THE ENVIRONMENT THROUGH CHILDREN'S EYES

by

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A thesis submitted to the Faculty of
Graduate Studies and Research in partial fulfillment
of the requirements for the degree of
Master of Arts

Department of Geography and Environmental Studies

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ABSTRACT

This paper is an exploratory investigation of the values and content of children's views of the environment. The analysis is based on drawings and narrative collected from a class of students in Wakefield, Quebec. The project upholds the importance of eliciting the worldviews of children as full members of society. Inherent in the process of working with children is the recognition of childhood as a cultural and social construct. The special considerations and ethical issues involved with researching with children are also discussed. While recognizing that most children enjoy being active participants in a community this paper recognizes that the free flow of drawing allows for action as well as emotional and intellectual thought.

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Chapter 1 Introduction

This research set out to examine the content of children's perceptions of their environment through the use of drawing and narrative. The analysis is based on original work produced by a class of children from Wakefield Elementary, Quebec in 2001. The specific purpose of the paper is to conduct an exploratory investigation of the values and content of children's views and to develop a suitable methodology that will enable researchers to understand the following questions: "How do children understand adult concerns regarding the environment of the world?" "What can we learn from children's artwork and narrative voice?" and "How does this specific research design deal with the concerns of working with children?"

Michel Foucault states that whoever dominates or has power in society produces the knowledge for that society. Those groups, such as the social *entourage* of family, educators, doctors and governmental agencies, help maintain the accepted structure of society, as well as control the production of truth (Foucault, 1980). In our society the relationship between voice and power, is such that those who have access to power also have a voice. As established by Anne Crowley this results in the marginalization of children who have difficulty accessing voice in western society as, in her opinion, they do not have access to finances and thus power (Crowley in Butler & Shaw, 1996).

This project provides the children with a voice as it empowers them by providing an opportunity to actively participate in the research process and to access a forum in which to share knowledge. The creation of a classroom book, as well as the sharing of the book with a peer-audience without a doubt empowers the participants.

The contribution and value of this project lies as much in the results as realizing the perceptions of the environment by children as it does in overcoming the usual situation of children as powerless and voiceless within our society. Certainly, within the field of geographic research, this type of research has the possibility to expand the discipline of geography into new areas of research by keeping in mind the importance of space and location to a child's perception of his or her environment.

In this introductory chapter I will first define how the term environment is used in this paper. Next, I will show that geographers have a long standing tradition of interpreting images and that this tradition also has the potential to speak as truthfully about children's worlds as does any other research technique. Finally, I will provide an overview of the chapters that are to follow in this paper.

1.1 Definitions:

We realize from the *Dictionary of Human Geography* that we, as geographers, have many ways of defining "environment" as well as a wide range of focuses, such as wilderness protection, resource management and environmental hazards (Johnston, Gregory & Smith, 1994). Indeed, from the data collected within this project we realize that children are no different from geographers in this respect and that children also show various ways of understanding the term "environment". In order to assist with the clarity of interpretation I have chosen to refer to the word "environment" directly as it emerged from the participants of this study.

Natural environment: any part of the world that focuses on nature in terms of wildlife or sealife that is away from an urban center.

Social environment: the social interaction of characters defines the mode of the surroundings.

World: the “global” world in terms of being larger than the schoolyard, community or reference to the country of Canada.

1.2 Geographical Traditions:

The practice of interpreting images in geography has a long standing tradition. The feminist geographer Gillian Rose made many insightful observations in her work “Looking at Landscape: The Uneasy Pleasure of Power.” Rose focuses on nineteenth-century landscape paintings in Europe and North America wherein she places nature and women in the same vulnerable position. At this time, Rose explains, colonial explorations were part of the society and the bourgeoisie were interested in documenting their newly acquired lands. Yet, within these paintings there is also evidence of woman being in the same position of being conquered as the land. In particular Rose argues that:

...the visual encoding of nineteenth-century Western hegemonic masculinist constructions of femininity, sexuality, nature and property are at their most overtly intertwined in the landscapes with figures set in the colonies of Europe and America. Gauguin’s paintings of Tahitian women. Tahitian women represent the enticing land to be explored, mapped, penetrated and known....I suggest that, as well as contextualizing stories of geography” beginnings, the conflation of Woman and Nature can also say something about contemporary cultural geography’s visual pleasure of landscape (Rose in Barnes & Gregory, 1997:348).

From this analysis of artwork we recognize that Gillian Rose is using nineteenth-century works of art to study and draw debate about the social as well as political position of women within this society at that time.

Denis Cosgrove is also known for his work with regards to landscape paintings. However, his focus is with perspective and pictorial realism in landscape paintings. Cosgrove looks closely at the idea of perspective and painting techniques and argues that landscape painting were originally “constructed by techniques which were considered to ensure the certainty of reproducing the real world” (Cosgrove in Barnes & Gregory, 1997:336). Yet, he claims that within this celebration of property exists the maintenance of the status quo, and that the landscape was part of the hegemonic culture. The works were painted from the “social” and “visual ideology” of the landowner (Cosgrove in Barnes & Gregory, 1997). Although it is not the purpose of this paper to debate the works of Denis Cosgrove or Gillian Rose, it is from their work as geographers that we can draw on tradition of interpreting images within the field of geography.

The interpretation of images produced by children has been standard practice for some time now by art therapists and educators. Yet, according to James McNeal (1992), it is now becoming standard practice among market researchers. Market researchers are interested in the picture-drawings of children because it allows them to gain access to visually stored information. Children store “pictures” in their minds and these “pictures” are often the reason a child will select a particular brand, package or even store.

Eliciting visually stored data from children by asking them questions usually will not work well because children do not yet have adequate capacity to transform visual codes into verbal codes.

When asked to draw a picture of something, children usually respond positively, often eagerly, because drawing is an engaging activity to them. Unless specifically requested to draw something they dislike, they usually will draw pictures of things they value. And they draw truthfully – not reproductions, per se, but representations of what is on their minds. The hand

that holds the crayon is guided by the mind. Within limits of artistic abilities the images in the mind of child-what is real to him or her-are reproduced on paper (McNeal, 1992:216, 217).

Hence we recognize that picture-drawings by children speak as truthfully about what a child has in his or her mind as does any other research technique.

I am convinced that it is time to ask children how they understand adult concerns, debates, and actions in regard to environmental issues and our world. I also believe that the use of artwork and narrative can be an effective tool for us to use as geographers in such research situations. I would argue that we, as geographers, do value visual representations of children and that this is evident through such initiatives as “The Barbara Petchenik Children’s Map Competition”. The International Cartographic Association (ICA) holds this biennial competition in memory of Barbara Bartz Petchenik who worked throughout her life with maps related to children.

The aim of the contest is to promote the creative representation of the world, in graphic form, by children. The last competition was held in Beijing, August 2001 on the theme “Save the World.” There were 122 entries from 25 countries...The next competition will be held in Durban, South Africa, August 10-14, 2003. The theme of the competition is “Making a better world for children (Erin Richmond, coordinator <http://icaci.org/en/competition.html>).

