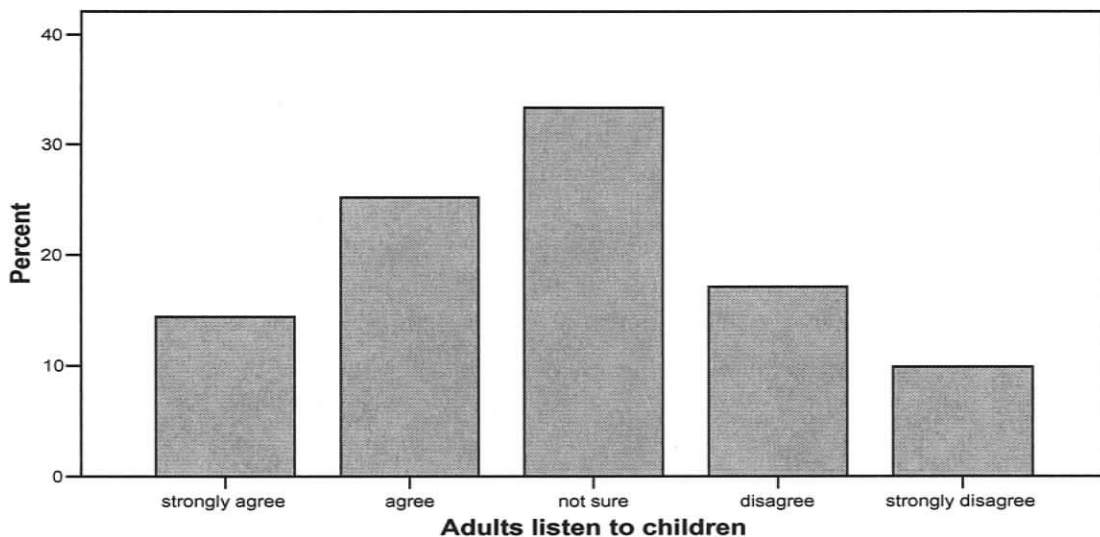
In sum, peers are generally not supportive of children’s environmental involvement. Children are taking a stance in distinguishing themselves from their peers preoccupied with looks, individual and home-based activities. This is significant at an age when peer pressure and acceptance are important.

4.6.2 Overcoming lack of adult support

Children involved in caring for the environment also take a stance with adults. Some adults are significant in children’s engagement in the environment (see section 4.313), however adults in general are not supportive of children’s participation. In the survey (see Table 3, p. 100) “other adults” have the lowest response for always (i.e., 11%) helping children learn about the environment. On the other hand, mothers (33%) and fathers (29%) are significantly higher. There appears to be two main aspects to the lack of adult support: (a) adults underestimating children, and (b) adults not sharing children’s concern for the environment.

A significant proportion of children feel adults do not meaningfully listen to them, as indicated by the figure below, the largest number of respondents answered 'not sure' to the question on whether they felt adults listened to them (see Figure 3). Children hesitate to assume that adults listen to them, maybe because some adults listen to them only some of the time.

Figure 3. Extent adults listen to children



In the interviews, children also comment on adults not truly listening to children.

Ali from Bahrain states:

I think that's the main problem. They refuse to listen. . . And even if they do listen they probably won't give it much thought, Ah, they're only kids. How right could they be? What can they do if they're wrong? Why do we waste all the time for them?

Meaningfully being listened to involves according to Ali seriously considering children's opinions. Tula from the UAE identifies listening to children as what she would realize if she had magical powers:

I'd give kids more of a chance to be heard from . . . So, I'd let—I'd have, like, every week, a day, where children get a chance to talk about what they want to talk about. And adults just listen and try and do something.

Interestingly, Tula does not even imagine being listened to every day, she can only dream of this happening once a week. Perhaps children believe they are not being listened to simply because no one is clearly acting on what they say. Is this part of growing up? Just because you express yourself and someone listens does not necessarily mean anything will change.

Some respondents thought adults do not expect children to hold original views, and that adults attribute children's ideas to adults: "Because some grownups, they think that children, they just mug it up from somewhere, and somebody else teaches them and stuff like that" (Raghav, India). Oren makes a similar point. He explains how adults' thinking is constricted by age boundaries:

I feel that sometimes grownups underestimate the children. Sometimes they're not old enough to learn and think for themselves. Like when they're like 18 or 19 is when the grownups finally start to let go and think they can sort of take care of themselves and stuff. . . . it's almost like they listen to grownups more than they listen to kids and stuff sometimes. Like if . . . you are talking about something and a grownup asks you something they'll turn to the grown up.

Oren thinks adults refuse to communicate on an equal footing with children until they reach the arbitrary age of 18. The phrase “start to let go” reminds us of adult’s power over children, and that supporting children’s involvement in the environment giving away some control.

There are ambiguities in children’s understanding of adults. This could account for a discrepancy in the survey results. To the question: “Who do you feel cares most for the planet earth right now?” 75% answered adults and children. At the same time, as mentioned earlier, 64% answered strongly agree or agree to the statement “youth care more about the environment than most adults.”

Ultimately, adults play an important role for children age 10-to-12 because of children’s dependence and limited power. As explains Rose-Iris from Haiti: “We children depend on someone who looks after us, so it’s harder to undertake things.” Parents often impose restrictions on children’s time and movements. Children speak about needing parents for transport: “Because they [the children] can’t drive! [laugh] They can’t get anywhere. So if their parents don’t support them very much then they have a little bit of a problem” (Bereniz, El Salvador). Others mention that “parents don’t let us stay outside much” (Kalareit, Turkey). Parents and teachers also consider studies and completion of homework as priorities: “You are just reading books about the environment when you have your own school books” (Samantha, Jamaica). A couple of children jokingly identified the lack of finances as a potential limitation, without expanding further: “Maybe you need a little money” (Raghav, India).

The feeling of having a limited locus of control explains Rebekah’s (Ontario, Canada) hesitation in seeing herself as the mechanic in the earth as car metaphor:

A bit of the mechanic. Right now, it's the passenger. But I will be the mechanic because I'm going to help save it. And the kids aren't in charge of the environment, so we're definitely not the driver[s]. And we're sort of the passenger [s] because the adults are pulling us along on this trip down the road. And, yeah. So, soon I'll be the mechanic.

The adults are portrayed as "pulling us along." Taking a stance is about deciding to no longer be the passenger, and take an active part in caring for the environment. It involves children overcoming adults' demeaning attitudes by proving themselves, and negotiating with adults: "So in order to get people to listen to you, you have to do important things within your community and school, and people will see how you're not just some kid" (Mathew, British Columbia). Rangi Marie from New Zealand makes a similar point: "But I don't think they would listen to kids, but only if a kid really made it stand up and showed them, and like, really put it in their face about what's happening."

Parents are sometimes the first adults that need convincing. Tula, for instance, identifies needing her mother's approval to set up an environmental club:

But I'd like to start it first, and then get other people to come. Because I don't want to start it and—I don't want to tell them about it, and not be able to do it.

Because I have to get my mom to agree.

Taking a stance involves convincing her mother to support her in establishing the club. Ryan describes how he "begged and begged and begged" his parents to support his fundraising for wells in Uganda. He had to prove to his parents the seriousness of his project. In the beginning, it involved earning pocket monies by doing house chores. For

Chris from Kenya, taking a stance was about mounting the courage to speak to the principal of the school to present his idea for a club:

But, it took some time [to start the new club], 'cause I was nervous. Like, I don't, a pupil at school, like, a pupil, how can they approach the head teacher and tell him that I was interest to start the club. It was really hard. But I finally managed it.

In a hierarchical place such as the school, taking a stance was difficult, as suggested in Chris's phrase: "I finally managed."

The other aspect of adults' lack of support is that not all adults share children's concern for the environment: "In general the grown ups do some good things, but generally they don't help nature" (Cesar, Guatemala). Some children realize that belief systems underlie environmental perspectives accounting for adult's lack of support. Cesar and Maria, traditional Mayans from Guatemala, identify the conflict between their worldview and the school's. "And the schools think that the water is only for helping us, to help the people, but we don't believe that...it is to help our brothers that is what it is for", says Cesar. A similar issue arises for Vivek studying the species of endangered bats in caves (see section 4.3.2). He challenges the condemnation of the community that holds beliefs different to his own:

And I do my own work in the caves and things like that because everyone there they don't treat me good. And if I stamp on some mud this a religious mud and things like that. And they make me to cry. So I go and do my own work. . . I digged inside the mud. Nothing was there underneath that mud. And they said that there were pug marks [tiger paws]. I couldn't see. I have more eyesight than them.

He feels devalued: “everyone there they don’t treat me good.” He then asserts himself through a scientific examination and states, “I have more insight than them.” As with Cesar and Maria, Vivek receives family support, but not from the adult community at large. He is a Christian in a majority Hindu country. He is aware of the tensions, but not the broader issues such as the implications of having different belief-system.

As a result of the lack of adult and / or peer support, some children express loneliness as a characteristic of being environmentally involved. Chris from Kenya makes a powerful statement to that effect: “The other thing nobody encourages them. They’re just like alone with nobody to care for them, just hanging around them trying to do the most they can, with only God to play an active role for them.” This defines the context in which children take a stance.

4.6.3 Discussion

According to my findings, taking a stance involves most importantly overcoming lack of adult and of peer support. While a specific friend or adult can support a child’s care for the environment, this is generally not the case. Peers’ preoccupation with looks, sports and other social activities takes precedence over their concern for the environment. Adults assign children to specific roles and activities, and the environment is often not one of them. Children refer to adults’ quiet resistance; care for the environment is conceived as going against adults worldview.

Taking a stance represents the fifth component of environmental agency in being a step that goes beyond questioning. There is agency as children refuse the status quo, while risking to suffer from classmate’s contempt or adults’ disapproval. Children’s

positioning takes on a meaning that is very different from an adult's who has journeyed along the road of independence for much longer. Taking a stance is particularly significant in this period when children are socially, emotionally, and physically dependent, and place such importance on adults and peers (Borland et al., 1998; Marshall, 2001). Strategic action, the final expression of environmental agency, is presented below.

4.7 Band 6: Strategic action

Strategic action represents the sixth and last band of my environmental agency rainbow model (see page 77). It deals with children's approach to the environment, from how they articulate their care and concern for the environment to how they concretely express this concern. There is agency in children defining and selecting their approach. Children are not mere receptors; they are empowered actors, for whom empowerment is the "capacity to define one's interest and develop strategy to achieve them" (as cited in Clover, 1999, p. 243). Strategic action stems from the previous five dimensions of environmental agency. Its significance, however, does in no way overshadow the importance of the five previous dimensions. Each dimension continues to unfold as strategic actions are carried out.

4.7.1 *Building on strengths*

To begin this discussion, I present the nature of children's environmental actions, which I define as what the children are concretely doing, and where it takes place. According to the survey, children identify recycling (75 responses) as the activity that they most often carry out to help the environment (see Table 5). This is closely followed by learning about the environment (64 responses), tree-planting (63 responses) and protecting animals (60 responses). The environmental activities are most often carried out in the school (73 responses), followed by in the home (58 responses) and in the community (55 responses).

Table 5. Environmental activities and location (Survey)

| (Ranking in order of frequency) | |
|--|----------------------|
| Environmental Activities: | Location: |
| 1. Recycling Activity (75) | School (73) |
| 2. Learning about the environment (64) | Home (58) |
| 3. Tree-planting (63) | Community (55) |
| 4. Protecting animals (60) | Backyard (31) |
| 5. Beach cleanup (46) | Youth group (14) |
| 6. Garden project (44) | Other (9) |
| 7. Awareness campaign (36) | Place of worship (8) |
| 8. Other (13) | |

Using the 42 interviews, I developed a table that categorized the concrete activities mentioned by the children during the interview into type of activity and location (see Table 6). In this case, it was based on the respondents' own identification of the activities. Findings from my interviews support the survey results, with further specification.

Table 6. Environmental activities (Interviews)

| Participant | Recycling | Restoration | Fund raise | Awareness Outreach | Study nature | Other |
|--------------|-----------|-------------|------------|--------------------|--------------|----------|
| 1 | 1 | 1 | | 1 | | |
| 2 | 1 | | | 1 | | |
| 3 | | | | 1 | 1 | |
| 4 | | 1 | | | | |
| 5 | | | | | | 1 |
| 6 | 1 | 1 | 1 | 1 | 1 | 1 |
| 7 | 1 | 1 | | 1 | 1 | |
| 8 | 1 | | 1 | | | 1 |
| 9 | 1 | 1 | | | | |
| 10 | 1 | | 1 | | | |
| 11 | 1 | | | 1 | 1 | 1 |
| 12 | | 1 | | 1 | | 1 |
| 13 | 1 | 1 | 1 | 1 | | |
| 14 | | | | | | 1 |
| 15 | 1 | 1 | 1 | 1 | | |
| 16 | 1 | | | | | 1 |
| 17 | | | | 1 | | 1 |
| 18 | 1 | | | 1 | 1 | |
| 19 | 1 | | | | | |
| 20 | 1 | 1 | | 1 | | |
| 21 | | 1 | | 1 | | |
| 22 | 1 | | | | | |
| 23 | | 1 | | 1 | | |
| 24 | 1 | 1 | | 1 | | |
| 25 | | | | 1 | | |
| 26 | 1 | 1 | | 1 | | |
| 27 | | | | 1 | | |
| 28 | | 1 | | | | |
| 29 | | 1 | | 1 | 1 | |
| 30 | 1 | 1 | | | 1 | |
| 31 | 1 | 1 | | | | |
| 32 | 1 | 1 | | | | |
| 33 | | 1 | 1 | | | |
| 34 | 1 | 1 | 1 | 1 | 1 | |
| 35 | 1 | 1 | | 1 | | |
| 36 | 1 | 1 | 1 | 1 | | |
| 37 | 1 | | 1 | | | |
| 38 | | | | 1 | | |
| 39 | 1 | | | 1 | | |
| 40 | | 1 | | 1 | 1 | |
| 41 | 1 | 1 | | 1 | | |
| 42 | 1 | 1 | | 1 | | |
| Total | 27 | 25 | 9 | 27 | 9 | 8 |

Children's activities classified into six categories: recycling, restoration, fundraising, awareness, study of nature, and other. As indicated in the survey, environmentally involved children are involved in more than one environmental activity. Recycling, restoration and awareness are the most often identified activities. Whereas recycling and restoration (includes tree planting) was often mentioned in the survey, this was not the case for awareness or fundraising. This could be because of the choice of responses provided in the survey.

In general, these findings illustrate that children operate within constraints, but within these circumstances select environmental activities that build on their strengths. There is maneuvering and therefore empowerment in children defining their approach.

4.7.1.1 Recycling and restoration

Recycling and restoration are obvious areas of children's environmental involvement. They are tangible activities, simple to carry out, generally supported by adults and can be done in any home or community. Children spoke often about participating in or establishing recycling programs in their classrooms or schools. Of significance is how children explain the value of these activities. Bereniz from El Salvador says that at his age:

The most we can do is to plant trees, pick up bottles, do small things... Well, we are not going to demand that they fight, to go on marches... they can start to pick up garbage at their homes, to plant seedlings, to have their homes in the shade, with good air, and try to solve things like that.

Bereniz considers protests as going beyond the children's realm. Children recognize the limitations that arise from their limited locus of control. They respond by valuing the significance of starting small: "We can help by doing really small things and that can help a lot" (Carissa, Ontario). Florence from Québec explains: "There are small things that even children can do, like take your bike, close your light and it will help. It will use up less energy." Kalareit from Turkey describes how small things do not require the help of adults:

Oh, we can just go and tell—I mean—we don't need adults for doing these things. So, we can just find some people that we can work with, and do everything we want. We can start small things, and then, I think it will grow.

Children see small actions as being part of the process: "Hmm, but the thing [is] I think that my environmental club could be for everyone. Because even the little kids can learn to throw away and recycle things in the right place and then they could find out about more things when they grow-up" (Adrian, USA). Justin recognizes the need for age-appropriate environmental involvement:

Well, when they're younger, they can start by doing something little. And as they get older they get more knowledge, and their vocabulary gets bigger. So they learn more stuff about the environment and they keep on doing things better, and better and better.

He explains further that younger children "don't necessarily understand politics." Justin and other environmentally involved children see a need to convince other children of their capacity, of not requiring a grand scheme to justify their actions.

As mentioned earlier, children were rarely critical of their approach. Discussions on recycling often did not include reducing, with some exceptions (see section 4.42). In the following passage, I prompted Mathew:

Well, I think like . . . when people are doing something as simple as, like, not littering, I'd hope they'd go deeper than that, but if we got, like, everyone to do something in the environment, then we'd get a huge change, right? [What do you mean going deeper?] Ah, going deeper things like, the way people act. Like if they're around, say, an area, like, some people just don't care. Which is really bad. Like, enjoy where you are, and if you don't care about it, it'll come back. Because that won't be there for your enjoyment anymore.

His response was confusing. I expected him to expand on the need to go beyond “not littering”; instead, he brought it back to the need for caring. In his perspective, not littering and appreciation are expressions of caring for the environment. It is suggested that children's empowerment comes from making environmental problems manageable.