Furthermore, the titles of the competition: “Save the World” and “Making a better world for children” suggests that the ICA has concerns about the present situation of the world. The fact that the competition exists for children suggests, as well, that we value the input of children into how they see their world.

The topic of environmental concerns and making the world a better place for children is on the minds of many researchers. In her 1999 Honors Paper, “Children’s Relationship with the Environment: Influences, Attitudes and Education”, Angela

Pocock argues that changing people's existing perceptions is difficult and therefore we must focus on the children. I agree with her that we need to encourage positive attitudes towards the environment since children will be the future decision makers. Sharon Stephens, in her work on environmental victims, finds it extraordinary how little attention has been given to children. The neglect is particularly striking with grass-roots activists, despite the fact that they often have personal accounts of the suffering of children and will include children in their protests and actions. Stephens emphasizes that children deserve our attention, yet cautions that a focus on children requires us to examine the consequences of environmental change in terms of the everyday life of children:

the space where they live, the effect on their social interaction, and the influence on cultural identification. The perception of space, interaction, and cultural identification is influenced by understanding and interaction with the natural environment and, for this reason, we cannot ignore these factors/elements (in Williams, 1998: 58-59).

It is clear that within Western society and beyond, the world of today's children is significantly different from that of ten or twenty years ago. Within the span of a couple of generations, the high-tech age has given many of us a world very different from that of our ancestors. New treatments for once death-sentence diseases are available, computer technology allows us to access global information with the click of a mouse, and we are able to be in touch with others almost constantly with the use of cell phones and computers.

The high-tech age has also brought us an increased awareness of ecological and worldwide disasters. Disasters, many of which are human-made and technological in definition (Erikson, 1994; Shrivastava, 1987, Edelstein, 1988 &

Reko, 1984). Globally, we have witnessed the horrors of Chernobyl, Bhopal, Minamata, Love Canal, and the bombing of the World Trade Centre. In Canada, we have the legacy of Grassy Narrows, the Spruce Budworm Spraying in New Brunswick, the Sydney Tar Ponds, and the very recent water contamination in Walkerton, Ontario. We also have the detrimental social and environmental effects of the James Bay Project in Northern Quebec. The health of our once-deemed-pristine Arctic and its people has been drawn into question in the past couple of decades. With increased frequency, scientists in the Arctic are reporting evidence of bioaccumulation of toxic contaminants, such as organochlorines, PCBs and heavy metals. Evidence of organochlorines and PCBs has been found in women's breast milk (Dewailly et al., 1993) and elevated levels of trace metals have been found in hunters who consume high levels of traditional wild game food (Cameron & Weis, 1993). It is becoming increasingly clear that the Arctic environment is being significantly exposed to toxic chemical pollutants and is undergoing severe stress (Doubleday in Fleming, 1997). These technological disasters are the product not only of the technological system itself, but also the failure of our society to ensure our overall safety.

One cannot deny that placing an emphasis on children's experiences within the context of environmental degradation and technological disasters raises important theoretical issues. There exists a tendency to naturalize children as victims or beneficiaries of adult actions. Implicit in the view that children are active participants in a community is the assumption that children have a voice; their own voice. Theoretically, researchers will be required to reconceptualize how children participate

in our society. As Michel Foucault stresses, we are a society of normalization and power. The real agents of our society are the family, the parents, and the doctors, etc. Within a cloak of what is “normal” – what is acceptable – we shape children to fit into our society. It is an arena of training (1980: 100-107). Hence, for us to truly hear and respect what children have to say we will need to look closely at how we see children in society.

Prior to analyzing the children’s artwork and narrative in chapter 2 “Theoretical Perspectives”, I discuss the concept of childhood as a cultural and social construct as well as the influence of cultural identity on the perception of safety within society. Second, I discuss the idea that our world is moving from an “industrial society” to a “risk society” where the environmental theme is placed at the forefront of the discussion. Furthermore, I consider the inherent difference between a technological disaster and a natural disaster. I also review the often-varying opinions of a disaster from the perspective of the “experts” and the “victims”. Finally, in the chapter on theoretical perspectives I look specifically at children in terms of their experience with technological disasters and the impact on lifestyle and worldview reasoning.

In chapter 3 “Methodology”, I begin with a discussion of the special considerations of doing research with children. As Robert Burgess of the University of Warwick reminds us, we need to look at methods of social investigation that may be used to gain access to children’s perspectives of the worlds in which they live and play and not assume that methods used with adults will be as successful with children (Burgess in Lewis & Lindsay, 2000: xiv). I agree. Within this chapter I discuss some

of the special considerations that researchers must regard when working with children. Next, in a step-by-step procedure, I elaborate on each of the matrices created in the course of this research in terms of their relevance and significance to the project. This chapter leads the reader through the development of the approach and the rationale behind it, including the scoring procedure used by the researcher.

Chapters 4 “Results and Analysis” takes a closer look at the children’s artwork and narrative. The chapter begins with a presentation of the scored matrices, which is followed by the interpretation of each picture/narrative. For organizational purposes, the pictures/narratives are grouped within the following themes which emerge from the collected data: War, Pollution, Wildlife, Universal and Everyday Problems, Peace and Hope, and Other. In this part of the chapter each of the drawings as well as each narrative is presented. Finally, the last section focuses on frequency counts through the use of histograms. Here we take a profile of the entire data set and consider what we can learn from the research design, including the thoughts of the participants.

A discussion of the research results is presented in chapter 5, beginning with an overview of the main research findings. The limitations and delimitations of the design are reviewed as well as the success of the research. We carefully look at what this research is able to explain and what it does not.

Finally, in chapter 6, I offer a conclusion as well as recommendations for future research. The main purpose of the paper is to explore the content of children’s perceptions of the environment through artwork and narrative. The relevance and special considerations of working with children are also highlighted.

Chapter 2 Theoretical Perspectives

This chapter will begin by briefly exploring the concept of childhood as a social and cultural construct in regard to research with children. Next I will then examine the influence of one's cultural identity, as defined by Linda Steg and Inge Sievers, in relation to the perception of safety within the world (Steg & Sievers, 2000).

Following this, the concept of "risk society", including the difference between natural and technological disasters, is explored. Finally, I look specifically at the significance of the notion of a "risk society" and children. The aim of this chapter is to highlight the theoretical implications of assumptions as to where children may fit within society and to examine the concept of risk society as a means to gain a deeper understanding of how hazards and risks in our society affect the perception and actions of people.

The rationale behind using children's artwork and narrative as a way to gain insights into the worldviews of children is explored in chapter 3. The following chapter also examines the special considerations for a researcher when working with children in terms of the setting of a project and the organization. In this chapter I draw from the works of researchers such as Anne Crowley, Julie Dockrell, Ann Lewis, Geoff Lindsay and Rhonda Kellogg. I also draw from the work of James McNeal, Cathy Malchiodi and Catherine Kohler Riessman as a means of supporting the use of artwork and narrative, as well as reminding the reader of the importance of respect and ethical considerations when embarking on a research initiative with children. The results of such endeavours are fruitful as we realize in chapters 4 and 5.

2.1 Childhood: A Cultural and Social Construct and Research

Research pertaining to children usually falls within the fields of education, child development, and child welfare, while other fields of academic research within our western society generally lack a tradition of studying children. One reason for this absence is the tendency to view children as passive victims or beneficiaries of adult actions and not as active participants in their world. Researchers may also see a child's view as being suspect or skewed. A belief exists that children are naïve, immature, and at times even manipulative (Davie & Galloway, 1996). As a result, it may be perceived that research with children is a difficult process and that results will somehow be unreliable (Butler in Butler & Shaw, 1996; Davie & Galloway in Davie & Galloway, 1996; Shaw in Butler & Shaw, 1996 & Stephens in Williams, 1998).

Nevertheless, Sharon Stephens insists that it is time to seek out the world views of children and to begin to grapple with the consequences of environmental change on children's everyday lives. I agree. Environmental, technological and other disasters, require our attention. The first question may be: "How do children understand adult concerns, debates, and actions, and to what extent are children themselves actively involved in the 'new environmentalism'?" (Stephens, in Williams, 1998: 64). The second question is surely: How do we establish a reliable means of gaining access to a child's perception of the world in a way that is, in fact, child friendly? And finally, could analysis of artwork and narrative be employed as a suitable methodology to gain an understanding of how children are interpreting their world? Certainly, it is not enough to assume that adult methods of research will necessarily work effectively with children.

Cultural and social perceptions of children – that is, how culture and society construct the image of children and their place in the world – vary historically, socially, and culturally. In western society, we seem, by and large, unwilling to recognize the sophistication of understanding that children possess of the world. As a consequence, it may at times be difficult for us as researchers to consider this segment of our population worthy of a voice. At the crux of this issue is our own perception, as researchers, of childhood; what does the term “childhood” imply for us, as individuals with our own cultural and social biases?

Anne Crowley suggests that it is particularly difficult for children to have a voice in western society because they do not have access to power. In western society, children are “generally propertyless, economically inactive individuals and the democratic structures of our society give little power to people in such a position” (Crowley in Butler & Shaw, 1996: 108). Moreover, the ability of a child to participate in any type of research or project – even school activities that take place outside school – is dependent on the consent of a parent or legal adult guardian. The child is, in a sense, powerless because even if she wants to participate in a class trip but the parent or guardian says no, then the child has no power to participate. The same consent is required for children to participate in any type of research study, be it within the school system or any other governmental organization.

Indeed, whoever has power in society produces the knowledge for that society. Our perception of power then is “subjected to the production of truth through power and we cannot exercise power except through the production of truth...” (Foucault, 1980: 93). In other words, the maintenance of knowledge and the existing

power structure allow those who dominate and hold the balance of power to continue their domination through the knowledge that they have produced. Knowledge that is produced is often accepted as truth. Thus, we realize that it may be virtually impossible for those who are not in a position of power, such as children, to have their “knowledge” regarded as a valid truth or a legitimate knowledge base.

Agents of our society – such as the social *entourage* of family, educators, doctors and governmental agencies – help maintain the accepted structure of a society, as well as the production of knowledge. The socialization of the child through these mechanisms – including the school system, which is a mechanism of the State – ensures that children are trained to grow up and fit into whatever social role is appropriate within that particular society. It is this cultural and social process and interplay of power that places children in a subordinate position to adults, and ensures the continuation of existing power structures into the future (Butler in Butler & Shaw, 1996; Foucault, 1980 & Lloyd-Smith & Tarr in Lewis & Lindsay, 2000).

In an initial proposal to the Northern Contaminants Program by the researcher of this thesis, one criticism of the project by a reviewer addressed the creation of a classroom book:

The proposal intends to promote capacity building by giving children an opportunity to express their opinions through creation of a class book of their drawings. The budget for production of the book (\$30) indicates that it is not intended to be distributed beyond the classroom. This would seem to limit the potential of the project to build capacity (Stone, 2001: 4).

The fact is that in this classroom project, which was intended to be a book by and for children, the choice of children as participants was deemed to be a negative factor. It was clearly not viewed as being acceptable to have children as the primary

participants and sole beneficiaries in a project – that is, for the project’s end result to be “merely” something for children to use in their classroom. It can only be assumed that a book appropriate for publication would have been reviewed in a much more favourable light; yet, this would not necessarily have changed the “capacity” of the children involved. Fortunately, the Governing Board and principal of western Quebec’s Wakefield Elementary School fully supported the concept of the project, including the creation of a classroom book, and this project was able to see a conclusion. It should be noted that the original project was in fact supported by the teaching staff and Education Committee of northern Quebec’s Kuujjuaq School (see Appendix 1).

It is important to note that the concept of childhood is time specific as well as culturally specific. The timing of the end of childhood has changed over the years. “In the sixth century it was 10 years old and throughout the Middle Ages it varied according to the social class of the family. Since the 13th century it was generally accepted as being 21 years by most social classes and now generally reduced to 18 years” (Lloyd-Smith & Tarr in Lewis & Lindsay, 2000: 64). Hence, we realize that the concept of childhood is somewhat arbitrary. The “age of childhood” is shaped historically and socially. It could be very different in the future.

The researcher who embarks upon research with children must be aware of the cultural and social status of children. Social relations are powerful and we must acknowledge where we, as researchers, fit within a social and cultural construction. Without a doubt, research involving children is complex. Yet children do possess their own knowledge, and it is only just that they be given a voice and that we listen.

2.2 Cultural Identity and Its Influence on Perception of Safety

Equally important when embarking upon research pertaining to a person's perception about his/her environment/world is to consider the culture within which the person lives. Culture is generally thought of as those elements in one's society that help to shape a person's behaviour. Cultural theory holds that cultural bias correlates with environmental consciousness and environmental concern (Steg & Sievers, 2000). The very notion of environment is a socially constructed concept. Hence, different groups of people may evaluate environmental risks in a distinct way. In other words, people choose what to fear and how to fear depending upon the social beliefs, norms, and values of their culture. All cultures have systems in place to help understand how the world fits together. Thus, prior to the recognition of a risk it must be cognitively processed through the norms, values, and beliefs of the social system. Culture predisposes people to see things in a certain way; therefore, an individual's perception of his or her safety of their world is influenced by their culture (Edelstein in Cohen 2000; Purcell, Clark & Renzulli in Cohen 2000; Steg & Sievers, 2000; Usher et al., 1995).

Kai Erikson reminds us that culture influences more than our logical thought processes or modes of behaviour. It shapes our imaginations as well:

Cultural forms help determine how a people will think and act and feel, but they also help to determine what a people will imagine. And one of the persisting curiosities of human life is that people are apt to imagine the complete contrary of the ideas and attitudes that figure most significantly in their view of the world. Whenever people devote a good deal of emotional energy to celebrating a certain virtue, say, or honoring a certain ideal, they are sure to give thought to its counterpart (1976: 81).

From this we realize that, in terms of environmental contamination or technological disasters, the cultural values held in the highest regard by any one group of people will be given the greatest attention during times of crisis by this population. In other words, in a time of crisis whatever is held in the highest regard in a culture of people will be scrutinized the most heavily during the time of crisis.