5.7.1.2 Awareness-raising

The importance children place on awareness-raising is significant as it reflects children building on their strengths. Rangi Marie from New Zealand speaks to this skill: “They can also make a difference now by telling other people, because children are really good at that. . . . And they can make a difference . . . not only when they grow up, but now, as they most of them are doing.” She identifies this strength as a resource that can be drawn upon now and in the future. Some respondents explained children's vantage point:

We can like, we can go around doing, like, we can spread news, because, parents love their children, and children, can like, when they learn stuff about the environment, they can tell their parents, and children can set examples. Because parents love them, they want to listen to them, and like when you tell them something they can say 'oh yeah, that's true'. (Sarah, UK)

Though some adults resist children taking on initiatives, children's place of innocence can also serve as a basis for persuasion.

Children can make adults feel obliged to listen to them in ways that are unavailable to adults: "They would listen better to children than to an adult, because that would show more respect. If you're an adult you'd just say—Ah, no, you know, go away." (Jamie, UK) There is virtually a moral obligation to lend an ear to children, because they are coming from a place of goodness. Children bring a freshness to environmental questions. Children are not yet set in their ways, as pointed out by Alicia from Scotland:

Often adults . . . have already decided in their opinion what's right and what's wrong and what's going to be done and what's not. Whereas children are so eager, and like, pick up things really quickly, and just love our world around us. Sometimes people get caught up in the world's material world around us, and all this other stuff which isn't really so important. [what do you mean by the material world?] I mean people working, like caught up in their self-image, and about them, like what's in it for them.

Alicia considers children to have an affection for "the world around us", in contrast to adults who "get caught up in the material world around us." Vivek also expresses the

perspective that children may be purer than adults: “The government may listen to children because we are smarter. And we don’t have such lying in there that someone has to pay attention because they are very bad.” Children are considered more trustworthy, able to care for the non-material world, and to go beyond individual interests.

Another aspect of children’s freshness is their openness to taking risk, and being creative:

But, you just need the adults to get you going. But, I think cause children have more imagination than adults. Adults always think—This has to be reasonable, this has to be—well, most of the adults I’ve seen—they have to—they think—they decide if it’s reasonable or not. And kids, well, they try it. Well, from the kids I know, most of them would try it. Unless they thought it was, unless some kids weren’t very confident. (Tula, UAE)

Children tend to be open to their imagination. Children can also undertake great tasks because they consider to have the time: “Children have more time, learn faster, they are eager” (Nonjabulo, Swaziland). Or, “They can do more and they have more time to do it and more time to learn about it” (Oren, British Columbia). Children realize that doing something about the environment requires a time commitment as well as an openness to learning and changing one’s behaviours and ultimately values.

Just as children recognize the rewards of small-scale actions, they comprehend the effectiveness of communication. Justin from Nova Scotia explains:

So, if one person pitches in, and just educates all those people, and one-by-one everybody’s going to get in. And then two-by-two, three-by-three, four-by-four. And then they’re just going to say—Hey, we need the environment!. . . And I’ve

worked my way up from the classroom, to the school, to my community. Just, if you start in one little area, then you can work your way bigger, and bigger and bigger.

Justin's own environmental experience has involved moving from the classroom, to the school and to his community. Mathew from British Columbia also refers to the multiplier effect:

I think as a kid if you're more aware, and as you grow older you'll—as an adult—you'll have a smaller footprint. . . I think they can make a big difference within their community, and like, how local change can make global change. So, if you start, like, in your school, and move to your community, I think you're having a big effect. So, as a kid I think, like, I have a big opportunity as—this conference with kids all over the world. But other kids, they could do something in their school and their community, and they couldn't go a lot farther than that, but that leads to other changes. And as they grow up they can make much more, a lot bigger difference.

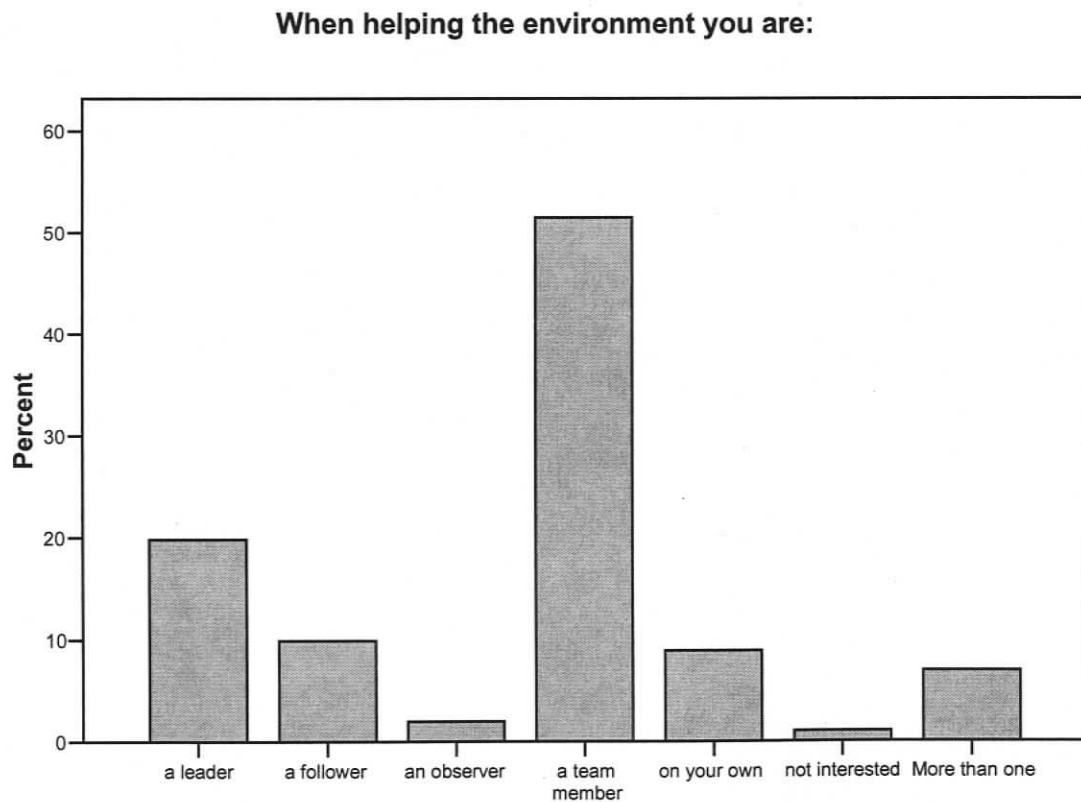
While explaining how awareness can spread around, Mathew sees the potential results of small-scale action. Unlike Justin, it is not clear whether Mathew has applied it in his own involvement in environmental activities.

Finally, children are strategic in viewing environmental problems as manageable, and seeing themselves as contributing to addressing environmental problems rather than resolving them. Ryan from Ontario explains how each element can fit together if everyone takes on a specific role:

I really I'm just responsible for a bit of the planet. Like I said before if each kid raised money for something else and we have all these tiny pieces and if we put them together just think we could make this world a better place. It's not one individual really one individual has a part to make a difference and another individual and another then you get. And if all those people help and they accomplish their good deeds then you got a helping caring world.

He sees value in focusing on one area and believes the combined efforts will make the world a better place.

Figure 4. Role in helping the environment



It brings us back to the importance children place on working together to address environmental problems. As shown in Figure 4, the survey indicates that children see themselves as a team member in helping the environment. Environmental problems are a collective concern. Oren expresses the benefits of working together in the image: “One strand of rope can be broken, but many cannot.”

It is noteworthy that children rarely identified a single environmental hero. Children focused on the collective contributions: “No a lot of people have done stuff, but they have all done stuff together”, “Umm, there’s lots of people, I can’t remember” (Brian, British Columbia). Or, in another case: “Not really. I’ve just seen some kind acts done by some people, children all around and adults.”

Children play a role in nurturing partnerships. They intentionally give importance to relationships, paying attention to characteristics of a person. In the following account, Tula (from UAE) speaks about not having had the opportunity to connect to a person involved in the environment:

No, not really, I haven’t been very, well, I—till now, haven’t—I was talked to about the environment, and I like to think of it a lot, but I’ve never had a chance to actually express my ideas, and get something going. So I really didn’t—I didn’t really look for people who have done real things in the environment, and stuff, so I don’t have any favourite person.

Her use of the phrase, “I didn’t look for people,” reflects the intentional element. Referring back to the presentation on significant adults as sources of engagement with the environment, it is to be emphasized that it is both the child and adult that sustain a

partnership. A parent provides opportunities to carry out concern for the environment, while the child's interest nurtures the partnership and so forth. Partnerships play a role both in lighting the spark and in keeping the fire going.

4.7.2 *Sense of success*

Included in strategic action is children's perspectives on the "success" of their environmental activities. As reflected in the belief in capacity dimension, children engage in environmental activities because they believe they can make a positive difference to the environment. This begs the question: To what extent are they making a difference? What is the impact of children's environmental involvement? The myth around the pot of gold at the end of the rainbow captures appropriately the mystery of the impact of children's environmental involvement, that is often unclear and indirect.

Children are aware of the limits of their environmental impact. Many of their activities are not long-lasting. Brian, for instance, comments on the temporary impact of beach cleanups: "Well, I don't know. Because when you do beach cleanups, there's always stuff when you come back again, right? [laughs]" Yvonne from Kenya mentions the temporary success she had with the alcohol factory: "So, for about a month and a half they stopped altogether. Until there was a re-shuffle in Kenya's cabinet, so the Minister of Environment was changed. And immediately after that's it's like they forgot, and they went back to dumping a lot of it." It would appear that children realize the limits of their power.

A number of respondents identify raising awareness as the area in which they can make the biggest difference. Yvonne identifies awareness-raising as her biggest success:

“It’s amazing, through the work that I did, using the media, and we did go to some schools, talk to them about the campaign, have them vote, and everything.” Brian explains that “We kinda have to educate people, and when they stop throwing away stuff, there won’t be any more to clean up (laughs).” Sarah from the United Kingdom also sees raising awareness as her greatest success:

I think it’s actually been quite successful, because everybody’s like, joining in. Like, I got all my school friends, I was still in my old school, cause coming to wildlife club there, sort of. And they’re actually enjoying it and, they’re having a good time! And also there’s this boy that I knew who helped me with my water project. And he’s moved down to the Yorkshire Dales. And so, he’s a long way away, now, but we still actually are managing to talk, like, talk to each other about projects. And I think he’s going to be, like, doing his own projects over there, like a water project like the one we were doing before.

She has been able to encourage children to participate and take interest in the environmental club. She has been able to reach out beyond her school through her influence on a boy who has transferred to a different school.

Children view their significance in terms of contributing: “Well, I don’t think the environment is hanging on my shoulders, I think I can definitely contribute to helping and getting other people involved in helping” (Mathew, British Columbia). Repeatedly, respondents used a variant of the phrase “doing the most I can.” Children recognize change as being part of a process. Carissa from the North West Territories explains her role:

I learned I could help fix, I haven't exactly well... I have not fixed everything completely but I helped a recycling in my classroom that was quite a big problem before everything just got thrown away and we wasted a lot. Even if only in our class for a week makes a difference. My mom had to talk to recycling people and we got the bins in our classroom. I did that with my mom. She helped me get in the classrooms.

She considers her success coming from the simple fact that she is active.

Vivek, from India, views himself metaphorically as part of a larger picture: "I'm a small part and here is the whole environment, all the forest the animals and things –I do some ground work for that big." Another powerful image is made by Jonas in the end of his metaphor interview where he compares the environment to a bird with a broken wing, and portrays himself as the one trying to save the bird.

Given that the objective of the conference was to bring children's voices to the attention of world leaders, it was interesting to hear what children had to say about the level at which they felt they could make change. In coding the maps according to whom the action addresses, it was interesting that most of the data (64%) does not address anyone in particular. Children felt part of the solution in 9% of the statements and took full responsibility for environmental action in only 10% of the cases.

Children speak to the difficulty of making change, recognizing their limited locus of control, but at the same time feel that they need to be part of the process. This dual perspective is reflected here as:

I think everyone can make a difference. Kids can make a difference, they make a difference, but even if we did get in touch with the world leaders they would be

the ones making a difference, because they're the ones deciding what to do. But I think children can make a difference. Try to persuade the elders. Nobody can say to a kid that I think your idea is bad without feeling a little bit guilty. Not listening to a kid without giving it some thought. (Ali, Bahrain)

Children feel compelled to act and take on the attitude of: "Many people say oh no... next person. Ok, I'm doing this and who's doing it with me" (Nonjabulo, Swaziland). Or as another participant said: "Well yes we can change it by well altogether we can help it that we have to start with me, we have to start with us" (Christina, Mexico). Children encourage everyone to take on a role:

Everybody that doesn't really care says—Oh, I can't make a difference, I'm powerless against [this place]. And, um, I think it's people that just don't really actually understand the environment, so they don't actually pay attention to it, because they don't understand it. They think—Oh, it's too scientific, for me, and I'm only a small person in a big world, I can't do anything. But, if they actually listen to what people are saying in the first place, then they would realize that they can do something. (Sarah, UK)

Sarah believes the solution is in making environmental problems manageable, which will lead to people feeling empowered to make a difference. Children realize however the challenge and the need to be persistent, as reflected in this passage:

You can try campaigning to get the government's attention. But if it doesn't work, you're on your own, and you go plant some trees, yeah. And like pass out booklets, in your town saying—Don't do this, do that. Help us do this. (Chris, Kenya)

In other words, one needs to be resourceful in one's environmental activities, open to changing one's course of action and continuing despite apparent lack of support.

4.7.3 *Discussion*

Strategic action is reflected in environmentally involved children's explanation of and actual approach to resolving environmental problems. Recycling, restoration and awareness stand out as the most important activities environmentally involved children engage in. The agency is reflected in children purposefully selecting a focus that builds on their strengths given the context within which a child finds himself or herself.

The environmental activities undertaken may not have an immediate significant environmental impact. The success of their involvement has something mysterious to it, as the pot of gold at the end of the rainbow. Children's learning in the broader sense of the term is probably one of the biggest outcomes of their involvement. In the following chapter, I consider how the six dimensions unfold in the lives of individual children.

Chapter 5. Annotated vignettes

To further validate the model, as well as convey the richness and complexity of children's environmental involvement, this chapter presents annotated vignettes. It discusses the dimensions through an examination of the experiences of individual children instead of the cross-cutting analysis provided in the previous chapter. The vignettes bring to life how the six dimensions, or rainbow bands, of environmental agency play out in the life of an individual child. Narratives effectively serve to capture and investigate experiences of human beings in time, in space, in person, and in relationship (Clandinin & Connelly, 2000).

The vignettes are based on the interviews, follow-up communications, and illustrations (or individual maps) the children produced during the conference or made specifically for the research. As expected, given the individuality of every child, each expressed him/herself differently (i.e., various levels of comfort with drawing) and responded to the metaphor and literal interview questions in his/her own way. While presented in light of the environmental agency dimensions, emphasis is placed on telling the story. Conveying the cohesiveness of the story is integral to understanding the meaning of environmental actions. It is like the rainbow that we think about as a whole, not in terms of the distinct color bands. In attempting to make sense of the life described by the participants and conveying it in text, I recognize that I am reconstructing a story. Ultimately, the criteria for determining rests in verisimilitude, whether it is believable. As Norrie (2005) points out most research is a collage and "we tell one story that resonates with many stories." Hart (2002) raises the need to also "write persuasively, credibly,

provocatively so that we are drawn to the stories, transfixed by the ideas and caught in our own thoughts to question both what we are reading and thinking” (p. 157).

Based on reading through the 42 interviews, making comparisons between the stories and looking for similarities, I identified profiles of environmental activism. These profiles were identified from what the children said about the concrete activities carried out, their perception of their own role and perspective on issues, as well as the context of their involvement. The consideration of all these points in determining the profile was important to reflect the depth of children’s environmental involvement.

In each of the profiles, the dimensions of the environmental agency model are reflected but to varying degrees. The environmental stories are presented under the following four profiles:

1. The initiators are children who stand out because they took a leading role in beginning an environmental project. They were central in coming up with the idea for the initiative as well as its implementation.

2. The creative are children, who express their involvement in the environment through a range of activities. They speak about the use of artwork, writing and their voice as ways of expressing their feelings towards the environment.

3. The members are children for whom a large part of the environmental activism has taken place within a group. It is mostly as a member that they have carried out their environmental activities, and it is unclear what their own role has been in designing the activity.

4. The grounded are children whose environmental involvement is a way of life, rather than a discernable project or initiative. This is shown in their perspective on the environment, and their day-to-day lives.

The interviewees were fairly evenly distributed across the profiles, except for the grounded profile with significantly fewer respondents. I identified 11 initiators, 14 members, 13 creative and 4 grounded. The smaller number of grounded could be explained by how the participants were selected for the conference, not necessarily that there are proportionately fewer grounded children. Two vignettes illustrate each profile. I argue that the four profiles represent the range of forms of environmental activism for early adolescents.

5.1 Initiators

The initiators' profile is children who took a leading role in designing and implementing environmental initiatives. While receiving support from a significant adult, the child played a key role in the inception of the initiative. The child's own interest and undertaking was critical. The type of activity undertaken includes sending out weekly environmental messages to a list-serve by email, fund-raising for wells in Africa, hosting a radio program, founding clubs, producing and disseminating a pesticide brochure, and researching and creating a video on disposal of dog feces (see Table 7). The wide-range of approaches and environmental areas demonstrate children's capacity to concretely channel their environmental concern. The novelty for initiators is often not the idea. Many draw on already proven approaches (i.e., Internet, video, team work). Rather the context and method of using the approach are unique.

With each story having its own intricacy, it was difficult to select which to profile. I chose the stories of Ryan (Canada) and Yvonne (Kenya) who, though from different parts of the world, have both been successful in reaching beyond their local communities, and have acquired a level of fame. This does not mean that fame is a feature shared by all initiators, as for the majority the target remains local, with neither a national or international component.

Table 7. Summary of Initiators profile

| Name/ Country of origin | Identified Actions |
|----------------------------------|--|
| Justin/ Canada (Nova Scotia) | Launch eco-school program Interview Canada leaders Create website (Eek of the week) Video production Skit production (to school) Pick up litter Educate classmates |
| Florence/ Canada (Québec) | Create Club 'Sauvons la Nature' Pick up litter (school) Create garbage pick-up tool |
| Sarah/ United Kingdom | Set-up wildlife area in school Paint murals (environmental theme) School clean up Wildlife club member Replanting tree program established (with adults) |
| Jonas / Canada (Québec) | Create pesticide brochure Organize distribution to neighbours Participate in video (part of environmental camp) Play environmental games |
| Ryan/ Canada (Ontario) | Fundraise for tube wells School presentations for fundraising Garbage clean up out of school |
| Rebecca/Canada (Ontario) | Establish Maples for Millennium (tree replanting after ice storm) Recycling and composting at home |
| Chris/ Kenya | Start Ozone Layer Club in school Tell brother to stop wasting water Fund-raise for school environmental activity Participate in school cleanup |
| Vivek/ India | Campaign for bats Study bats |
| Brian/ Canada (British Columbia) | Video production Composting Deliver workshops (in church) Beach cleanup |
| Yvonne/ Kenya | Establish school environmental club Campaign to get rid of plastic bags National/ International conferences Carry out child rights awareness Environmental awareness (TV program show) |
| Alicia/ Scotland | Establish school environmental Club Set-up water reservoirs in Africa Awareness-building on tropical rainforests Establish a renewing recycling and reducing project- Living Water |

5.1.1 *Ryan: 'My spot is clean water'*

Ryan, age 11, from Canada, is of all children interviewed, likely the best known, particularly in Canada. His story has been reported in Reader's Digest (June 2001), in a video production and numerous other publications. The presentation he made to the conference plenary had such an impact that many children said he was their environmental hero, although they had only met him the previous day. Ryan's father is a police officer, and his mother an accountant, who now supports Ryan and his foundation. The Ryan's Well Foundation had raised half a million dollars by the time of the interview.

During the interview, I was mesmerized by this tall skinny blonde boy's story, and how information unfolded into a unique life-giving project. Other moments when Ryan fidgeted with his spoiled tissue paper and his mother softly reprimanded him, I was reminded that he was a normal 11 year old boy. Twice he made the point about being "a regular kid at school."

Ryan focuses on water, specifically fund-raising for wells in Africa. It all started with questioning when a teacher talked about children dying in Africa because they had no safe drinking water, when \$70 could provide for a well. From the moment Ryan began reflecting on the information he had received, he was expressing his agency. Although far from his home it struck a chord, and he saw himself influencing the situation. Why were children dying when the answer was as simple as fund-raising \$70?

Ryan took it upon himself to move ahead with the information provided by his teacher. As voiced in his interview, the task was not easy. After questioning, he had to take a stance. Ryan's initial challenge was convincing his parents: "I begged and begged

and begged and so on to my mom and dad. So then they finally got tired of it. Really, they gave me a chance.” Ryan speaks about his parents questioning his capacity: “Really I don’t think they thought I could do it at first so really after that I kept begging until they listened to me, then they said if you’re serious they would help me raise the money.”

Ryan had to be confident in his own capacity in order to stand his ground. His perseverance made other children and adults believe in him, producing a snowball effect. First his parents supported him, then family friends, other adults and children, and finally organizations. “At the start I had my mom who is helping me now. When I was first starting out I only had \$400. I had a friend named Walter who gave me a donation of \$500 he passed away by a heart attack.” Ryan’s sustained involvement in fund-raising for wells now likely also results from the encouragement he receives. He speaks about his mother who helps him “get through tough times.”

Ryan identifies children not believing in their own capacity as the biggest barrier to environmental involvement: “Some kids actually think their difficulty is like I can’t do this. I’m a kid. What can I do? It don’t matter how old you are like I said before.” Another problem identified by Ryan is that children do not see themselves in the future, and have difficulty in making long-term commitments:

One other difficulty I think is that lots of kids worry about their life most of the time, really they’re wondering if I do this is this going to end up my life but I want to become this so and so with my life when I grow, I didn’t want to work in Africa but this is changing my life and most kids have a hard time just thinking about making hard long decisions on what they want to do.

Ryan did not know when he began saving money earned by doing house chores that a well costs in fact \$ 3000, or that he would visit a well he fund-raised for in Uganda. His conviction and future-orientation kept him going. Ryan's belief in capacity allowed him to keep his focus on the future. Children who "worry about their life" are not able to carry through with initiatives that require going beyond themselves; their personal concerns prevent them from action. Ryan's account emphasizes the importance of confidence in oneself and optimism for the future as pre-conditions for environmental involvement. At the end of the interview, Ryan speaks about the rainbow logo that he selected for the foundation to represent the hope that comes after rain.

How does fund-raising for wells help the environment? I asked Ryan. He spoke about how clean water helps nature and the animals, as well as people: "When I went to Africa I saw the look on their faces and that's all you need, it just gives a feeling that I can't really express." He considers his support (i.e., wells) in terms of the difference it makes to people's lives.

Ryan expands on his strategic approach to environmental problems. He sees his focus as being water. Other kids need to identify theirs. "If you look around the world you see so many great kids doing things but really each kid has his own part. Like one kid he might give food to the needy and really my spot is clean water." Ryan sees himself as responsible for only a "bit of the planet." At the end of the interview, he repeats this point: "I think that is my place in the world. I think that's what I'm doing for nature, helping out with water." Ryan's focus is such that he seems unaware of the environmental problems in his community. Asked about the biggest environmental

problem in his community, he had no answer: "I think its...ummm...you got to get back to me on that."

Is Ryan's intentional focus on water a way that children make environmental problems manageable? Should one be concerned that Ryan's environmental activism arises from global issues rather than local ones? Ryan though seems connected to the place he has lived since he was born, and talks about enjoying spending time outside. He likes to go down the dirt road beside his house "where there is a pond that is peaceful and quiet and where there is a tree that I usually climb up and it's just a nice place to listen to the birds". In his connection to the natural world, there is an element of being grounded. While Ryan does not fit the grounded profile, connection to his place may be how he replenishes himself to continue to speak with passion about fund-raising for wells in Africa.

Ryan speaks about how people "should appreciate the woods, the trees, like all the rabbits, stuff like that they need to appreciate their beauty." He also calls for the need to "set aside half the earth at least for other creatures." His non-anthropocentric view is also conveyed in his metaphor response to the question: if the environment is like a hotel does he see himself as the owner, the guest, or the employee? He responds, "I think we are all employees because nobody owns the environment, we are all to help out the world." His supportive role is repeated in his response to the metaphor question: If the environment is like a tree, would you be the roots, the leaves or the fruits? He answers: "I would like to be the roots. You have to help the trees and the leaves grow, and just build a solid foundation."

In sum, elements of all components of the environmental agency model, from strategic action to connectedness, are identified in Ryan's story. While strategic action is the most notable aspect of Ryan's environmental involvement, a focus on the dimensions shows the deeper foundation, involving all dimensions of the agency model.

5.1.2 Yvonne: *'My life as a child activist had begun'*

Yvonne, age 13 [in the follow-up interview she was 14], lives in the Athi region of Kenya. She initiated environmental projects in her school and town, and participated in international forums involving children. Her environmental activism began 4 years ago with questioning when she noticed the pollution in the river close to her home: "the once earthy coloured water was turning green...there was also too much plastic being churned into the once beautiful and pristine country side." Her father, a sports fisherman, complained of the depleting fish stocks. There was also a river close to her school that she discovered upon close investigation was heavily polluted and smelt of raw sewage. Yvonne was articulate and wrote her story for the environmental book that she emailed to me after our interview. Below is an excerpt:

This is what spurred me into action. Together with a few girls from our schools we formed an environmental club, 'The Loreto Convent Msongari Environmental Action Group' under the patronage of Mrs. Mwaura. We had weekly meetings where we sensitized our fellow students on the need to take good care of our environment. We planted trees, cleaned the river going through our school. We also organized bake sales and fund-raising fun days and media to raise funds and awareness for our club. In May 2000 about 10 girls from our club attended the

Millennium International Children's Conference in Eastbourne England. . . . I had the privilege of taking the children's challenges and resolutions together with Philip Tinker from the UK to the Global Ministerial Forum meeting in Malmo, Sweden.

I had the opportunity of meeting my environmental minister in Malmo and shared with him the problems of pollution in Athi River. I must say it was quite a surprise when the minister paid a visit to my home in Athi River and toured the river. Soon after his visit a factory that was disposing its waste directly into the river was closed down and the flower farms were ordered to close down and to stop discarding their waste plastic directly into the river.

My life as a child activist had begun. Since then I have attended and participated in children's conferences all over the world. (personal communication, October 7, 2002)

Yvonne's environmental story is remarkable. She has operated at different levels, and has made headway in each: the school (the club), the community (factory close down), and international (presentations). In her interview, she shared some of the difficulties and opportunities encountered during her journey. As presented below, Yvonne's agency is reflected in the type of action carried out, her responding and maneuvering as the actions unfolded, and her own reflection on the events. A number of times, Yvonne spoke about the difficulty of being an environmental activist. In taking a stance, she has had to be strategic in selecting appropriate media of expression, and partnerships.

Yvonne's parents did not initiate her interest in the environment: "At first my parents thought I would just be a good scientist and a medical doctor or whatever." Nor did her parents discourage her from engaging with the environment. Teachers played a more important role in fostering her engagement and supporting action.

Yvonne credits the opportunity to be active at the international level both to her environmental involvement, and her personality: "I went for an interview. They asked questions about our personal environment, whether we would be able to speak in front of many people. They basically just checked our leading skills and everything." In other words, being a child representative at the international level requires having a profile that does not depend solely on the degree of environmental involvement.

Yvonne values working in the school with her peers. While succeeding in her previous school, it has been harder in her new school. As she explains, environmental clubs have to compete with "cooler stuff." She has had to find ways of making the environmental club enticing:

So I've been really working hard to make our environmental club interesting, you know, fun. So, every Friday is when we meet for clubs. So during environmental club I have them, we have them bring in gumboots and these outfits every Friday, you know, their gumboots and their outfits. So that we can go cleaning up the school. . . . And the people who get finished faster get chocolates. So we give them chocolates. And that's just the fact of—you know—they get to bring their gumboots and their big, ah, you know the dungarees and things. And it becomes fun because you know in school you wear a uniform, and you're allowed to bring home clothes, you got permission to do this for your environmental club!

One wonders about the impact of participating in the environmental club on these children, and on the environment itself. Will they participate only as long as they have fun? In this case, the enjoyment comes from the fact that involvement in environmental activities gives them privileges (i.e., the students are exempt from wearing their uniforms). As Yvonne herself suggests, involvement in the environment is more often hard work, and there is usually a price to pay. Also of interest in the account is the consideration of “cleaning up the school” as an environmental activity. What does this say about children’s understanding of environmental involvement? The benefits for the environment are difficult to identify, but maybe the focus on the school is considered to be the most immediate way of involving children at first.

Yvonne has also been involved in working with her peers to convince supermarkets to eliminate plastic bags. In beginning the campaign, they spoke to managers of supermarkets. The children were convincing:

I told them, now listen, your plastics – if you go to Nairobi now everywhere you see all their bags everywhere and it is really just ugly – so we talked to them and said you know you are mainly just spoiling the environment after a while they started using brown paper bags, they still use a few plastic bags but mainly they use brown paper bags so that they really made our environmental club happy of what we had done.

To emphasize the ugliness created by disposed plastic bags was strategic. The children were stressing an aspect of the problem that would be of great concern to supermarket managers and officials concerned about their public image.

In the interview, I asked Yvonne whether she considered herself successful in her environmental involvement. She qualified her response and said it depended on how success was defined. She used the closing down of the factory as an illustration of the challenges of defining success. Unlike in the essay submitted for the book, in her interview she explained that the factory closed down for only a month and a half: “There was a re-shuffle in Kenya’s cabinet, so the Minister of Environment was changed. And immediately after that it’s like they forgot, and they went back to dumping a lot of it.” Success was temporary though meaningful for Yvonne. She identifies these events to represent a turning point: “My life as a child activist had begun.”

Despite ‘failures’, Yvonne believes in her capacity to make a difference in her country. She explains her biggest success as having been in creating awareness. Since planning for the International Children’s Conference, Yvonne has hosted a television program on the environment in which she promotes environmental awareness as well as knowledge on children’s rights. In addition to focusing on environmental activities per se, Yvonne has branched out to promoting children’s rights with UNICEF. She explains how children and environmental rights interrelate, and is central in the ‘Say Yes for Children’ campaign. She explains the success of the campaign:

It’s amazing, through the work that I did, using the media, and we did go to some schools, talk to them about the campaign, have them vote, and everything. . . .So, for me, that’s been a success because they’ve all been able to know about it—over 6-700,000 people in Kenya have voted.

Throughout the interview, Yvonne alluded to her spiritual connection to the environment. While Yvonne mentions God and Christianity, her mother having converted

from Islam to marry her father, one cannot attribute her profound feelings for the environment to her belonging to a particular denomination. From her interview, it is not clear whether Yvonne spends lots of time outside. However, this does not prevent her from spiritually connecting to the environment. For example, to the question: do you think the idea of a peaceful world is connected to how we take care of the planet? She speaks about the need to revisit our relationship with the environment, abandoning humanity's conception of ownership.

You know, that we're not the *only* [italics added to show the verbal emphasis] people—it doesn't belong to only us. And it's—it belongs to a *whole* [italics added to show the verbal emphasis] lot of other creatures. And if they could be able to accept that fact, then, I think people would all be able to come to work together, and definitely there would be peace in the world today. So many of these problems is just because, um, this land is mine, and this land is yours, and everything. Why can't land be *ours* [italics added to show the verbal emphasis], not mine or yours, and everything. and if we could just come together and say, this is what we're going to do, and we should—instead of just thinking about ourselves.

To the question about whether the environment is alive, she repeats the need to change the perspective that the environment was created for humans only:

We're not the only people on the planet. And you have all these other things that people seem to forget and don't think that are important, you know? But they have to realize that we need to live with those things, and they need the planet as well. So it's a real partnership.

Having a relationship with the environment involves responsibilities. To the metaphor question: if the environment's like a hotel, do you see yourself as the owner, the guest or the employee, she asserts,

The guest. The guest definitely. Because as I said before, it doesn't belong to me. It doesn't belong to *any* [italics added to show the verbal emphasis] of us. It belongs to, um, it's a gift from God, you know. And it's something that we have to take care of.

At the end of the interview, Yvonne makes a powerful image that brings to life her environmental concern. She explains how she considers herself a twin of the environment: "I see myself as a twin and the environment as another twin, because we both need each other. We need to work together. And when we are together, so much can happen, so much good comes out of it." In her relationship with the environment, she puts herself and the environment on an equal footing. Yvonne seems to be making a parallel between children and the environment. She feels that children are closer to the environment. This is also suggested in her response to the metaphor question: If the environment is like a car do you see yourself as the mechanic, the passenger, or the driver? Of interest is not her answer about the mechanic but in her explanation of why:

Mechanic, because well, if it's a car, I guess it's getting really spoiled right now. So as a mechanic it's up to me to fix it, you know. The adults have done a very good job of ruining it, but I feel that it's—they've been the very good drivers and they've spoiled the car. So now it's up to us children, they're bringing it to us now to fix it up.

She denounces adult's moral superiority emphasizing children's need to take on a leading role.

In sum, as in the case of Ryan, elements of all components of agency have been at play in Yvonne's story. While strategic action stands out, it is clearly supported by the other dimensions, providing the foundation.

5.1.3 Summary

Ryan and Yvonne, as initiators, express and articulate strategic actions. They both express their connectedness to the environment as well as their engagement with the environment, though not particularly contingent on directly experiencing nature (especially in Yvonne's case) nor on parents. In both cases, questioning spurred them to take action. For Ryan, it was simply why people should not have clean water when it was as simple as building a tube well for \$70. For Yvonne, it was witnessing the pollution of her own environment. It is belief in their capacity that allowed both to take a stance, beginning with their own parents (particularly Ryan). Their stories illustrate the ongoing fluidity between the dimensions. All of the dimensions continuing to play out as new strategies are undertaken.