Michael Edelstein, who has worked in contaminated communities for decades, has found that “the more aware and sensitive people are to their biophysical surround, the more directly they are impacted by the quality and attributes of the environmental context” (in Cohen, 2000: 125). It follows that some groups of people who have strong cultural ties to the land may be affected more acutely than those groups of people who have strong cultural ties elsewhere. For instance, a distinction is made between southern Canadians and the Inuit of northern Canada. Peter Usher and a team of researchers report:

In urbanized areas, southern Canadians are used to pollution, in a way it is taken for granted. When new information arrives about trace pollutant levels in the environment it is added to a large stockpile of exposure to news about pollution near peoples’ homes and around the world. This doesn’t make new information any less alarming but it does at least put it into context. Furthermore in the case of industrial pollution, southerners can see the activities that create the contaminants, making it easier to understand.

In contrast, industrial pollution issues are new problems for most Inuit. They are struggling to absorb and react to new problems which they have, for the most part, done nothing to create and the causes of which are very far removed from their lives (Usher et al., 1995: 174).

The lack of a context in which to place the issue of environmental contamination is only one of the cultural dilemmas that may be faced by a group of people. The Inuit also have a very strong cultural connection to the land which may further add to the impact or anxiety created by the awareness of contaminants in the environment. The

land, the surrounding environment, the world is seen as part of their very being and to eat country food from the land is to be Inuit. Hence, the prospect of contamination in country food has cultural implications as well (Nilsson, 1997; Doubleday in Fleming, 1997; Usher et al., 1995).

Furthermore, Kai Erikson concludes that in a risk society, the age into which we are moving, we are likely to witness “a sense of cultural disorientation, a feeling of powerlessness, a dulled apathy, and a generalized fear about the condition of the universe” (1976: 258). The anchors that hold our worldview in place are coming undone; as a result we are faced with feelings of apathy and fear, just as victims of trauma experience these feelings. Erikson insists that we must ask ourselves who in society are the most vulnerable, as “people who view the world as out of whack and themselves as broken, fragmented, and torn loose from their moorings often use illness as a way to signal to themselves and to others what the nature of their discomfort is” (ibid: 112). The pain experienced by these people is as real as any other physical pain, although it is manifested from a source other than a physical blow to the body. If we accept this as truth then we must concern ourselves about the future world for the children? Do they now view the world as out of balance?

The cultural knowledge base of a culture may also influence how a person views the overall safety of his or her world. The scientific framework of risk evaluation, which is standard in industrialized countries, has evolved over centuries. A scientific and technological knowledge base is now part of the industrialized culture, but this type of knowledge base is not standard for all peoples. Kristen Purcell, Lee Clark, and Linda Renzulli emphasize that basic knowledge gaps between

scientific knowledge and other forms of knowledge, such as traditional knowledge, may result in risk interpretation being defined solely by scientific methods.

Consequently, only those who are in the position of power, with the scientific knowledge base, have the ability to provide the options of how “risk” will be studied or investigated. The choice of how one may be able to understand a pollution issue or the level of ecological destruction must be chosen from a scientific, technical paradigm; other knowledge bases with other underlying cultural values and ideas may not even be considered (Purcell et al. in Cohen, 2000: 67-72).

This is particularly relevant for research within Canada as areas, such as Grassy Narrows, Serpent River and the Canadian Arctic, are home to many First Nation peoples who may have a knowledge base that culturally differs from that of the researcher. Indeed, Mark Osedowski implies that much of the research within First Nation communities in Canada has not always been culturally sensitive. A history of mistrust of the government and industry exists within many communities, as well as of researchers who spend time in a community gathering information and are never heard from again. Osedowski argues that the methodology used in studying the perception of risk of First Nations people must be culturally sensitive to the particular community. He believes that researchers must use methodologies that are community based and more informal than surveys and questionnaires. Osedowski advocates the use of intensive ethnographic methods instead of extensive techniques like surveys and questionnaires, as these are generally seen as intimidating (2001: 180-183).

To gain access to how the environment is perceived we must use techniques that are culturally sensitive. By culturally sensitive I am referring to a means of accessing information that is not socially filtered. In the words of James McNeal, "Picture-drawing techniques tap information that is unfiltered by socially desirable behavior (Should I answer this way or that?) while retrieving visually stored information" (McNeal, 1992:218). I agree that the use of artwork is a way to gain access to how children view their environment/world and is culturally sensitive. This approach encourages a free flow of thoughts that help us to better understand the perceptions of children within a world that is increasingly seen as less and less safe.

2.3 Risk Society

The study of risk society is divided between two principal schools: a European school of study that lies within a social theoretical framework and an American school that is grounded in the practical social problems of risk. While these two schools of thought are different in origin, both acknowledge that we are all living in the same risky world. Today's risks are transnational, human-made, and tied to technical decision-making with experts. The calamities are not perceived as a natural occurrence, which is something that today's children may have less and less experience with. Research shows that there is a significant difference between the human reaction to "an act of God" and to a human-made disaster. A hurricane, tornado, or freak flood may be termed an act of God and the victim(s), although devastated, will clean up and deal with the aftermath. The victims of a technological disaster not only deal with the immediate tragedy but also have their worldview altered (Cohen, 2000; Lowenthal in

Cohen, 2000; Beck, 1999; Beck, 1995; Erikson, 1994; Edelstein, 1988; Edelstein in Cohen, 2000; Howard, 1980 and Reko 1984).

Today's technological disasters are transnational and linger within the environment for an uncertain amount of time. Christopher Williams reminds us that Czechoslovakian industries have polluted rivers which flow through wealthy Germany, that Russia's decaying nuclear facilities pose a threat to Norway, and that even though Moscow is one of the wealthiest cities in the country, it is also one of the most polluted regions in the country (Williams in Williams, 1998: 4).

The risks of today's world are not confined to a certain space nor do they have a time frame. For instance, the time frame for pollutants that linger in the food chain, as with such catastrophes as Chernobyl, the Sydney Tar Ponds, and Grassy Narrows, may span decades or in some cases centuries with many of the victims not yet born! The health of the Arctic environment and its people has also been drawn into question in the past couple of decades. With increased frequency, scientists are reporting evidence of the bioaccumulation of toxic contaminants in the Arctic food chain, such as organochlorines, PCBs, and heavy metals. It is becoming ever more clear that the Arctic environment is being exposed to toxic chemical pollutants and is undergoing severe stress. Much of the pollution is transported to the Arctic from southern industrial zones via long-range air- and ocean currents. For the most part, it is invisible and persists in the environment. The combination of cold temperatures and limited sunlight contribute to the persistence of the contaminants in the area. Cold temperatures will cause certain compounds to condense and settle on the surface of the land. In warmer weather these compounds will warm up and once again become

airborne. However, in the Arctic these compounds are able to persist in the environment and enter the food chain. Many of the Arctic food chains are relatively short; thus, it takes little time for contaminants to reach the top of the food chain in relatively high quantities which may lead to a contaminated food source for the peoples of the north (Doubleday in Fleming, 1997; Nilsson, 1997).