It is notable that organizations supportive of children's involvement have played a key role in carrying forward both Ryan and Yvonne's activism. It is difficult to determine whether their involvement would have been sustained and extended itself without the receptivity of parents and organizations.

As reflected in Table 7 (p. 170), actions undertaken by initiators vary depending on individual interests and context. Common to all is the leadership they have taken in

designing and putting in place the environmental initiative. The dimensions provide a framework for understanding the various layers of their stories.

5.2 Creative

The 'creative' profile brings together individuals who are outspoken about their concern for the environment. They have reflected on an environmental question and expressed the need to do something about it, but they have not initiated environmental activities that involve a group. They may be a member of an environmental group but that does not define their environmental involvement. They focus on processing and reflecting. Care for the environment in this category takes place through a range of activities including creative expression, whether drawing, writing or poetry, or speech. Although, Table 8 summarizes the actions identified by the respondents like in the profile of the initiators, I realize these are likely not complete. Children tend to underreport their activities, because of the difficulty of remembering on the spot the list of environmental actions undertaken, and even defining what an environmental activity consists of. Besides, as discussed earlier the actions on their own have little meaning.

Talent does not determine the selection of this medium necessarily; creative expression corresponds to a form of action that reflects the child's worldview, at that given point in time. I focus on Nandhini from Kenya, and Andrea from Winnipeg, capital of Manitoba, Canada.

Table 8. Summary of Creative profile

| Name/ Country of Origin | Self-identified Actions Include |
|------------------------------|--|
| Nandhini/ Kenya | Poem writing Drawing poster Wildlife club Skit |
| Tula/ UAE | Participate in a recycling activity Fund-raising for tree planting Swim team and sports |
| Andrea/ Canada | Drawing Reading Recycling program in school |
| Carissa/ Canada (NWT) | Lived off land with grand-mother Help set-up recycling program in class Campaigning Participate in environmental workshops with class Nature walks |
| Bereniz/ El Salvador | Picking up bottle thrown in the river Reading Attending environmental workshops Spending time in garden Caring for animals |
| Mathew/ Canada | Feeding birds in Swan lake School Environmental Club School Leadership Class Recycling |
| Sarah/ USA | Mural painting project (with parents) |
| Rangi-Marie/ New Zealand | Weeding in school Recycling in school Planting trees with grand-mother Studying nature |
| Analiza/ Ecuador | Park clean up Paper on biodiversity Participate in school greenhouse project |
| Neelam/ Netherland Antilles | Plant trees Clean up beach every year |
| Santosi/ Singapore | Planting seeds in apartment garden Observing plant growth Pick up plastic bags in school pond |
| Janissa/ Netherland Antilles | Picking up trash Participate in school / city clean up |
| Cliff/ Kenya | Planting trees Talking about ozone layer Participate in school composting |

5.2.1 *Nandhini: 'I made a tear'*

Nandhini, age 11, is of Indian descent from Kenya. Her father is a food technologist and her mother a housewife. Her parents support her interest in the environment by informing and encouraging her to participate in environmental events. Nandhini is preoccupied by environmental problems, in particular pollution. She complains about people having more than one car. Nandhini expresses her agency not in the initiatives established but in her creative art and reflections.

Nandhini has big dreams. To the question on having magical powers, she responds: "I'd change everything to the past." She returns to this later in her discussion on responsibility, she speaks about having a "duty" to begin with small actions and to go bigger and bigger, to create awareness so that the "world becomes as normal as it was . . . A whole new world with all the trees, with our dreams come true." In her description of this new world, she speaks both to the physical and social health of the Earth –"Mother Earth will be as good as she was before. . . Everyone will be friends. No more foes just friends, nothing else." While these may be unrealistic thoughts, they indicate a child's idealism, and hope in the future.

Nandhini's interview does not suggest that direct experience with nature has been significant. Her special place is Sweet Water which she visited 2 or 3 years ago, far away from her home. Nature books and magazines appear to have played a key role in Nandhini's engagement with nature. These inspire her creativity in the area of the environment. She explains how nature magazines "give phrases. Like umm plant a tree

get oxygen free. Phrases like that and everything so you get so many ideas from it.” She herself identifies the significance of the realm of ideas in her interest in the environment.

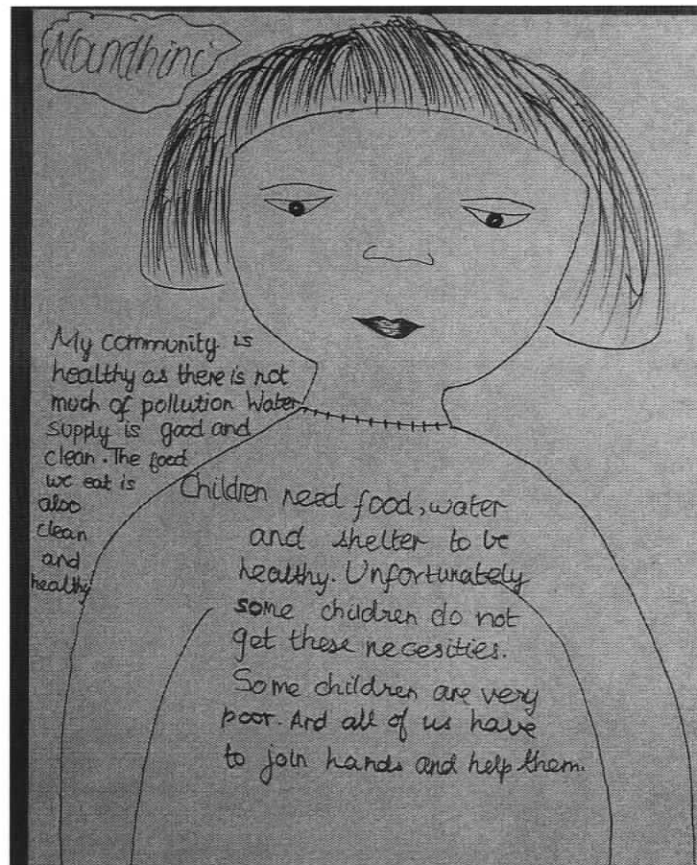
There is clearly a spiritual dimension to her relationship with the environment. To the question, what is the most important message for people to appreciate the environment?, she focuses on the moral imperative to be thankful and respectful:

God has gifted us this earth. If we don't do anything to it....I mean you have to take care of it. He has given it to you so that you take care of it not to spoil it. So that you love it and give all your concern to it. And you should take utmost care for it.

Nandhini's involvement in singing classes, of 'gothic music', which she explains as "God music, like prayers" suggests that Nandhini is also raised religiously. However, as with Yvonne, her discussion on nature is spiritual in nature rather than denominational.

Nandhini is not overwhelmed by the environmental problems, nor does she feel exclusively responsible for solving them. In response to the metaphor questions on how she sees herself in relation to the environment, she describes herself as the passenger of the car and the guest of the hotel because she has not done "any wrong". She sees herself as a good person –not part of the problem. Her role is to care for the environment, because she has a duty, given her relationship with the environment. As indicated in her own metaphor describing herself and the environment as: "A mother with her lungs and heart partly not well. . . I'd see myself as one of the people of that motherette. Just one of the people, trying to do something for the environment." In other words, the environment is weak and she can help restore its health. This fits Nandhini's compassionate character.

Illustration 9. 'Children need'



In the drawing produced in her friendship group during the conference (see Illustration 9) she writes: "Children need food water and shelter to be healthy. Unfortunately, some children do not get these necessities. Some children are very poor. And all of us have to join hands and help them". Nandhini has a strong sense of social justice that nourishes her care for the environment.

To the question of her first memory of doing something for the environment, she remained silent, then mentioned future plans, specifically establishing a tree-planting club when returning to Kenya. Mid-point in the interview, she recited a poem written by

herself for the conference. The poem is powerful, and encapsulates the different components of agency.

Poem: "It was my dream"

*It was in my dream
I heard a scream
A scream of fear
Filled with tears
From the garden
Back of my den
Save me! Save me!
Said the tree
I give you food
You cut my hood
Is it good
To make me brood?
Thus the tree spoke
And with a jerk I woke
Mind full of sorrow
Couldn't wait for 'morrow
I ran to my garden
Back of my den
Only to see men done
To skin my tree alive
Stop Stop I shouted
And made my presence noted
Leaving behind my fear
I made a tear
Land is our mother
And trees are her lungs
Stood the men sorry
With concern and worry
Ashamed of their terrible deed
Done with greed
For the mighty tree
Which gives everything free
And within their hearts so deep
Came the grief
Never shall we cut trees again.*

By Nandhini

The tree crying out in her dream expresses a spiritual connection to the environment. The tree takes on human qualities, having speech, feelings and a sense of morality. There is questioning as the tree interrogates human beings behaviour: "I give you food/ You cut my hood/ Is it good to make me brood?" Nandhini intimately relates to the tree. Not only does she wake up, but she feels the pain of the tree intensely. She takes a stance by running to her garden and shouting out in desperation to cease the men's actions, and making her "presence noted". She believes in her capacity yet acknowledges that taking a stance involves an effort that takes her beyond her comfort zone, as she speaks about "leaving behind my fear." She is strategic in her choice of method to impact these unidentified men: she uses her voice and questions the righteousness of their action by reminding them that: "Land is our mother. And trees are her lungs." Her approach is effective (We can do it) as the men admit to their wrong: "Ashamed of their terrible deed." She (presumably Nandhini) is portrayed as a saviour, and men (presumably adults) change their behaviour because of the child's intervention.

In a drawing submitted for a competition, Nandhini expresses feelings similar to those described in the poem. She explains the poster:

Well I draw trees. And they have eyes, nose and mouth. I drew their eyes, nose and mouth and then I drew speech bubbles from their mouth and tears from their eyes. And in speech bubbles I wrote, 'Why do you kill us? We give you food, we give you this, we give you that. But you don't give us anything. Why don't you just leave us alone?' like that I wrote. And then at the down [*sic* meaning bottom] I wrote, 'Our Future Depends on Them'.

In describing her drawing, she again calls upon men's righteous behaviour, and portrays herself as the defender of the trees. She expresses her interrelatedness with the trees by giving them human characteristics.

Nandhini expresses agency in her imagination, which she shares in her creative works. Will her dreams at some point translate into palpable actions? Does it matter? Is her creative expression somewhere as significant for the environment as other concrete forms of action? It is significant that in her story, I identified references to all the dimensions of environmental agency. These were expressed creatively.

5.2.2 *Andrea: 'I know that I have a message, but I'm not sure yet'*

Andrea, age 12, from Winnipeg Canada, like Nandhini, expresses her concern for the environment creatively through drawing and poetry. She was selected for the conference's junior board because of the poem that she wrote (see below). 'My world/Your world' talks about the environmental activities she has done at her school, as well as her wishes for a better environment.

Poem: My world/ Your world

*Eleven years old, a bilingual girl,
Let me tell you of my world.*

*Manitoba's first Earth school,
We worked hard and that's so cool.*

*Planting trees and collecting litter
Makes the world a little better.*

*Soon our world will sparkle and shine,
If everyone just gives some time.*

*Genie, grant me these three wishes
1-2-3, a world of riches.*

**Global warming can be stopped,
if better habits we adopt.*

**Endangered species will abound,
if conservation can be found.*

**Once forested lands will not be bare,
if those with integrity are aware.*

*Three wishes, three ifs, have the power to be
I'll do my part, it can start with me!*

By Andrea

She has both confidence in herself and optimism for the future. "If everyone just gives some time", she writes and commits herself at the end of the poem: "I'll do my part, it can start with me" (We/I can do it).

Andrea also likes drawing and made a picture that she gave at the follow-up interview: 'Clean mother earth and father wind' (see Illustration 10). The drawing depicts

a crying mother earth with a polluted river flowing from her. The drawing expresses spiritual connections to the environment. She describes the lady with the black cloak as “It is supposed to be somebody who controls the night, or something. I heard that in an Aboriginal tale.” The big blue drop teardrops that flow from mother earth express the strong connection to the environment. There is hope and belief in capacity as conveyed by the overlooking figure, a rainbow headed, open-armed and wise looking woman cloaked in black.

Illustration 10. Clean mother earth, and father wind



By: Andrea

Books play an important role in Andrea's engagement with the environment, nourishing her imagination and creativity. She loves reading and, like Nandhini, speaks passionately about Harry Potter books (interesting to see how these books have reached children across the world). In the metaphor question "if the environment is like a tree", she identifies herself with branches like those of the weeping willow in the Harry Potter series of books. She laughingly exclaims: "I'd be able to hit people for trying to cut other branches." She speaks about the support from her parents in encouraging her interest in the environment, and considers lack of awareness as the biggest environmental problem.

It is noteworthy that Andrea, upon learning about other children's environmental involvement through her meeting of the junior board three months prior to the conference, re-examined her own role. When asked in her first interview about what she has done for the environment, she responded: "I'm not sure. I recycle at home. I'm not sure." She attended an Eco labeled school, but consciously does not take ownership for what she did there. She emphasizes the determining role teachers played. Whether the school had an impact in nurturing her concern for the environment, it is difficult to say. It seems that many dimensions of environmental agency –such as questioning and taking a stance- were not fully expressed, accounting for a lack of agency.

Upon returning home, after working with the junior board in planning the conference, Andrea wrote me a significant email in which she shared the questioning that resulted from meeting other children involved with the environment. It seemed to have opened up doors:

I want to tell you how things have changed for me by being in Victoria. Before I learned about the conference, I wasn't very environmentally informed. Oh sure, I

knew about global warming and that something had to be done about the environment, but that's about all I knew. Even though my old school was an Earth School, I didn't really know much about what was going on. We really didn't know too much about the Earth School program because it was mostly the teachers who were doing it.

[...]The reason I got into the conference was because I am a good poet. I wrote a poem that I am proud of. My writing is my gift and I thought it was my way of helping the environment. When I met the other kids, they showed me that what I was doing was not enough. They showed me that I could do more.

Since I've gotten back, I've done more. I've recycled more. I have downloaded the SEEDS Green School program information from the Internet, have met with the vice-principal about starting the program in my school, and have met with the President of the student council. (personal communication, March 3, 2002)

The process of questioning is clear from this email which begins with "Not sure what my message is" and concludes with "I guess I have my message now. Actions mean more than words." In reflecting on the issues, Andrea takes ownership and thereby becomes more capable of expressing environmental agency. She feels that concrete actions are more significant than words. Andrea's story suggests that creative expression may be as significant as any other form of action. Of importance however is children's expression of all dimensions of agency, and children's recognition of their action as being strategic. Andrea's essay suggests a need to express her agency differently. Maybe while remaining a creative, she will take on elements of an initiator. These data indicate that there is fluidity between the profiles, as there is ongoing flow between the dimensions.

5.2.3 *Summary*

Nandhini and Andrea both express their environmental agency creatively. They as others in the profile explore their environmental activism through a range of activities and reflections. Their engagement in the environment is constantly 'evolving', there is not the single focus of the initiators who take the lead on carrying out an activity, nor does their engagement take place mainly through the group. Their environmental involvement is diverse.

We learn from these two vignettes that there is fluidity between the profiles. Some creative may become initiators. Nandhini, for instance, mentions establishing a tree-planting club upon returning from the conference, and is already sharing her idea with friends.

While the environmental story of the creative is less clear it also needs to be valued. There is depth and significance in their exploration as reflected in the descriptions of the unfolding of the dimensions in the two vignettes. These two vignettes suggest that the creative have also been effective in broadening their environmental involvement. Andrea was selected to serve on the junior board because of her poetry skills. Nandhini participated in international competitions because of her drawing and her poetry.

5.3 Members

Although many of the children participate in an environmental group of some sort, a member mostly carries out environmental activities as a team member. Being part of an environmental group is in the members' profile the tangible expression of their care for the environment. Children speak of the importance of group work, and the support provided by group facilitators. As in the creative profile, the children have reflected on the environmental question, and have lots to say about it but they have not undertaken a range of environmental activities, therefore Table 9 only identifies their group membership. It is within the group context mostly that they define their environmental activism. Unlike the initiators, members do not see themselves taking on a leading role in establishing a project at this point. Questioning in particular stands out.

The club is an extra-curricular activity, which may or may not be connected to the school. Most clubs have a specific environmental focus (i.e., wildlife, climate change, water) or approach (i.e., child to child, Roots and Shoots). The number of years the children have been part of the group varies, ranging from one year to six.

Table 9. Summary of Memberships

| Name/Country of Origin | Group membership |
|---------------------------|---------------------------------------|
| Ali / Bahrain | Roots and Shoots |
| Kalareit /Turkey | School Club |
| Adrian/ USA | ECO-School Club |
| Rose-Iris/ Haiti | FADSA |
| Yvet/ Bulgaria | MAR (Youth alliance for Development) |
| Nonjabulo/ Swaziland | Swazi Stars Towards a Brighter Future |
| Amy/ Scotland | Lochinver Wildlife Watch Group |
| Raghav/ India | Clean India |
| Jamie/UK | Norton Wildlife Watch |
| Rebekah/ Canada (Ontario) | School environmental club |
| Jay/ Kenya | School Environmental Club |
| Christina/ Mexico | School Environmental Club |
| Udit/ India | Panchavita Club |
| Sam/ Kenya | Ozone layer Club |

5.3.1 Nonjabulo: *'We have to tell as many people as we can'*

Nonjabulo, 10, from Swaziland is a member of a group called 'Siswati Bhukwana' –Swazi Stars Towards a Brighter Future. It is a school group that focuses on air pollution awareness. Membership in the group provides a tangible venue for Nonjabulo's expression of environmental agency. Focus on the expression of the different dimensions provides a more holistic account of her agency, indicating its depth and its richness.

Nonjabulo speaks about her engagement with nature. She enjoys going outside and playing sports, and speaks specifically about her love of swimming. She spends time in the forest behind her house. Its mystery attracts her: "You know it's kind of bushy, so I'm not really allowed to go there. But it's kind of fun, it's really fun to go." She

mentions a particular spot at a stream near her school: “There was this place where the stream was really clean. The rest of it was polluted on either side. But in the middle it was really clean and there were these huge rocks. We used to climb over them, me and my friends.” A unique feature of the environment captures her imagination.

She portrays the environment as having a functional purpose for human beings:

Most important—is because the environment is there for your good. I mean, it wasn’t just planted there, I mean, it didn’t just go from its own It’s there for you. It’s there for your breathing air, it’s there for your food at the end of the day. I mean, it’s like something that—a good quilt you know, that you can use whenever you need it.

The metaphor she generated of the environment as being a “good quilt” encapsulates how the environment provides for her security and comfort. To the question on whether the environment is alive, she hesitates and then rephrases her response in terms of how the environment serves human beings: “In a way, yeah. Because, they [think she refers to trees and plants] have to be alive for us to be alive.” Nonjabulo is a caring person and is concerned about the impact of pollution on people’s health. She feels the impact firsthand: “It gets you a sore nose. You could even have a nosebleed”. She recalls a woman to whom she was handing out flyers who talked about a grandmother who bought a house in the neighbourhood, and who died from asthma. In handing out flyers, Nonjabulo discovered things about her community that sadden her, such as the fact that some people can not read English.

Nonjabulo questions incessantly, grappling with environmental issues and their solutions. Her knowledge of environmental problems is sometimes restricted. She

attributes, for instance, pollution in the rivers (identified as the biggest problem in her community) to the fact that “People go and wash their clothes in there, you know, people who live in poverty, and then the rivers get polluted eventually.” At other times, she seems acutely aware. She speaks, for instance, about how industries close during the daytime so people are unaware of how much exhaust is released in the air. “And in the morning around 10, they switch it off again. So people wouldn’t know how much smoke they’re getting. And they say, ‘Oh well, we’re not breathing in that much smoke, you know, you saw yourself.’” Her comments reflect an awareness that industry may intentionally mask environmental pollution.

Nonjabulo realizes that solutions to environmental problems are difficult. While she identified ignorance as the biggest problem in her community, she acknowledges that providing information is not sufficient to solve environmental problems. “I can tell you now to go and pick up litter at your house and you could just go home and cook.” Even if her organization distributes flyers on the negative affects of air pollution to people living close to a pulp and paper industry, she realizes that sometimes they cannot move:

When we are in [Bunya] the pulp and paper industry—people said ‘what can we do because we can’t live anywhere else?. This is our only home. And we live right next to the industry. We’re breathing in this air every day and there’s nothing we can do about it because we have no mode of transportation to get there...So you can’t really do it yourself because it’s up to them whether they move or not. Whether they, umm, find a way to do it or not.

The last two sentences are interesting. In reframing her response in the final sentence and the hesitation she concedes that it is not up to them, but depends on larger structural

forces. As in Yvonne's account, the question of defining success is raised. Resolving environmental issues is complicated; political and economic considerations are at play.

While Nonjabulo is aware of the challenges of her role, and the limited impact she can have as an individual, she believes in her capacity and is optimistic about the planet's future. She speaks about seeing herself as the one who walks the extra 15 miles to get clean water. To the metaphor question: If the environment was a tree, would she be the branches, fruits or the roots? She responded fruits, and gave the following explanation:

We're environmentally born children. So, when the environment produces the good fruits, somebody eats it, and it like, goes into their heads. These people use it, they digest it, and then they let it go. And that information that we leave behind, um, will affect certain people in different ways, which might encourage them to actually stand up for the environment.

Similar to Nandhini, Nonjabulo portrays herself positively, as being a 'good fruit' that needs to be widely disseminated.

At the end of the interview, Nonjabulo talks about the valuable role each person can play in the environment. "Every time a person dies, that's one minus, because, you can imagine what the person could have done. And times it by 10. And you can image what they couldn't have done. And, you know, minus it by 10."

Membership remains a dominant attribute of Nonjabulo. This involves critically reflecting on the environmental impact of her work. This is best expressed in her response to the metaphor question: If the environment is like a hotel, do you see yourself as the owner, a guest or employee? She responds:

Employee. Because I kind of work for the environment. . . . So, an employee would like, you know, um, contribute to how the hotel works. You know, all sorts of stuff like that. How the guests feel—that's like—that relates to how people feel about the environment in Swaziland.

The word “contribute” encapsulates how Nandhini perceives her role. Through her membership in the Swazi Stars Towards a Brighter Future and the activities carried out, Nandhini is taking a stance. She is engaged in her surrounding community, and also connects to nature in her free time. In carrying out her activities, she has also been dwelling on the complexity of solving environmental issues. She is perceptive, recognizing that there is no quick-fix solution to environmental problems. While distributing flyers, she realizes the limitations of awareness, and the place of economics and politics.

5.3.2 *Ali: 'It kinda got me thinking'*

Ali, age 12, is from Bahrain and is part of the Roots and Shoots club in his school. As part of this group he has been involved in a series of activities such as beach cleanup, and visiting the mango garden, animal shelters, and the homeless. He does not expand on one activity in particular; as with Nandhini, he expresses his agency most strongly in his questioning. When asked about whether he has been successful, he speaks not to what he has done but about what he could do: “Well, I think I've been aiming high but after I come here I realize there's more I can do.” He has been supported in his interest in the environment, but there has not been one adult that has inspired him. His parents (his father works for an airline and his mother in telecommunications), whose work is not

related to the environment, have always told him to care for the environment. He describes his teacher, who brought him to the conference, as: "She cares. Even though she may not really be doing much she cares and it's good to see people that care."

Asked about what awakened his interest in the environment, he speaks about reflecting on the news: "I remember hearing my parents and people on the news talking about the problems of the earth and stuff. And it kinda got me thinking. While these countries are supposed to be so powerful can't they do anything about it?" At the end of the interview, he questions the priorities of world leaders: "All the governments seem to care about now is war. . . Why prepare for a war when there is nothing to defend? If we have a wasteland, who is going to want to protect a wasteland?"

Ali wonders whether environmental problems are rooted in the relationships we have with one another: "If everybody cared for each other, they'd care for the world." He realizes that the health of everyone depends on the health of the ecosystem, and that harmonious relationships amongst human beings will translate into caring for the environment. Treating each other well is a precondition for looking after the environment.

Ali feels alone in his eagerness to make a difference for the environment. "Not many people are enthusiastic about the environment. Most of the people care. They say that there shouldn't be any pollution but they're not like, 'We have to do something'. More like, I wish it would be better." Earlier in the interview, he had said that given the choice most people would prefer playing a game to learning about the environment. Ali makes a distinction: they may care, but they are not interested in "working for the results." By recognizing that involvement in the environment calls for effort, Ali is taking

a pro-active stance.

Ali does not seem to have had many opportunities to experience and personally connect to the environment. To the question of whether he likes spending time outside, he responds: “Well there isn’t much to do in Bahrain outside, but I don’t really hang-out outside very much. But when I do I enjoy it . . . Well sometimes I play soccer. Not a lot though, cuz I’m not very good. And sometimes just sit and relax.” His response to whether he thinks the environment is alive suggests a lack of understanding of how the environment regenerates itself. “I think it’s more of something that we should take care of. Kind of like a kid you should nurture not like a being. Kinda like a being, yeah. Not like something that can protect itself.” He seems unaware of how the environment is a system of interconnected living and non-living things capable of regeneration if not too badly destroyed.

Ali sees potential in children’s roles. Children are advantaged in that “nobody can say to a kid that I think your idea is bad without feeling a little bit guilty.” Though later in the interview he says that adults don’t listen to children: “Even if they [adults] do listen they probably won’t give it much thought, Ah, they’re only kids. How right could they be? What can they do if they’re wrong? Why do we waste all the time for them?” Ali is disappointed about the importance adults give to children’s opinions and abilities to affect positive change.

Ali is realistic about his capacity: “I don’t think I could really like remove the problem completely. I think I would like to help it, to make it a bit easier, for the world to cope with it.” The word “cope” indicates Ali’s view that restoration may be limited though positive. Ali also remains confident about his own role. He is the only respondent,

who, to the metaphor question on if the environment is a car, discarded the three choices and proposed an alternative: the wheel.

I think I am none of those. Kinda like a wheel. I have returned from the bad road to the good road. Kind of a mechanical wheel. The mechanic fixes the environment which is the car, but the driver also is moving the car and no matter how good the mechanic can be he can't stop the driver from crashing it into the wall. Let's say you crash into a wall. The mechanic can fix that, you can crash it again. There's no point until they learn: 'Oh that's a wall, maybe I should stay clear of that wall'. Stop making trouble and wasting people's time when you have them fix it when they're just going to ruin it again.

While he sees himself as wanting to fix the problems that harm the environment, he condemns the bad drivers crashing into the walls and making the wrong decisions. He calls for a new approach. With new wheels, comes another direction. One will never move ahead by continuing to make the same mistakes: "There's no point until you learn." His response made me revisit the appropriateness of the metaphor itself. By giving choices, I was forcing the respondents to think inside the box; I did not leave place for them to question the entire system and call for a new system.

While Ali's membership in the club characterizes his involvement in the environment, he is not articulate about his own role. The intentionality behind the action is unclear.

5.3.3 *Summary*

Nonjabulo and Ali both participate in an environmental group. What stands out is that questioning is a critical aspect of members' environmental agency. Participating in the clubs appears to have brought them to critically reflect on environmental questions, their significance, and challenges. Interestingly, in neither of the two vignettes did the reflection stem from first-hand engagement with nature, nor did they express particularly strongly the spiritual connection to the environment. The interrelatedness appears more in their relationships with other people.

Of significance is the context in which the club is established, and the place given to children's participation. There is reason to believe that the more children are involved in planning the activities and carrying them out, the greater the impact of their involvement in the group. If children are taking a stance by belonging to the group, they are more likely to take ownership in the activities. In both Ali and Nonjabulo's cases, their groups are extra-curricular activities in which they have taken a conscious decision to participate. Nonjabulo, in distributing flyers to her neighbouring community appears to be more actively engaged than Ali, whose involvement in the Roots and Shoots appears to be less focused. The different levels of involvement may explain why Nonjabulo's membership appears to have had a greater impact.

It is notable that both Ali and Nonjabulo are critical of the role they have played until now. They express or show a pre-disposition to take on a more active role. Ali mentions that after learning about other children's activities, he feels that he could take on more. Nonjabulo discusses how she needs to be working extra hard in order to address

environmental issues. One wonders to what extent the conference's emphasis on environmental projects and initiative accounts for the re-examination of their role.

5.4 Grounded

The grounded profile includes people who view their environmental involvement as a way of life, rather than a project. They are closely connected to nature as demonstrated through their daily activities. It is inappropriate to ask about their first memory of having done something for the environment. They speak in terms of living in harmony with nature, of the inter-relationship between humans and the environment, and the need to honor that as a way of being. They are grounded in that they take a holistic approach to the environment question that is rooted in their way of life. Below, I share Oren's story from Canada and Maria's story from Guatemala.

5.4.1 *Oren: 'It's part of my life'*

Oren, age 11, stood out in the conference because of his attire, which included a Dr. Seuss-like hat. He lives on a mile-long island off Vancouver Island, hard to access in difficult weather, and is home-schooled. His engagement with nature comes from direct experience. He talks in detail about loving to explore the outdoors. "I love like walking in it, I love exploring in it and I love going on adventures and climbing and just all sort of fun things." After the interview, I coincidentally met him at the conference exhibit where he was intently observing a reproduction of a tidal pool. His knowledge of marine life was remarkable. What got you interested in the environment I asked: "I was growing up

in it and stuff. I was born on the Island...I've been in tune with nature all my life really since I grew up with it." He comes from a family who has been vocal in protecting the environment. He mentions being part of the 1996 Clayoquot Sound protests with his parents at the age of three.

Repeatedly, he refers to his spiritual connections to nature. He speaks about a huge tree with eight trees growing out of it as his special place on the Island. He likes going to that tree "because it's umm it's like unique, it's big, it's umm got lots of energy in it." The idea of the tree having energy suggests that the tree is spiritually replenishing. Oren sees the environment as alive because "everything has a spirit cause it all came out of the earth." In describing his inter-relationship with the environment, he chose a value: trust. "I trust the environment and I hope the environment trusts me." The environment takes on human-like characteristics, and becomes capable of judgment. In using the word hope, Oren shows his consideration for the environment. He does not assume he has earned the environment's trust. Rather, he feels humbled by the environment.

Oren doesn't see caring for the environment as separate from his life: "I feel like it's also like part of my life to help protect it [the environment]". His environmental involvement takes place in activities as well as in his behaviours. He mentions a number of specific activities he has been involved in with his parents such as being part of the Clayoquot protests, cleaning the beach after an oil spill, campaigning against fish farms, and collecting bottles from the beaches. He also talks about reducing consumption by re-using:

Sometimes if I see something . . . that would be kind of neat to have or something I like . . . then I'd think well it would just make more junk. But then I like look to

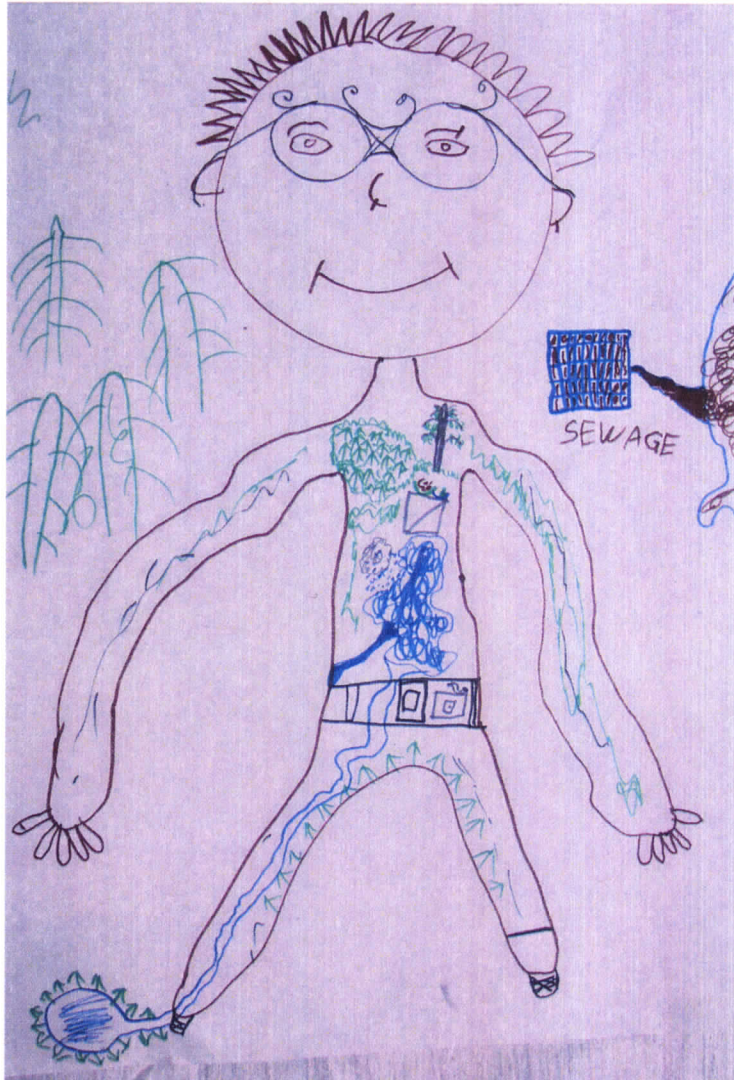
see if I can recycle a lot of my stuff. I don't just throw it in the garbage and let it go to the dump. I recycle it.

He questions the extent people relate to the environment intimately: "if more people lived around the environment and in it, I think they would realize what is going on and what they would lose if they don't try and make a difference." The words 'around' and 'in' the environment are notable.