In risk society the concepts of time and space are radically different from those of the western society of our grandparents (i.e., industrial society). Toxic chemicals in the environment will eventually reach everyone. It is estimated that each person now carries 500 chemicals in their bodies that were not known before 1920. Maude Barlow and Elizabeth May conclude that “we may at last have an end to environmental racism – a word that appears with increased frequency within the literature” (2000: 184).

Due to the magnitude and far-reaching effects of toxins in our environment, Ulrich Beck of the European school of thought believes that risk society, “fully thought through, means world risk society. For its axial principle, its challenges, are dangers produced by civilization which cannot be socially delimited in either space or time” (1999: 19). The consequences of “out-of-control” industry know no national borders – toxins reach every corner of the planet and are thus creating a world risk society. In the new world order, we are all victims. Wealth and class will not remain synonymous with safety and protection.

In this risk society risks are human made and tied to technology; therefore, the definition of risk is complex. The concept of risk or hazard is, however, socially constructed and each group or organization involved with its definition has its own

particular interests and perceptions of the risk/hazard. The industry producing the hazard, the scientists assessing the risk, the government responsible for job-creation, and those who are being confronted with the hazard may each have their own perceptions of the situation and magnitude of the risk. It is imperative to recognize that each group has its own knowledge claims and that numerous realities exist and each has its own definition of a probability of a disaster (Joris Hogenboom, Arthur P.J. Mol, and Gert Spaargaren in Cohen, 2000: 91; Cutter, 1993: 176).

The politician who needs more votes in his/her riding may minimize a risk in order to enhance job creation. Indeed, this is exactly what George Hutchison discovered in the case of Dryden and Kenora, Ontario, when mercury was discovered in the Wabigoon River system in the 1970s. The fish had been contaminated by mercury and the sport fishing industry of the area, which was responsible for a large economic base, was closed. The local politician, Bernier, recognized the economic implications of closing the fishing industry of the area and took the stance that the Canadian standard for acceptable levels of mercury in the fish was too low. Bernier argued that it was essential that the acceptable Canadian levels of mercury be raised so that the fishing bans could be lifted and people could get back to work. It was also reported that Bernier was very concerned that people were in danger of being overwhelmed by pollution hysteria, thus implying that people were unable to think straight and make an informed decision on what was safe and unsafe (Hutchison, 1977: 65), and hence downplaying the severity of the problem in order to save jobs and gain votes.

Likewise, the media may enhance the same hazard or risk in order to grab the attention of the audience or to sell more newspapers. Thus, the media also plays a role in risk definition. Not only does the definition of risk become intertwined with social and political positions, but a social distrust is also created due to the lack of a clear definition of risk. The media may amplify the public's perception of risks and are therefore a key player in risk perception. Journalists generally want only the most spectacular findings while scientists "often dismiss journalists and refuse to talk in language or sound bites that are easily understood, preferring to stay behind the cloak of scientism"(Cutter, 1993: 48). As a result, the technological disaster/accident is played out in view of the public audience, with various viewpoints being given to the public.

Following the toxic chemical leak on October 16, 1996, at Alberta's Swan Hills hazardous waste treatment plant, Davis Sheremata interviewed a number of people who were affected by the leak. The complexities of the situation soon emerged. For Jim Badger, the grand chief of the Lesser Slave Lake Regional Indian Council, the situation was critical because a fat sample of a deer, taken within three miles of the facility during the middle of the fall-winter kill, had unsafe levels of polychlorinated biphenyls (PCBs), dioxins, and furans. For Bruce Collingwood, a Liberal environment critic, it was a chance to voice his opinion: "I've always worried about the impartiality of the government," he said. "It may be sheer co-incidence that this review started [four months] after the government moved away from the plant, or it may not" (Sheremata, 1997: 16). And finally, the mayor of Swan Hills (Gary Pollock) just wanted the media frenzy to go away: "Hunting is the biggest tourism

attraction in Swan Hills,” he said. “Even if the province finds out everything’s okay, there’s still damage done to Swan Hills” (Sheremata, 1997: 16). Within a risk society we naturalize the risk as we depend upon the very industry that is polluting our environment and threatening our health or our livelihood. The elements of society are closely tied together, work, recreation, health. We work to play and need our health to do both and accept the possibilities of our lifestyle.

Risk society is being constructed on the basis both of probability and perceived threat. Indeed, nuclear, biological and chemical (NBC) *weapons of mass destruction* add another element of threat to risk society. It is not only the danger of global destruction via the weapons that we have created, but also the *threat* of such destruction that heightens the risk of the world risk society. Ulrich Beck explains:

...[T]he danger of regional or global self-destruction through NBC weapons has by no means been exorcised – on the contrary, it has broken out of the control structure of the ‘atomic pact’ between the superpowers. To the threat of military conflict between states is now added the (looming) threat of fundamentalist or private terrorism. It can less and less be ruled out that the private possession of weapons of mass destruction, and the potential they provide for political terror, will become a new source of dangers in the world risk society (1999: 36).

It is not just the reality of war that is the source of danger, but the threat of mass destruction. In 1994, a bomb threat by the Mafia to a nuclear power station meant that Lithuania lost electricity for a day. It is not clear whether money exchanged hands; however, as Christopher Williams argues, it raises “the possible specter of ‘double blackmail,’ in which a poor state turns to its wealthy neighbors and suggests that they might pay the sum demanded, because they are just as likely to suffer if the threat is carried out” (Williams in Williams, 1998: 17). It is not so much the memories of war that affect us, but rather the threat of weapons.

The day following the September 11, 2001 terrorist attack on the United States by bombing of the Twin Towers in New York City, *The Ottawa Citizen*, one of the city's major newspaper, ran an article by Jake Rupert on how the RCMP (Royal Canadian Mounted Police) evacuated the East Block on Parliament Hill the same day, as they had found an illegally parked van with suspicious luggage and feared a bomb threat against the Canadian Parliament (2001, September 12, S32). In this case an illegally parked van was enough to cause a search and constituted a threat to the government of Canada.

In the same paper, an article by Rick Mofina (S27) reported that the RCMP commissioner Giuliano Zaccardelli reported that the RCMP was "in a heightened state, an alert state." He also reported that, "We are vulnerable. It is possible that an incident such as that could happen in Canada. But there is no indication, there is no intelligence to the effect that Canada is a target," Mr. Zaccardelli told reporters. "The possibility is always there, that Canada, like other countries, could be a target. That's always been a fact. But what we saw this morning was that this could happen." The reality here is not an attack but rather the possibility or the probability of an attack. Risk society has its basis in the understanding that, as a western society, we are moving from an industrial society to a risk society.

Ulrich Beck proposes that we are moving towards another level of modernity, beyond postmodernity – to "enlightenment against industrial society" (Beck, 1999). The goal for Beck is not turning back, but rather a new stage of modernity – one that would demand and achieve self-determination, and prevent its truncation in industrial society. Beck calls this "reflexive modernity." Although it is beyond the scope of this

paper to analyze the merits of labeling our society as reflexive modernity, I do believe that it is relevant to recognize that the risks described in “risk” society are global in their reach and may be timeless in their capability to destroy.

The European school of thought believes that self-confrontation with the consequences of risk society, such as ecological devastation and eugenics, ensures that the basic social structure of reflexive modernity differs from the social structure of industrial society. Industrial society is a class society wherein human relationships are rational, controllable, and capable of being produced by society’s norms. Industrial society is accountable. However, in a risk society the social structure is one of individualization. Individuals are held accountable for societal decisions regarding the accountability of the society itself (Beck, 1999: 78). In a very real sense society transfers its responsibility for ecological and societal destruction onto the individual. The individual is given choices and therefore the individual is also presumed to have the solution!

It is at this point that there is a significant difference between the European school of thought and the American school of thought. Edelstein calls into question Beck’s ideas that society will become “reflexive” and captivated with risk because, in his interviews with victims of toxins, risk was for the most part not mentioned. Edelstein believes that risk is simply a “technocratic concept that has made its way into social science jargon, research and theory. Risk is the way ‘outsiders’ and experts think; it is, in itself, abstract, not personal” (Edelstein in Cohen, 2000: 135).

Whatever our stance, the theory of risk society, unlike any other theory, has given environmental issues a central place in the academic setting. Technological

advance is highlighted, along with the ways in which new technologies have changed the patterns of work and altered the consequences of industry. The new technological hazards are altering the face of the earth and placing environmental concerns at the forefront of the issues, bringing much needed attention to various impacts of ecological destruction on the world (Jacobs in Jacobs, 1997).

2.4 Technological Disasters/Natural Disasters

The “natural” risks of earlier society have now been coupled with the technological risks of modern society. However, there exist fundamental differences in human reactions to a natural disaster in comparison to human reactions to a technological disaster. I feel that it is consequential for us to acknowledge these differences, since the consequences of a technological disaster do alter an individual’s worldview, which in turn affects how that person functions within the community and society at large. Certainly the implications of a person’s worldview and how a person functions within a community have direct bearing on the children of society, who are the world’s future leaders as well as current members of our society.

Natural disasters are generally considered to be “freaks of nature” or “acts of God.” They just happen. They are events where humans are seen as having no control. Life is disrupted and victims experience stress, yet these acts of nature are expected to pop up during our lives. A natural disaster is viewed as unpredictable and something from which people must rebuild (Erikson, 1994; Shrivastava, 1987; Edelstein, 1988; Reko, 1984).

Technological disasters – sometimes referred to as human-made disasters or industrial accidents – are, at their very core, not accidental. Their causes are socially

constructed, generally systematic, and often attributed to corporate greed and government irresponsibility. These disasters are viewed as being caused by human technology and therefore have a point of blame. The feeling arises that the incident should not have happened and someone is at fault. Victims become adamant that they deserve compassion and compensation (Erikson, 1994; Shrivastava, 1987, Edelstein, 1988; Reko, 1984). Blame may be directed toward the outsiders and experts, but it can also be directed to loved ones, as was found by Kai Erikson in her work with the Buffalo Creek Flood where a woman rationalized her blame towards her husband: “I hated my husband at first. I just thought, as a man, he should have known more about dams around the mines. More or less, I just kind of blamed him for my sister’s and her children’s death” (1976: 173).

Not only do victims perceive the two types of disasters to be different, but so do non-victims – as Karl Reko discovered from the differing reactions of people during the 1982 Times Beach flood of the Meramec River in Missouri. During the initial flood, people considered the disaster to be a natural occurrence that had to be cleaned up. But when it was discovered that the community was contaminated by dioxin, people’s reactions changed as they stopped perceiving the flood as an “act of God” and began seeing it as a “human-made” disaster. During the period when the community was dealing with ‘only’ a flood, help poured in and people sympathized with the situation. However, once the dioxin poisoning was discovered, “their home, possessions, and health were damaged and endangered. But people reacted differently to them because as Karl Reko believes the public was afraid of the situation” (Reko, 1984: 30).

I feel that one of the saddest results of a technological disaster is that, although victims deserve understanding and compensation, outsiders often do not or cannot understand the victim's point of view and/or, for economic reasons, generally wish to downplay the gravity of the situation. Victims may be experiencing trauma on both personal and societal levels and yet receive little understanding from outsiders. Edelstein claims that "outsiders are ill-prepared to be supportive, informative, or helpful because their reality is drastically different. ... Professional expertise may diverge from resident's local expertise" (in Cohen 2000: 129).

2.5 The Experts and Perception

According to Susan Cutter, one of the greatest changes in the last 20 years has been the debate between experts and the public regarding scientific opinion. Given that this debate is, for the most part, played out in the nightly news or on the front-pages of newspapers, the media play an important role in influencing the public's perception of risks:

Risks ... are amplified by large volumes of information (media attention), disputes over factual information (scientific experts challenging one another's data), dramatization of the issue (television footage and other visuals), information channels (electronic and print media, personal networks), and finally through value-laden terminology and images such as mushroom clouds, toxic dumps, and skull and crossbones (Cutter 1993:182).

Children are part of the public. Therefore, a child's perception of risk is also influenced by the media, scientific debates, and dramatizations of the issues, as well as print media and visual images.

In their very nature, modern risks are largely invisible in that we do not necessarily see the toxin in the water, smell it from the tap, taste it when we drink, or notice any poison from its touch. Indeed, the following picture from a coloring book

used in a Times Beach workshop, along with the caption underneath, illustrates this very point.

One day, Mom told me I couldn't play in the yard. I don't understand. I don't see anything dangerous out there. Everything looks the same (Reko, 1984:68).

We cannot trust our sensory clues to know if our environment is safe. As a result, modern risks are often open to interpretation by the “experts” who, depending on their interests, may sensationalize or minimize the risk itself (Beck, 1999; Erikson, 1994; Cohen in Cohen, 2000).

Media coverage may further upset children, and in the case of Love Canal, New York, it was particularly frightening for children of activists to see and hear what their parents said publicly (Edelstein, 1988: 103). Adeline Levine noted that as part of the community protest in the Love Canal crisis, the Homeowners Association leaders “made a well-publicized trip to Albany, carrying mock but realistic-looking child-size coffins festooned with blue ribbons and slogans – to present to the

Governor” (Levine, 1982: 104). Indeed, it is little wonder that Michael Edelstein discovered in his research that children could be upset by what their parents say or do publicly!

At other times children themselves become the activists. Jamie Armstrong, a ten-year-old girl, presented evidence to Halifax City Council in support of a city by-law that will make it illegal to use pesticides for cosmetic purposes in the city of Halifax by the year 2003. Jamie shared her letter with the council: “This is the letter that I read at the city council meeting. I’m tired of waiting for the pesticide by-law, and I’m very worried. Whenever spring comes, I know it’s bright, it’s sunny, it’s beautiful weather, but I always have this dark shadow looming over me. That shadow to me is death. I fear spring because of pesticides” (The Nature of Things, 2001: 13).