Oren speaks to belief in capacity but is careful not to overemphasize his role, nor capacity. He is realistic, and sees himself not as fixing the planet but helping it. "I do what I can do. There is only so much one person can do." He further on points out: "I'm not saying the world couldn't survive without me. I'm not saying that at all. I'm saying that one person can do something. One person can do something." As with other children, Oren does not take on all the world's environmental problems nor is he overwhelmed by them. In asserting that "one person can do something," he shows how personally he feels empowered and responsible to protect the environment.

Oren's articulation of and expression of his relationship to the environment reflects his taking a stance and his strategic action. Oren's drawing below (see Illustration 11) beautifully encapsulates the critical place of environmental agency.

Illustration 11. 'Your own personality'



The green inside the body symbolizes a green planet. The water is for unpolluted water. Water is one of the most important things in the world. Without the green trees we will die without food we will die. The trees on the left signify how the government should create the sewer tank. On the right symbolizes pollution and air and water pollution.

The glasses and earrings symbolize your own personality and to be who you want to be and not to be influenced.

(transcription of Oren's verbal explanation)

As shown in Illustration 11, the inside and outside of the body represent the planet, including the environment and its problems. By having a representation of a functioning environment inside the body, Oren shows an understanding of our dependence on the environment for survival. Through this powerful image, the necessity

of water, green trees, and food to sustain all life forms stands out. In placing around the body, an alternative for a healthy environment on one side, and the harm made to the environment on the other side, Oren suggests we have a choice; there is hope and we are not mere receptors of the situation. The glasses and earrings, as Oren describes, represent our own perception and take on the world, and the need to have the courage to express ourselves, given our uniqueness. This articulately encapsulates the concept of environmental agency.

5.4.2 *Maria: 'Ask the Creator that the plants do not disappear'*

Maria, age 13, lives in a small village in Guatemala, one of a family of eight. She is Mayan and speaks Quiche.⁷ Maria's family practices traditional Mayan religion and her parents and grandparents are called 'daykeepers' (ajq'ij). She came to Canada with two of her spiritual teachers to represent indigenous peoples at the conference. She identifies the world's biggest environmental problem as values: "People do not respect the environment." In her community, she sees not respecting the trees as the biggest problem.

When Maria is asked about how she helps the environment, she speaks about the rituals and prayers to the Creator: "The work that is done is to ask the Creator that the plants do not disappear, to kneel down and to do more ceremonies." Throughout her day, she kneels down to give thanks to the Creator. She also speaks about the ceremonies in the mountains she goes to. This is done at dawn with her family. On the sacred mountain,

⁷ The interview was conducted in Spanish, translated into Quiche then back into Spanish and finally to English.

she asks for strength (see Illustration 12). Praying and asking for people to change their behaviour reflect the tight link between her spiritual connection to nature and her strategic action.

Illustration 12. Sampual mountain



This is a sacred place for the eagle and coyote. I go there with my family every day. It is a place with energy, that provides me with energy.

For the candle ceremony, one always sits facing the sun, where it rises from.

At the beginning of the interview, Maria says: “we want to ask a favour from the people so that they stop cutting down trees, that they stop the damage.” At the end of the interview, she reiterates this: “To ask a favour to the children so that we care for the environment, because without the trees we cannot live, without trees there is no water, no more rain, and without water we cannot live.” In using the word “favour”, Maria reflects

a culture of ceremony and protocol. She also appears aware of the vital role of water and trees to our system.

Unlike other respondents who identified an activity as their first memory of doing something for the environment, Maria recalls her teachings on the inter-dependence of humans and the environment.

First, I was told about the name of plants, and then they said that we have to care for them, because the plants –all of the plants– are medicines or medicinal, and that is why they told me we have to care for them.

She sees water, plants and trees as having life. Our happiness and nature's depend on each other. Nature and humans are inter-related: "The stones...they are our brothers...the trees are our brothers...that is why we have to care of them." The Earth has feelings, which calls for looking after it: "if we don't look for a garbage can for the garbage, and mother earth and the plants become sad." We need to care for nature not only for our sake but for mother earth's.

Maria expresses her belief in capacity in taking a stance at school, where she confronts a different belief system:

In the school the teachers do not do what we want to do...They change our beliefs. They say that it is not good, that it is bad, that it is a sin, but we do it because it is a gift that we give to Creator...because Creator gives us everything that we want and everything that we want to do. [And the other students?] No, because...they... because of the culture, some are in the Catholic church and the Evangelical church, and they do not respect nature, do not respect the trees.

There is questioning as she reflects on the different perspectives. Away from her family, Maria is lonely in practicing her care for the environment. Her strategic action is to hold to her beliefs, and practice her prayers and ceremonies despite disapproval by her surrounding community. As her interactions with other ways of viewing the environment increase, one wonders about the impact on her spiritual approach to nature.

5.4.3 *Summary*

Maria and Oren, although from different cultures and parts of the world both intimately connect to the environment. They have a holistic perspective on the environment, acknowledging the inter-relationships of humans with nature in their everyday life. As typical examples of the grounded profile, the spiritual dimensions of their relationship takes on a determining role. Not only do they spend lots of time in nature and behave in a respectful way to nature, but they intimately identify with nature seeing it as a separate being while intimately connected to themselves.

Both belong to families that hold strong beliefs on the environment, and who themselves have taken life decisions that reflect their concern. In the case of Maria, her parents are 'daykeepers', and as spiritual leaders, daily practice ritual and ceremonies. In the case of Oren, his entire family is actively involved in protecting the environment. In neither case has the school played a supportive role. Oren is home-schooled and Maria attends a school that condemns her ways. One has the impression that the school environment does not nurture the grounded profile. On the contrary it works against it. This could explain why children's spiritual connections to nature dissipate as they attend school. Left unobstructed, perhaps there would be more grounded people.

5.5 Discussion

The eight vignettes presented in this chapter illustrate the richness of children's environmental involvement. While recognizing diversity as reflected in the profiles, common components characterize their trajectories, and confirm that the six dimensions of the environmental agency model are relevant to understanding the meaning of environmental action for early adolescence. The dimensions identified provide a framework for analyzing children's environmental involvement, capturing the often subtle yet deeply significant aspects of their stories, where thinking, imagination, feeling, perception, social interaction, as well as palpable action, play out.

The four profiles provide a useful typology to represent the different forms of environmental involvement for children. They serve as a reference point for understanding the range of children's expression of their environmental concerns. There are the *initiators* who establish activities; the *members* who are part of environmental groups; the *creatives* who explore their environmental concerns through a variety of ways and forms; and finally the *grounded* who deeply connect to the environment, as illustrated through their way of life.

Certain dimensions have a greater significance depending on the profile. For the initiators, all dimensions are significant with special emphasis placed on the strategic action. For the creative, taking a stance and strategic action are often expressed figuratively. For the members, questioning is particularly important though, there is also emphasis on the relationships with other human beings rather than the environment. For

the grounded, the emphasis on spiritual connections becomes an expression of strategic action.

Is there an order of preference in the profile types? The initiators profile is sometimes considered of greater value than the others. Andrea identifies the need to go beyond words and move into action. Ali mentions the need to be more involved than he has been as a member of the Roots and Shoots Club. Apart from the initiators, only the grounded appear satisfied with their level of involvement.

Having said this, I argue that all profiles are significant expressions of environmental involvement; with each having a role to play in a given context. Each has agency.

As voiced throughout many of the vignettes, addressing the environmental problems involves changing values and attitudes. The creative can impact in changing people's minds. Creativity also plays a role in helping children (and adults) process their thoughts in ways that reflect personality and skills. Creativity may bring a child to express environmental action differently, and therefore take on elements of the initiators profile, for instance. This is the case with Andrea.

Membership can also be a significant form of involvement. Addressing environmental problems is not about working on one's own. As the children said themselves, it involves working together. I recall a comment made by Roger Hart in a keynote presentation at a conference on Child-youth friendly communities: we want "leaders and also good followers" (May 2002, Vancouver). This comment struck a chord at the time, and spoke to the tendency in children's participation of promoting the well-spoken individual child.

The vignettes suggest that the significance of membership as a form of environmental involvement will depend on the extent the child is actively involved. This finding is consistent with Jensen and Schnack's (1997) criteria for distinguishing an action from an activity. If adults determine and carry out the group agenda, children feel uncommitted, and disconnected. This was the case at Andrea's Eco-labeled school, and to an extent in Ali's Roots and Shoots Club. If the approach is imposed at a school-wide level and led by a teacher, children do not feel a sense of belongingness, nor, in turn, is it impactful. Attention also needs to be paid to having group activities that take place in the children's own communities, so children's engagement is hands-on. Thus, Nonjabulo in distributing the flyers in her neighbourhood community felt personally engaged. Activities that are more distant and indirect do not have the same impact.

The grounded are on many levels the most in touch and engaged with the environment as reflected through their way of life. We learn from them the central place of intimately connecting with nature to address the environmental crisis. Their activism is expressed in their way of life, rather than a list of project or activities. In a rapidly urbanizing world and technologically sophisticated societies, their activism stands as a model to look towards for inspiration. Emulating this way of life will, however, require a profound shift in society's values and priorities. As described in the concluding chapter, children's agency operates within a constraining structure.

Chapter 6. Implications and Conclusions

This final chapter recapitulates the trajectory undertaken and presents the broader implications of the study *Warriors of the Rainbow: The unfolding of agency in early adolescents' environmental involvement*. Following an overview of the research, the main findings for the sub-research questions are presented. Then, a discussion on the concept of environmental agency is provided; the structures underlying agency and the mechanisms to maneuver within these structures are defined. Finally, broad recommendations for future research and educators are identified. This research, I believe, offers some insights for the planet's future in the context of rapid urbanization, the ever-changing socio-cultural landscape and environmental degradation.

6.1 Dissertation overview

The study was undertaken in the context of the growing international and national recognition of children's place and role in society. The environment is a critical global issue of concern (Suzuki, 1997), and the physical environment is an ideal arena for the practice of children's participation. Therefore, I selected children's involvement in the environment as the focal point.

The 2002 International Children's Environment Conference (ICEC) provided a site for the research. ICEC was of interest in that it brought together 400 children, ages 10- to-12, representing 66 countries, who were interested in the environment or already involved in environmental activities. As articulated in research on significant life experiences (Chawla, 1998; Palmer, 1996; Tanner, 1980), an analysis of environmentally

active children is thought to give insight about experiences and understandings that can be replicated more widely. Significantly, few studies have examined the perspectives of environmentally involved children.

Diverse research methods were used to gather the data. Open-ended one-on-one interviews, including literal and metaphorical questions, allowed children to verbally share their stories and explore their perceptions and beliefs towards the environment. Mind-mapping activities, including individual and collective responses, left space for children's creativity, allowing them to express themselves visually or in words within loose guidelines. A visual survey appropriately engaged children while providing quantitative data to substantiate the findings.

The data that informed the study consisted of 42 one-on-one interviews, 116 visual surveys, and numerous individual and collective maps. The researcher's field notes supplemented the data. These were largely enriched by my involvement with the conference planning committee and a subsequent legacy project (see Denzin & Lincoln, 1994; Hart & Nolan, 1999). Combined, the methods honoured children's different capacities (Christensen & James, 2000; Greene & Hogan, 2005). Aspects of grounded theory (Strauss, 1987) and narrative inquiry helped in the analysis and identification of themes.

Based on the literature, I began with the over-arching research question: What is the nature of environmental action for the environmentally involved child? The data led to the concept of agency instead of action per se, and the reformed question: What is the nature of environmental agency for the environmentally involved child? The switch from action to agency reflected the need to recognize the depth and contextual nature of

children's environmental involvement. Agency better captures how children intentionally, and strategically, figure their way through significant life influences, beliefs towards nature, and their perceived capacity to affect change. The concept is particularly appropriate for children given their age-defined dependence, and the extent to which children's environmental involvement is linked to their stage of development, in this case, to early adolescence.

A rainbow serves as a metaphor to illustrate environmental agency (see Figure 1, p. 78). The shape of the arc and blending of the bands is a reminder that children's involvement is interlinked. It is a process, which has not (and may never) come to a full circle. The bands of the rainbow represent the six dimensions of children's environmental agency: connectedness, engagement with the environment, questioning, belief in capacity, taking a stance and strategic action.

The model illustrates the multiple ways in which children express agency. In connectedness, children intentionally give meaning to places, and relate to the environment as well as other people. In engaging with the environment, children learn about it by discovering it first-hand and/or processing the knowledge gained. In questioning, children respond to the world, awakening to the contradictions and complexities of our world. In belief in capacity, children take on a positive perspective on the planet's future and their own capacity to affect change. In taking a stance, children express themselves by articulating their concern for the environment, often despite external disapproval. Finally, in strategic action children define and select their approach to addressing environmental issues. While these dimensions have relevance to all

children, the significance of each one and the nature of the inter-linkages varies depending on the child.

The second data chapter examines how environmental involvement unfolds in the lives of individuals. Based on what the children said about their environmental activities, as well as their perception of their own roles, four profiles of environmental involvement were identified: the initiators, the creative, the members, and the grounded. Two annotated vignettes bring each of the profiles to life. The vignettes demonstrate how the model resonates in each environmental story, providing a common framework for understanding the unique trajectories of individual respondents. The typology also speaks to the different expressions of environmental activism. There is a depth to each of the profiles as illustrated in the unfolding in and within the dimensions.

6.2 Review of the research questions

While environmental agency is the main lens through which the data is presented, the sub-research questions also guided the study design. The main findings for each question are summarized below.

1.1 What does environmental action mean to the child?

The current research suggests that concrete action is the tip of the iceberg; and is supported by a larger set of components underneath which I identify as consisting of the dimensions of environmental agency. There is an active element to each of the dimensions which often presents itself in subtle forms. The final dimension, which involves the concrete outward expression of action, placed at the end of the model, does

not exist independently of the previous dimensions. Each dimension needs to be fulfilled as part of building the foundation of children's environmental involvement.

In this context, all of children's environmental actions have meaning. On its own, Brian's beach cleanup may not have an immediate significant environmental impact, but it is part of his journey. In becoming more aware of his capacity in making a difference, in connecting with the beach and the people with whom he carries out this activity, and so on, he is establishing relationships with the physical and social environment and learning both about himself and his responsibility to care for the environment.

This study supports the work of Rogoff (2003) which shows the centrality of participation in human development and learning. In each of the dimensions, children are exploring and defining themselves in relation to the rest of the world, and to specific issues. Environmental involvement facilitates children's growing up and their search for a voice and a place: a finding consistent with other researchers identification of early adolescence as a critical time for children's environmental involvement (Cobb, 1977; Hart & Nolan, 1999; Hutchinson, 1998). In Oren's illustration (see Illustration 11, p. 209), the child wears glasses and earrings, which he explains as a symbol of the courage needed to respond in one's own way to the world's environmental problems. One is reminded that taking a stance is not easy. The constant redefining of children's environmental activism mirrors in some way the awkwardness of growing up, as they find their place in the world.

1.2. What are the significant influences that shape environmentally involved children's involvement?

The current research indicates that the influences that shape environmentally involved children are varied and complex. Adults, peers, formative experiences, discovery of special places, T.V., Internet and books all play a role. While these sources were identified in SLE research (Chawla, 1999), my study adds important elements to the equation namely: the role of strategic or critical thinking, and how a child seeks his/her voice and place. What is of interest is as much what the sources of environmental concern are, as how a child interacts and engages in the situations or resources at hand.

Often a child engages in a paradoxical process of both seeking out and distancing himself/herself from the sources available. A child, for instance, engages with the environment and nurtures relationships with significant adults on the one hand, but on the other takes a stance to differentiate himself/herself from peers and adults. Through this complex process of going back and forward, events, places, and relationships become meaningful for children. In retrospect, my research addresses Dillon, Kelsey and Duque-Aristizabal (1999) point that SLE research cannot neglect theories of identity to understand why "people do as they do" (p. 400), and that this involves both the influence of the environment and the agency of the person concerned. My research suggests that the experiences that are the focus of SLE research need to be examined in terms of a focus on a person's context and opportunities as well as the individual's role in giving significance to these, and the (often tenuous) relation between the two. The agency model defines and describes the quality of the experiences.

This may constitute what Chawla (2001) refers to as the antecedents of action in the SLE research with adults, and what I consider an integral characteristic of environmental action for early adolescents. The mechanisms for navigating across the

dimensions, such as thinking, gestures, or comments, are critical to explaining how the sources identified in SLE research become significant. Likely, this type of information can only be accessed from research carried out with children firsthand, an illustration of the value of doing SLE research with children themselves rather than only with adults reflecting on the memories of their childhood (Gough, 1999).

1.3. What are environmentally active children's beliefs towards the natural environment? How do children perceive their responsibility towards the environment?

As presented through each of the dimensions, children are exploring their ideas and beliefs towards the environment. In connectedness, children describe a sense of wonder towards nature and a feeling of interrelatedness with nature. Many of the children's descriptions have a spiritual quality, reflecting a need to define themselves in relation to human and non-human creatures (Hart, 2003). Whether living in highly dense urban areas or in rural areas, children generally identify a particular place in nature to relate to, or give importance to one-off experiences far from home. The vignettes suggest that all children personally connect to nature, and are creative in giving meaning to these places whether in natural or human-built environments.