In 1997, children of Sydney, Nova Scotia, had their parents pressure city hall to have the visiting circus set up outside of town and not on the contaminated soil as it had been for numerous years. The children had their parents call City Hall following a visit to the school by Mark Biagi, a biologist and member of the Joint Action Group (JAG), who visited the local schools explaining the risks of breathing PAHs (polycyclic aromatic hydrocarbons, the largest group of cancer-causing chemicals in the world). Community opposition initiated by the children forced the circus to the outskirts of Sydney (Barlow & May, 2000).

By late September 2001, Amber Moydell of Spring, Texas was selling drawings and virtual cups of Kool-Aid on eBay in order to raise money for the victims of the September 11th bombing in New York City. Although only 8 years old, her mother reported that “‘She expressed a lot of emotion and concern,’ her mother

asked if she would like to help and she said ‘I draw really good, Mommy’”. As a result she was raising money for the victims with some help from her mother (Giles, 2001:42).

In addition to newspapers, television is a strong medium of communication and supplies the public with visual symbols of the intended or unintended message. “The images in the news of skeletal trees or of dying seals have opened people’s eyes. Making the threats publicly visible and arousing attention in detail, in one’s own living space...” (Beck, 1999: 71). The symbol of the visual image on television gives us a point of reference, a symbol by which to remember that not all is well with the world. The uncertainty of the “experts” creates a public mistrust. As a result, the very core of the nation state is being called into question. Industry, government, and science are no longer viewed as the great pillars of society but rather brought into question by larger and larger numbers of people. Our modern world of bigger and better is being called into question.

Louis Guillette, who studied alligators from Lake Apopca in Florida and found them to be super-estrogenized animals, says that

There’s no question we’ve had a better life by the use of chemicals, from one perspective. But another perspective is, I think there’s a cost to the use of chemicals, and I think people are starting to recognize that. If we look at the increase in the organic food market, if we look at more and more people complaining about having whole cities sprayed, I don’t think that happened in the 40s and the 50s and the 60s and the 70s. I think people presumed that the stuff was safe, it had been tested, it’s OK. I don’t think that presumption holds any more (The Nature of Things, 2001: 14).

Our world in general is not the same. We are aware of risks in a fundamentally different way.

2.6 The Children

Unfortunately, there is little in the literature concerning children in terms of environmental degradation and toxic exposure or other technological disasters. In 1994, Elizabeth Guillette made the decision to study the children of the Yaqui Valley of northern Mexico and the effects of pesticide spraying on those children. Guillette was interested in knowing what was happening to the people. The answer, to her dismay, was always the same: “We don’t know; no-one’s ever looked at this before in terms of people” (The Nature of Things, 2001:5).

Guillette visited the Yaqui Valley and found that children of the valley showed deficits in simple tests of hand-eye coordination, as well as increased levels of birth defects, stillbirths and premature births. As part of her research, Guillette had children draw a picture of a person (a technique commonly used by pediatricians to measure a child’s development) and found that children of the valley were unable to complete the task:

The power behind the drawings...[is] a summation of everything I found, and to see a child at age four who cannot comprehend what a person looks like, because a drawing is an abstract thing, what else is it telling us about these children? (The Nature of Things, 2001: 4).

In support of Guillette, David Carpenter, director of the Institute of Health and Environment at the University of Albany, clarifies that lead and PCBs cause a reduction in IQ when a child is exposed to them in development, and that he and others have suspected for a long time that pesticides cause the same neurobehavioural effects (The Nature of Things, 2001: 4).

At one time scientists considered cancer to be the main threat from toxic exposure; however, it is now understood that poisons can affect the young’s immune

systems, brains and reproductive organs. Part of the problem is that young children tend to get a bigger proportional dose of the poison than adults because of their small size, fast metabolism and fast growing bodies. Moreover, many pesticide regulations are calculated for adults and not children. Standards for many environmental contaminants are designed to protect a 70-kilogram adult and not a seven-kilogram child (Picard, 2000). Certainly, this begs the question – does knowing that you have been exposed to toxins as a child or that toxins are in the environment influence one's perception of the world?

The Canadian Institute of Child Health warns that low-level exposure to environmental contaminants, such as pesticides, smog, and food additives, could cause a number of health problems for coming generations. The occurrences of childhood cancers as well as childhood asthma are rising dramatically. Although a number of researchers surmise a link between environmental contaminants and learning disabilities in children, Dr. Graham Chance realizes that much of our information is hypothetical because so little information is available, especially pertaining to children:

‘We are exposed to this soup of chemicals, but we don't know the cumulative, long-term effects on our children's health,’ he said. ‘There are major gaps in our knowledge, and we can't afford to allow that situation to persist’ (Picard, 2000).

We may have a fair idea of how certain chemicals will react within laboratory situations, but we have little scientific evidence of the direct effects on children's health nor how these chemicals interact with each other outside the laboratory.

Canada has had numerous incidents of toxic contamination, some of which seem to have gently faded from our memories or of which we were only ever vaguely

aware of to begin with. Yet, these contaminants linger in our environment. Prior to the development of the defoliant “Agent Orange” which was used in the Vietnam War, various other proposed formulations were tested at Gagetown, New Brunswick. And, from 1952 to 1994, New Brunswick annually sprayed its forests with various toxic pesticides to combat the spruce budworm (Barlow & May, 2000).

Fenitrothion was part of the mixture that was sprayed for nine years over the New Brunswick forests. A warning was attached to Fenitrothion. It read:

Caution: Keep out of reach of children. Poisonous if swallowed, inhaled or absorbed through the skin.... Do not breath vapour or spray mist.... Keep all unprotected persons out of operating area or vicinity where there may be danger of drift.... Do not contaminate feed or foods. Do not contaminate any body of water. Fenitrothion registration, federal Pest Control Products Act, October 1975 (Howard, 1980:43).

In spite of this, the New Brunswick government approved the forest-spraying program in hopes of eradicating the budworm and protecting the forest industry on which the province relied heavily for economic revenue.

Children, however, were getting sick. By 1972 doctors at the Izaak Walton Killam Hospital for Children in Halifax were recording an outbreak of Reye’s Syndrome. In the nine cases of Reye’s Syndrome that occurred in New Brunswick, five of them were fatal and all came from areas of the province where spraying was carried out. However, the scientists decided that there were several possibilities for causing the virus and a specific toxic agent could not be found to be responsible. Stricter spraying regulations were put in place and people were to be made aware of the spraying schedules (Howard, 1980: 47-51).

In May of 1976, however, the Hampton Elementary School was not informed of any spraying and the school was sprayed at recess when the children were outside

playing. On October 20, 1976 a grade four student of Hampton Elementary died and three months later Douglas Falconer of the same school was also dead. Their deaths were attributed to encephalitis, an inflammation of the nervous system. It was known that Fenitrothion affects the nervous system, yet it was not until 1979, when direct evidence of the damage done to rats by Fenitrothion was provided, that the spraying of Fenitrothion was stopped in New Brunswick (ibid: 54). Barlow and May sadly report that still no studies have ever been done of the long-term residual toxic contamination from the air bases at Gagetown, the empty barrels of chemicals left from the era of experimentation, or of the spraying of the New Brunswick forests (Barlow & May, 2000: 192).