Few children speak definitely about seeing themselves as dominating nature. Most recognize human dependence on nature, seeing themselves as one element of the bigger picture. This is reflected in the metaphor questions and the small number of participants who describe themselves as drivers in the car metaphor or owners in the hotel metaphor. The majority chose to be the mechanic or the employee; and gave responses which suggest that children do not feel they control the environment, rather they are

helpers and supporters of the environment. Consistent with this perspective is children speaking unanimously about the shared responsibility for taking care of the environment. They are aware that the burden does not lie solely on their shoulders: they are a piece of a bigger picture.

A number of children spoke about the environment being a gift from God and therefore needing to be cared for. Some children were unsure of whether the environment was alive, a reminder that beliefs towards the environment are also culturally defined. Thus, the two Mayan participants reflecting traditional teachings were most vocal about relating to non-living creatures as their brothers and sisters.

Children ambivalently go back and forth between expressing feelings of strong connection to the environment, and positioning themselves in front of environmental problems. Florence, for instance, spoke about a rock in the woods, and feeling more at home there than anywhere else. While she wonders in nature, she is also involved in organizing a home-based environmental club. In this case, her connection to the environment translates into action. In other cases, an initiator may be connected to a special place at home, yet focus on a single distant environmental issue. A grounded person's intimate inter-relationship with the environment may mean their environmental involvement is more of a way of life than involvement in a specific issue. The translation of ideas and beliefs into action takes on different forms depending on the profile of the child. The findings of this study speak to the importance of ideas and beliefs in caring for the environment (Smith & Williams, 1999).

1.4. To what extent do children see themselves involved in affecting change at the local and/or global level? What do children perceive to be barriers to involvement?

The current research suggests that children's capacity to affect change comes from a combination of being optimistic about the planet's future, their own confidence and an awareness of their limitations. Environmental involvement is difficult, not only because of the critical state of the environment, but because of early adolescents' position in society, which includes little control over their time and movements. Children maneuver within a context of constraints, where even peers are often not supportive of their environmental involvement. At an age when peer pressure is important (Adams & Berzonsky, 2003), personal optimism and confidence appear to be significant.

Children's awareness of their skills and limitations explains the predominant focus on awareness-raising, recycling and restoration as environmental activities. The participants in the study are concerned about both local and global issues, and many are more concerned about global over local issues. Part of children's maneuvering aims at making environmental problems manageable, for example, valuing small-scale actions. In other cases, children focus on a single issue. In awareness-raising, however, children can afford to denounce contradictions and call for profound environmental changes. In this case, they consider their age to be an advantage as children can reach adults in unique ways, causing them to change their thinking about an issue, or to take a specific action. Hence, what might appear to be barriers to involvement can also become strengths to bring about positive environmental change.

6.3 Examining agency in practice

The shift in the study from action to agency reflects the fact that children's participation in the environment is a function of how they strategically interact with the structures that affect their lives. As in Bronfenbrenner's (1979) ecological systems theory where a child's development results from a complex interaction between different layers of the 'environment', the agency model shows that environmental involvement is an expression of the dynamic nexus of agency and structure.

The following section examines the structures and mechanisms that underlie the dimensions of the environmental agency rainbow model. This is part of filling in the gap identified by James and James (2004) on the lack of understanding of what agency means in practice. It is about giving substance to Mayall's (2001) statement that children are "agents whose powers, or lack of powers, to influence and organize events—to engage with the structures which shape their lives— are to be studied" (p. 3). The focus on both agency and structure is needed for as Qvortup (2000) points out recent research emphasis on the agency-perspective has largely ignored the structural factors, yet "no child can evade the impact of economic or spatial forces, nor ideologies about children and the family—let alone political and economic ideologies and realities" (p. 79).

Based on the research findings, I suggest the following structures impact children's involvement: the sense of self, the biophysical environment, the social environment, and the international environment. Critical thinking, imagination, and concrete action constitute the manifestations of power; they represent the mechanisms for navigating through the structures. As in the bands of the rainbow, these entities are not

isolated, but interact with one another. For the purpose of clarity, these are discussed below separately.

6.3.1 *Sense of self*

The sense of self refers to an internal structure, involving the child's person -- his/her belief system, culture, personality and development process. As indicated in Snively's (1986) research, children espouse different orientations based on their individual socio-cultural history. A belief system, or an individual worldview, shapes a child's outlook on life, on how he or she expresses environmental involvement. It is a person's internal mental framework or cognitive understanding about reality and life meaning.

There are different perceptions of the relationship between humans and the environment based on a child's cultural background. As Cobern (1994, 2005) discusses, an understanding of the relationship of self and nature is rooted in an individual's worldview, which is based on a pre-conceived understanding of life derived from one's culture and subconscious organization of the mind. Differences in the parent's occupation also plays a role (see Hart, 1979). Maria, raised by a traditional Mayan family of day-keepers in a village of Guatemala, has understandably a different view of life from Florence who lives in Quebec City, raised by professional parents. An individual worldview is not static or unchanging, but serves as a lens to process new experiences.

Personality also determines how a child expresses his or her environmental involvement. An outgoing child such as Jonas or Yvonne, for instance, is more likely to initiate activities in social situations, while a more introverted and shy child like Jamie

is often more involved as a member of a group. Children also have different skills that impact the nature of their environmental involvement. Some children, like Justin, are compelling spokespersons, while others, such as Andrea, are particularly creative in expressing themselves visually or in writing.

Included in the sense of self is a child's development process, in this case early adolescence. Unlike beliefs and personality, this research suggests that early adolescence impacts children more in similar ways, than in dissimilar ways. Identity-building is a key aspect of development for children between 10 and 12 years. The six dimensions of environmental agency meet this need in some way. Connectedness and engagement with the environment, belief in capacity, questioning, taking a stance are about children defining who they are, and in positioning themselves in their surroundings, in relation to the human and non-human world.

Spiritual development is likewise a crucial component of early adolescents' development (see also Hart, 2003; Scott, 2004). Many young environmental leaders are meeting their need for spiritual development through their environmental involvement, particularly in the dimensions of connectedness and questioning. The evocative descriptions of children's special places stand out as expressions of children's spirituality (see Hart, 2003).

These development processes in early adolescence appear to be a basis for bringing children together, and creating a shared sense of location and perception. Despite differences of gender and country of origin, the children found more in common than not, which I attribute to their shared development process. There are comments like Justin's: "While we have different stories of what is going on in each place, we all shared

the same basic environmental problems. We could understand each other amazingly well even though we came from all over the world.”

Children communicate with one another, beyond socio-cultural and physical barriers. They share, for instance, common barriers to environmental involvement. These barriers are to some degree related to their ongoing physiological and psychological development (see Woodhead & Faulkner, 2000) but also, and maybe more importantly, result from adults and children’s own perception thereof, in a society largely constrained by age-defined preconceptions of roles. To a considerable degree, the development processes of early adolescence provide for a collective view of the world.

6.3.2 Biophysical environment

Besides the sense of self, children’s environmental involvement is impacted by their interaction with the biophysical environment. In a study where over 75% of the children live in urban areas, the biophysical environment available to children varies greatly. This study shows that interaction with the environment is crucial as indicated by placing the first two dimensions of the model, connectedness and engaging with the environment, at the beginning of the rainbow. Children seek experiences with the environment as part of their development; children show creativity in giving meaning to special places, and grappling with the environmental information available to them.

The grounded children, for instance, who connect holistically with the environment, spend frequent periods of unstructured time in the natural environment, some of which is on their own. Of significance though is that the grounded also come from families who share holistic beliefs towards the environment. This raises the

importance of the social environment as also impacting children's environmental involvement.

As many are estranged from direct experiences outdoors, secondary sources of information, such as books, T.V., Internet, and significant adults, play an increasing role in feeding children's knowledge and imagination about the environment. Imagination is an important part of children's wondering and exploration of nature, a way children give significance to information. This finding should be welcomed in the context of rapid urbanization and reduced access to outdoor experiences in natural environments. There is agency as children engage in the environment, process the information, and integrate it into their own terms.

6.3.3 Social environment

Beyond the self and the physical environment, children interact with their social environment, confirming that children are social beings in the Vygotskian sense (Boyden et al., 1998; Rogoff, 2003; Vygotsky, 1978). The current findings suggest that the social structure predominates in the dimensions of questioning, belief in capacity, and taking a stance. These dimensions are about children positioning themselves in relation to significant others, mainly adults and peers. Significant people exist in the school and the home: identified as the most important place for carrying out environmental activities in the survey.

Children in the study spoke about the support they received from at least one significant adult lighting the spark of their interest, and keeping the fire going. The initiators may have taken the lead, but along the way adults have played a critical role in supporting young people's involvement. This is a reaffirmation of Rachel Carson's

(1965) point that “If a child is to keep alive his [sic] inborn sense of wonder without any such gift from the fairies, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in” (p. 45).

The social environment like the physical environment provides opportunities as well as constraints. Children’s partnering with adults is not easy. An analysis of the Conference itself from the perspective of partnerships indicates that

Partnership between children and adults may at some level be strained. This is not a failed partnership, but may be the nature of a meaningful partnership as children and adults operate within a society and a system that is not child-friendly. They are negotiating a place and situation of understanding for both.

(Blanchet-Cohen, in press, p. 21).

Children in the current research spoke about needing to convince adults of their capacity to affect positive environmental change. In some cases, this was effective, such as for Ryan who, after convincing his parents, was able to reach out to hundreds of adults. For others, it has remained hard. Sam spoke strongly about the difficulty of convincing his peers and the adults around him, and their disregard for his environmental concern. Children express agency in negotiating directly with adults or peers, and/or in reflecting on adult reactions.

6.3.4 *International environment*

An additional structure that children interact with is the international context. The children in the study come from different parts of the world, yet many of their ‘successes’

result from an international agenda that recognizes children's voice. While international agreements, such as the CRC or Agenda 21, are signed in far-away meetings, they affect children directly. Globalization has paradoxically created opportunities for children (Kaufman & Rizzini, 2002).

Yvonne's success has been related to opportunities that arise from an international agenda. Following the Ministry of the Environment's attendance at an international meeting where she presented on a polluting factory close to her home, the factory closed down. Yvonne has also been involved in awareness-raising on children's rights and the environment as part of the 'Say Yes for Children Campaign' spearheaded by UNICEF. Other children have been impacted through their membership in environmental organizations that present an international agenda, for example the Roots & Shoots Club or Wildlife Watch. The international agenda is also promoted through books, television programs, and the Internet that children increasingly access as sources of environmental information. The context of the ICEC conference is in itself an illustration of children rising to the forefront in an international context. Undoubtedly, interacting with environmentally involved children from different countries impacts their concept of themselves, and their capacity to affect change.

While children benefit from a favourable international context, the findings of the current research suggest that the international agenda also constricts the range and nature of children's environmental involvement. The international agenda puts forward a perspective of what constitutes children's involvement: in its selection of some children rather than others, in its setting of the agenda of conferences, and in its choice of environmental issues to profile.

The international agenda may contribute to 'projectifying' environmental concern. In other words, environmental concerns become a project or an activity dissociated from children's lives. There is something effective in 'projectifying' because it allows children to focus in on a particular environmental issue. Making the environmental issue manageable is part of being strategic. Ryan, for instance, puts all his energy on one issue: providing drinking water to people in Africa.

The danger of 'projectifying' is that it tends to disconnect children's environmental involvement from the rest of their lives, becoming unrelated to everyday values, behaviour, and lifestyle. Only the grounded children describe their environmental involvement in terms of a way of life, and their involvement is local and intimate. The grounded also feel their ways are different, and refer to the tension between their worldview, and the dominant system promoted in schools. Globalization and disconnection from local environments may lead to reducing the range of environmental issues undertaken by children. This could be of concern given the importance of connecting to local environments in sustaining children's environmental concern, and the need to be responsive to the ever-changing nature of environmental problems.

6.3.5 Sources of power

If children's agency depends on their interactions with their sense of self, the physical and biological environment, the social environment, and the international environment, what are the mechanisms that children use to mediate across these structures? In other words, what is the basis of children's 'power' as identified in Mayall's (2001) definition of agency.

The current research shows that children's power lies in their capacity to think, imagine, and act. Thinking and imagination play a critical part in building children's capacity. Though often intangible, they spur people into action. As discussed by Alerby (2000), thinking is "a process connected with being-in-the world" (p. 208). In this case, it involves more specifically critical thinking as a "reasonable reflective thinking focused on what to believe or what to do" (Ennis, 1996, p. 10). Thinking is about analysis and integration, whereby children reflect and position themselves in relation to knowledge and experiences.

Imagination can involve looking positively towards the future, as did Yvonne from Kenya who imagines all people working together. In another sense, it is about individuals imagining they are capable of making a difference. Similarly, imagination can involve playing and giving meaning to a specific place, for example, Rebekah from Canada and her cousin naming and playing in their special place.

Like John (2003), who writes about the need to embrace children's "hopes and aspirations, their dreams, their visions and their untrammelled imaginings –as if these things mattered" (p. 19), my research shows how these are sources of power, providing children's environmental agency. These I claim are at the basis of children's sense of hope, critical to environmental care (Hicks, 1998).

A focus on agency points to the dynamic nature of children's interactions with their environment, and how children's environmental involvement is connected to their own development, dependent on their physical, biological, social and international environments.

6.4 Avenues for future research

The current findings are based on a unique group of environmentally involved children; other research is required to determine the resonance of the model with randomly selected children. Given the link between children's environmental involvement and their development, I argue that the model will resonate in the lives of other children as well. Further research is necessary to understand how this is the case, and to determine how the models plays out differently, or to identify the other dimensions that impact a child's involvement. Spirituality is considered to be a component of the dimension on connectedness, maybe there is sufficient evidence to constitute a distinct category. Further analysis of the significance of agency could be carried out in light of Archer's (2000) humanist perspective on agency, which sees the interplay between personal and social identities as being reconstituted and reaffirmed on an ongoing basis.

Many of the skills that children develop through their participation in the environmental arena have relevance to other areas (i.e., leadership, life skills and citizenship). Could it be that the environmental involvement is mainly a learning ground for developing these skills? How does the knowledge of environmental concepts acquired in childhood impact people's lives in the long-term? Adults speak about losing their earlier interest in the environment, but reviving it later in life. This raises the question: what will be the level of environmental involvement of the children in this study 10, 20 and 30 years later? How will their perceptions about the environment and their own role in affecting environmental change modify given increased life experiences? To shed light on these questions, a longitudinal study would be needed.

Another question raised by this study relates to the impact of urbanization; on how our society will nurture environmental concern given an ever-changing environmental landscape. Many environmental educators are concerned about the reduced access to natural areas and first-hand experiences in nature (Orr, 1994; Sobel, 1995). How do the geographical characteristics of the landscape young people live in shape their environmental concern? What difference does it make to relate to a single tree surrounded by concrete in the city, to a one-off event that took place a while ago, or to a moss covered rock in a pristine forest visited regularly. It raises the question: does a lack of direct and sustained contact with nature lead to an environmental concern aimed at self and interpersonal preservation, as suggested by Chawla and Hart (1995)? From this study, the impact of the type of experience remains difficult to determine. Can the urban setting and human-built environments provide opportunities that are equivalent to those in pristine environments? What role can education play in nurturing children's environmental involvement based on the environmental agency model? I turn to this discussion below.

6.5. Implications for education

I claim the findings of this study have broader implications for education because of the link identified in the study between children's environmental involvement and their own development. Through their involvement in environmental activities, early adolescents are growing up, and meeting their need to discover themselves and their place in the world.

The dimensions of agency describe the richness and depth of children's involvement. This is why early adolescence is identified as a pivotal period for children's interest in the environment, and why these years stand out in adults' recollection of their childhood (see Cobb, 1977; Hutchinson, 1998). It is clear that environmental education needs to pay particular attention to these years as ones where children are ready and open to engage in the complexity of environmental issues (see Snively, 2001; Sobel, 1995). Like Scott (2004), concerned about the impact of ignoring young people's spiritual development in adulthood, I also wonder about the implications of devaluing the expression of children's environmental agency.

While agreeing with educators' emphasis on the critical role of action (see BC Ministry of Education, 1995; Hammond, 1997; McClaren, 1989), this focus needs to be accompanied with an understanding of the significance of small and non-tangible actions. I claim the term agency is more appropriate in conveying the complex relationship-building between the self, the environment and society.

In the following section, I describe three key recommendations that arise from the current research for moving forward an education that nurtures children's environmental involvement.

6.5.1 Key recommendations

- 1. Educators need to embrace the complexity and inter-connectedness of children's environmental involvement.*

teachers reflect simultaneously on themselves and the world, without dichotomizing this reflection from action, and thus establish an authentic form of thought and action” (p. 56). In other words, children and teachers both need to intellectually engage in the complexity of environmental issues, to discuss values, to critically examine their society and to reflect on their own behaviour.

Acknowledging and demonstrating the interrelationships in the environment between humans and nature is even more important because, as demonstrated in this research, children’s environmental involvement is embedded in their own development process. The passage from childhood to adulthood involves understanding interrelationships and positioning oneself within them. Educators need to build on the developmentally-based opportunity provided in early adolescence for nurturing environmental care.

2. *Educators need to value a range of forms of environmental involvement.*

The current research demonstrates that environmental involvement takes on diverse forms depending on the individual interplay between a child’s agency and structures. I identified four profiles of environmental involvement, but society, and educators as members of society, often reward the more apparent expressions of environmental involvement, that stand-out because of evidence of concrete success.

Hammond (1997) suggests in his learning action triangle, that sharing stories of role models can be effective in learning about action (see also Cornell, 1979). This study shows it is critical that various forms of expressing action are promoted. Models should not be limited to those of children taking on real action projects locally, nationally or

internationally. They should also profile grounded children who espouse a way of life based on an affinity with nature, as well as the creative and those who join groups. They should also speak to the continual evolving nature of children's environmental stories.

As part of growing up, children seek role models in adults and in peers. Schools play an important role in promoting models that can form and reaffirm children's convictions, thus helping to crystallize or nurture concern for the environment. Role models enrich children's imagination, contributing to their environmental involvement. Valuing a wider range of experiences will in turn lead to a greater number of children expressing various forms of involvement, and encourage them to value the journey as much as the end results.

3. *Educators need to involve children*

The literature chapter explains the preference for the term agency to empowerment (see section 2.33). In the conclusion, I return to this term realizing that empowerment results from children's agency. Agency describes the complexity of children's environmental involvement, it is an outcome of the interplay in and amongst the dimensions as children intentionally engage, position themselves, and respond to experiences. Each dimension builds children's identity, providing children with a sense of accomplishment, allowing them to go deeper or move on to something else. It is about cultivating children's self-efficacy, in believing in their capabilities (Bandura, 1986; Chawla & Heft, 2002).

Teachers and parents are often wary of involving children, as though adults authority will be overridden. This research demonstrates the importance of involvement and how it provides for learning. Teachers often stay away from environmental issues because of their complexity and the fear of leaving students with a 'sense of powerlessness' should difficulties in affecting positive environmental action occur (Hammond, 1997; McClaren, 1989). A child is empowered by being involved in designing and carrying out activities, by being able to imagine himself/herself as a creature of nature, or by connecting with nature. Should educators fear a focus on empowerment? In children's questioning of adults' behaviours, they seek out partnerships with adults; as social beings, but also because children realize the need to work together for addressing environmental problems. Like Oren says: "one strand of rope can be broken, but many cannot."

Opportunities for empowerment in the curriculum are many and varied. They depend mostly on how subjects are taught, and educators valuing the process and paying attention to the opportunities for involvement. Involvement is part of providing for the "active participation of the student", identified as the primary principle of learning in all subjects of the British Columbia's Ministry of Education Integrated Resource Packages for grades K to 12.

6.6 Warriors of the Rainbow?

The current research shows that within children's constraints, they can be "frame breakers" (King, 1995, p. 121), or Warriors of the Rainbow. Children as agents interact with the structures that affect their lives, demonstrating creativity in molding them, just

as they do in seeking experiences in nature, even in the middle of a city's concrete. The study shows that children tend to be pragmatic; many are knowledgeable and aware of the complexity of environmental issues. They effectively draw on their limited capacity to affect change, by being communicators and taking on environmental activities in which they can make a difference, such as restoration and recycling.

Like the warriors of the rainbow in the Cree prophecy, children's most intriguing contribution may lie in the way that they convey their concern for the environment to others. When the three children selected from the ICEC addressed the World Summit on Sustainable Development in Johannesburg, 2002, it was not the ingenuity or novelty that stood out, but the frankness of their words. They declared: "We are not asking too much! You said this Summit is about taking action! We need more than your applause and comments of 'well done' or 'good speech'. We need ACTION" (restated in the opening to the *State of the World's Children 2003* (UNICEF)). I found this imploring of adults to 'walk-their-talk' repeatedly in the data.

The same can be said about the famous speech Severn Cullis-Suzuki made when at 12 years old she addressed the world leaders at the 1992 Earth Summit in Rio de Janeiro. Her words were simple, but powerful. Referring to the planet's environmental problems, she said: "If you don't know how to fix it, please stop breaking it!" She further stated, "At school, even in kindergarten, you teach us to behave in the world...Then why do you go out and do the things you tell us not to do?" (Suzuki, 1997, p. 221). Why did her words have an impact and continue to be cited? The reason lies in the simplicity of the questions posed; a reflection of early adolescence as a time when children's minds are

uncluttered and when questioning authority is part of their growing-up, but also of the lucidity of children.

As teachers, parents and citizens, we need to nurture early adolescents' environmental awakening and concern in as many children as possible. Thus, it is more likely that the ephemeral nature of rainbows will have long-lasting impacts on the future of our planet. Like the calm that follows a rainbow after a storm, this could mean greater balance, equity and peace in the world.

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Appendices

Appendix A: Release & Authorization Form

**RELEASE & AUTHORIZATION FORM**

This Release and Authorization Form sets out the conditions in which **ICC Canada 2002** and _____ (Name of Parent/Guardian) and _____ (Name of the child delegate attending) will allow for photos, essays, and creations made during the friendship groups (i.e. drawings, poems) to be used on the **International Children's Conference on the Environment 2002** website, for legacy material and for research carried out by ICC Canada and its partners. For good and valuable consideration, the receipt and sufficiency of which are acknowledged:

I hereby:

1. Grant to **ICC Canada 2002 and its partners** the right to use the full name, biography, image, likeness, or audio record of activities of the Participant with the **International Children's Conference on the Environment 2002** for non-for-profit and educational and publicity purposes.
2. Consent to allow the Participant's name, biography, image, likeness and audio/visual record of activities to be used with the understanding that her/his contact information will not be used.
3. Release ICC Canada 2002 from any and all claims, demands and liability whatsoever which the Participant might otherwise have in copyright, defamation, privacy, nuisance, or for any other cause, matter, or thing whatsoever arising out of the distribution and use of the biography and images of the Participant.
4. I hereby release **ICC Canada 2002**, their directors, officers, employees, agents and representatives from any and all claims or liability from personal injury, death, damage to property or loss of any kind whether arising by reason of negligence or otherwise.
5. I understand that interviews will be carried out with some of the participants by researchers Doug Ragan, (Centre of Excellence for Youth Engagement) and Natasha Blanchet-Cohen (Institute for Child Rights and Development). If my child decides to participate, this is voluntary, and will require a specific consent form that asks if personal data is to be kept strictly confidential. If a parent is not attending the conference, the adult accompanying my child is provided with the authority to sign the form on my behalf.

Name of Participant (Please Print) _____

Address _____

Email _____

Name of Parent/Guardian (Please Print) _____

Parent/Guardian Signature _____

Participant Signature _____

Appendix B. Visual Survey



Children and the Environment






This survey will take you about 20 minutes to complete and asks questions about how you see the environment. The survey will be used as legacy material being produced on the conference and for Natasha Blanchet-Cohen's PhD (she can be contacted at ndc@uvic.ca). Your answers are anonymous, completing the questionnaire is optional, and you may choose not to answer a question. You may ask the facilitator for clarifications.

Please do not provide your name


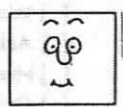
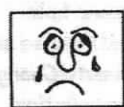



I am from (country): _____ Age: _____

I am a:  Boy  Girl





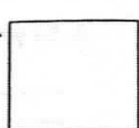
I live in a:  village  small city  big city

Name of my city/village: _____

When I think about the future of our planet, I feel (circle 1):

 Happy
  It is Ok
  Sad
  Scared
  Nothing
  Other

When I think about the Planet, what is most important to me? (circle 1)

a.  Spending time outside
 b.  Doing something to Protect or save it
 c.  Unfortunately I have no time now
 d.  Learning from TV\Internet\Books
 e.  Other

A) What do you believe about the following?
Put a check mark beside your answer

| | Strongly Agree | Agree | Not Sure | Disagree | Strongly Disagree |
|---|----------------|-------|----------|----------|-------------------|
| Our planet, the Earth, is healthy | | | | | |
| It is too late to care about saving the planet | | | | | |
| Our planet, the Earth, is alive | | | | | |
| Youth care more about the environment than most adults | | | | | |
| I can make the world a better place | | | | | |
| I need to take action to protect the environment, not just learn about it | | | | | |
| I believe adults listen to children's feelings about the environment | | | | | |
| I would speak out if someone treats the environment poorly | | | | | |
| It is popular ('cool') to care about the environment | | | | | |
| Trees have a spirit | | | | | |
| Animals are my friends | | | | | |

B) What do you think are the 3 biggest environmental problems? Put 1 beside the biggest, 2 besides the next biggest and 3 next to the third biggest:

- | | | |
|--|---|--|
| <input type="checkbox"/> Waste disposal | <input type="checkbox"/> Ozone hole | <input type="checkbox"/> Water pollution (no drinking water) |
| <input type="checkbox"/> People buy more than they need | <input type="checkbox"/> Endangered animals | <input type="checkbox"/> Acid rain |
| <input type="checkbox"/> Cutting down trees | <input type="checkbox"/> Climate Change | <input type="checkbox"/> Hungry children |
| <input type="checkbox"/> Loss of plants, animals and insects | <input type="checkbox"/> Air pollution | <input type="checkbox"/> Other _____ |

2. What is the biggest environmental problem in your own community?


3. Do you think you can do anything to help the problem in your community? Explain.

4. In your experience, who do you feel cares most for the planet Earth right now? (circle 1).

a.  Kids only

b.  Adults + kids

c.  Just me









d.  Adults only

e.  Don't know

5. List 3 ways you think you affect the environment (in a good or bad way) in your everyday life:

- (1) _____
- (2) _____
- (3) _____


6. How do you help the environment? Put a check beside each one true to you.


| | | | |
|---|----------------------------------|---|--------------------|
| <input type="checkbox"/>  | Recycling activity | <input type="checkbox"/>  | Garden project |
| <input type="checkbox"/>  | Beach or Stream clean-up | <input type="checkbox"/>  | Tree-planting |
| <input type="checkbox"/>  | Environmental awareness campaign | <input type="checkbox"/>  | Protecting animals |
| <input type="checkbox"/>  | Learning about the environment | <input type="checkbox"/>  | I don't know |
| <input type="checkbox"/> Other. Explain. _____ | | | |


ii Where do you participate in environmental activities? Check those true to you.


- | | |
|--|---|
| <input type="checkbox"/> At school | <input type="checkbox"/> In my community |
| <input type="checkbox"/> In my environmental youth group | <input type="checkbox"/> In my place of worship |
| <input type="checkbox"/> At home | <input type="checkbox"/> Other. Explain. _____ |
| <input type="checkbox"/> In my backyard | |


iii. When you help the environment, you are (circle 1):


a.  A leader

b.  A follower

c.  An observer

d.  A team member

e.  On your own

f.  Not interested

7. When you learn about the environment, do you get help from? *Check one box for each.*

| | Never | Sometimes | Often | Always |
|----------------|-------|-----------|-------|--------|
| Mother | | | | |
| Father | | | | |
| Teacher | | | | |
| Other Adult | | | | |
| My age friends | | | | |
| Books | | | | |
| Internet | | | | |
| TV | | | | |

8. Who do you live with and what is their work? *Write your answers.*

| | YES/NO | Work? |
|------------------|--------|-------|
| My father | | |
| My mother | | |
| My grand-parents | | |
| Other | | |

9. Draw yourself and your environmental activity OR yourself and your special place in nature

Do you have any comments? _____

Thank You !

Appendix C. Lead questions for Interviews

1. Why did you want to come to this conference?
2. If you had magical powers and could change something about the world right now, what would it be and why?
3. What do you think is the biggest environmental problem in your community? What is the biggest environmental problems in the world today? Do you see yourself making change in any of these?

Story of environmental activism

1. Do you enjoy spending time outside now? Do you have (or when you were younger) a special place in nature? If yes, can you tell me more about that place?
2. What is your first memory of something you did for the environment? Did some event (a conference, a class in school, a field trip, an event etc) get you interested in the environment? If so how?
3. Have you participated in any activities which helped the environment in some way? Tell me about your environmental story. Have you been 'successful' ? How?
4. Do you have a mentor/someone that inspires you in your interest in the environment? Who and why? Do you have an environmental hero?
5. [*If not already addressed*]. What has been the role of your parents? What work does your mother and father do? Any qualities this teacher has that stood out?
6. [*If not already addressed*]. Did your school/teacher support you in your environmental work? If yes, in what ways?
7. How much information about the environment can you learn from books, television, or the internet? Which one is the most useful?
8. Are your classmates interested in the environment in the same way as you are? Is it 'cool'/ popular to be involved in environmental activities?
9. What other activities are you involved in? (e.g. sports, music, dance). If yes, how long have you been involved, how often do you go and why do you keep going?
10. How much time would you dedicate to learning about something or actually doing something? (Explain)
11. Do you think the environment is alive?
12. Do you think children can make a difference for the environment? In what ways? How do you feel responsible to take care for the Planet?
13. What difficulties do children have in doing things for the environment? Can you name at least two things?
14. Do you think that the idea of a peaceful world is connected to how we take care of the planet ? In what way?

15. Do you think that how much we buy and use has an impact on the earth?
In what way?
16. What do you feel is really important for people to know or appreciate about the environment?

Metaphorical questions

17. If the environment is like a car, do you see yourself as the
a. Driver b. mechanic c. passenger Why?

- If the environment is like a tree, do you see yourself as the
a. Roots b. branches c. fruits Why?

- If the environment is like a hotel, do you see yourself as:
a. the Owner b. a guest (visitor) c. a worker/employee Why?

What metaphor (image) comes to your mind to describe you and the environment? Why?

18. Is there anything you would like to add?

19. Can we contact you for follow-up later? If yes ask them to write down address and contact details.

Appendix D. Participant Consent Form for Interviews

You are being invited to participate in a study entitled *Child leaders and their stories. Exploring 10 to 12 years olds motivations to engage in environmental action* done by myself, Natasha Blanchet-Cohen. I am a graduate student at the Faculty of Education, University of Victoria, you may contact me at anytime if you have further questions by calling [deleted contacts]. As a student, I am required to do research. It is being done under the supervision of Dr. Gloria Snively, you may contact her [phone number deleted] if you have any questions.

The purpose of this research is to understand children's motivation to participate in environmental activities. What does environmental action mean to a child? What experiences have helped children to be environmentally involved? What are their attitudes and beliefs towards the environment? How do they see their responsibility towards the environment? Are they hopeful for the future? What environmental concerns do children have at the local (home) and global level? To what extent do they see themselves involved in making change at the local and/or global level? What barriers to involvement do children see? What is the relationship between age and a child's motivation and action?

This research is important because children are rarely asked their opinions on our environmental problems. I believe that it is important to hear your story, what you have done, how you did it, how adults helped you in order to inspire other children. I also hope this research will help you think about your past and future. The results of this study could be shared with others in the following ways : 1) in the materials produced on this conference such as a booklet and 2) for my graduate research. And I am asking you to participate in this study because I believe you can help answer my research questions and contribute to the documents being produced from this conference.

If you agree to voluntarily participate in this research, you need to know that:

Your participation will involve sharing your story of involvement in environmental issues, and your views on the environmental question. The interview should take approximately 1 hour of your time, and will be audio-taped. Your interview will then be written out word for word. You may have also have been given a questionnaire in your friendship groups, and your friendship group video-taped. This and the information collected from the group work you did in your friendship group could be used in my research and material produced following the conference.

Your participation in this research is completely voluntary. If you decide to participate, you may withdraw at any time without any consequence or explanation. If you withdraw from the study your data will not be used in the research analysis and will be destroyed. You can also decide not to answer a given question. If at any time you decide that you do not want your interview, questionnaire or materials produced in the friendship group to be part of the research or legacy materials, tell this to your Friendship Group facilitator.

In terms of protecting your anonymity, if requested below, all personal data will be kept confidential, except in the unlikely instance that information is received indicating that you are in danger of abuse. BC law requires researchers to report to proper legal authorities any knowledge of illegal activity, in particular abuse of children, learned during the research activities. You must recognize however that because the interviews are taking place in a public space that other persons both in and out of the study may know of your involvement in the project, but they will not know how you answer the questions.

In all cases, your confidentiality and the confidentiality of the data will be protected by keeping all notes taken in a locked file, and data from this study will be disposed of after five years. Only I will have access to this data.

In addition to being able to contacting me and my supervisor, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Associate Vice-President, Research at the University of Victoria (250-472-4362) and providing my file number Certification # 121-02 [renewal number 05-121-02b]. You may also contact members of the executive committee for the conference on Children and the Environment.

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher in a language that you speak fluently. Also please check one of the following:

I give permission for my name to be associated with my responses _____ OR
I request that my name is not associated with my responses _____. If I choose this option, all information will be coded so that my name is not associated with my answers, only your nationality and gender.

Name and signature of Participant: _____
Date: _____

Name and signature of Adult Guardian: _____
Date: _____

If English second-language: _____
Date: _____

Name and signature of Bilingual witness: _____
Date: _____

A copy of this consent form will be left with you and I will take a copy.