Physical impairment is certainly a result of contamination – yet not the only one. Edelstein confirms that perceived contamination of the environment affects the quality of social interaction as well, so that a person's ability to function successfully within the greater community following a pollution incident may be hindered. He is convinced that children face the same lifestyle impacts as adults.

2.7 Lifestyle Impacts/Worldviews

In 1988 Edelstein discovered that the *perception* of exposure to toxins and the perceived consequences to those people living within contaminated communities affect how they think about themselves, their families, and the world. According to Edelstein, *perception*, and not necessarily *reality*, is the key – making it clear that it is more important to understand perception of risk than solely the deemed reality of a risk assessment. In other words, it is not so much the message that is *given* about a risk, but rather the message that has been *received*. This is a fact that the health

officials of the James Bay Mercury Committee know only too well. These officials now feel that they may have been too successful in their campaign advising people of the possible health concerns of contaminated fish. The intention of the committee was to have people avoid consuming predator fish. The lines between types and amount of fish became blurred and now many feel that the whole of the environment is toxic.

Health officials are now concerned that the shift in eating patterns has led to an overall poorer level of health, both mental and physical. By not eating as much of the traditional game food, which has great cultural significance as well as nutritional value, the children may be losing the overall cultural benefit necessary for mental and spiritual well-being. The worldview of these people is thus being significantly altered (Roebuck in Hornig, 1999).

At present, mercury levels among the James Bay Cree are on the decline and most young people have little mercury found in their bodies (DIAND et al., 1999; Roebuck in Hornig, 1999). Roebuck warns, however, that no mercury exposure is not necessarily a good thing as it may mean that little or no fish is being consumed by the population. Fish is extremely nutritious as it is high in protein and low in fat. The perception that all fish are poisoned, regardless of the amount of mercury, troubles Roebuck for he fears that people are replacing fish with poorer nutritional foods when it is only fish higher on the food chain that carry significant amounts of mercury.

Sadly, Roebuck's fears seem to be confirmed. Treena Delormier and Harriet Kuhnlein have discovered that the Cree women of Eastern James Bay now receive most of their fat in the winter from french fries, and that the younger women are far

less likely to eat traditional foods in comparison to the elders (1999: 182-186).

Moreover, the fear of contaminated fish may result in yet another unwanted change of lifestyle. Fishing, Roebuck insists, is valuable not only from a nutritional standpoint, but it also reinforces the traditional activities surrounding the act of fishing, which provide valuable physical activity and create both an important cultural connection to the past and a linkage to the land.

Edelstein acknowledges the difficulty in determining whether or not children are affected in the same way that adults are by a pollution incident. Nonetheless, he is familiar with the stress experienced by children when faced with contaminants. Stress may come from the parent, in terms of the parent's worry and concern for the child, as well as explicit messages from the parent about what is no longer safe. Even younger children who may not understand the full dimensions of toxic exposure recognize the disruption of their "normal" home life. Children are faced with the direct impact of being taught to fear, the disturbance of not being able to play in their usual place or perhaps no longer being able to drink the water or to swim in their pool. Older children often sense the abstract terror of the contamination that so scares the adults.

In terms of technological disasters, I feel it is imperative that we recognize that children are just as acutely affected by the trauma of human-made disasters as adults. Kai Erikson, for instance, discusses her research on the Buffalo Creek Flood of West Virginia on February 26, 1972, when a dam built by a coal mine simply collapsed. Erikson explains that, two years after the disaster, adults continued to play

the scene over and over again in their minds. Yet the consequence to children is equally if not more troubling:

The fear experienced by children, however, is beyond all measure – and perhaps even beyond all description. Each of them has a memory of the flood itself, even if he was not there to see it, and each of them has to make something of all that blackness, all that death, all that noise and excitement and terror, without any real technical understanding of what in fact happened. At school the pictures they draw of the flood are filled with people – people floating on the water, people waving matchstick arms on the sides of hills, people washed up on the banks of the creek – and the dominant accent of those pictures is generally conveyed by a heavy black crayon. It is clear, then, that the scene has become a permanent part of most children's recollections. Yet the vividness of that scene has been sharpened by the conditions of life that now prevail in the hollow and by the anguish they see in their parents' eyes and hear in their parents' voices. They know, most of them, that the flood changed their world, and if they do not quite remember what life was like on Buffalo Creek before the tragedy, they are nonetheless aware that February 26, 1972, was a special moment in the only history that matters very much to them. So they, even more than the older people around them, have come to feel that the flood was not just a freak act of nature or a vicious act of men but a sample of what the universe has in store for them (1976: 235).

Thus we realize that the worldview of these children has been altered. They now perceive this type of disaster as being what the world has in store for them. It is more than just the collapse of technology; it is the collapse of what was once thought to be safe. The disaster is demonstrably complex since the adults, too, have real fear and real memories – and yet the children are left to deal with the aftermath of the disaster without necessarily having the same technological understanding as the adults.

During the Love Canal crisis, younger children were reported to fear premature death and older female children were faced with the fact that they might have chromosome damage or that their reproductive systems may have been damaged by the chemicals in their environment (Edelstein, 1988). The aftermath of the Buffalo

Creek flood resulted in parents' reported changes in their children. For instance, one woman recounted:

My children are changed. I sit and try to talk to them, tell them they are a family and should love each other and treat each other like brothers and sisters. But most of the time they treat each other like enemies. They're always on the firing line at each other. It's always screaming and yelling (Erikson, 1976: 122).

In the case of Love Canal, three suicides were related to the discovery of the contaminants in the soil. The abstract horror of the toxic exposure led to deep-seated fears to such a point that suicide seemed a viable solution:

The 14-year-old who killed herself with sleeping pills reportedly feared that she would develop cancer, as members of eight out of twelve families living on her block already had. She feared that it might be breast cancer, or a cancer that would leave her unable to bear children. She worried that she would be unable to have a normal marriage. So, at 14, barely into puberty, she took her life (Freedman, 1981:624 cited in Edelstein, 1988: 104).

Children also interact with other children at school who may or may not fully understand the situation themselves. At times, this results in taunting and teasing from other children (Edelstein, 1988; Reko, 1984). As the Sydney Tar Ponds in Nova Scotia gained recognition for its toxicity, Frederick Street became known as "Canada's Love Canal." As people became aware of the toxicity of the area, "children from other streets were not allowed to visit anymore, and kids from the infamous Frederick Street were treated like lepers at school, as if they had a communicable disease" (Barlow & May, 2000: 139). Furthermore, as hard as it may be to believe, Maude Barlow and Elizabeth May report that the residents of Frederick Street also had to endure the indignity of busloads of tourists gawking and waving at them as if they were freaks in a sideshow (ibid: 139).

The Serpent River Ojibwa in northern Ontario are dealing with “Canada’s slow bombs” which is the name given to the tons of liquid waste that have been dumped on uranium mining sites across Canada. In its natural state, uranium gives off radiation for billions of years but the earth shields us from most of these rays. When uranium is brought to the earth’s surface, however, the protection is lost and the rays enter our living cells and damage them beyond repair. Ed Vance of the United Steelworkers explains that the tons of liquid waste left over from the mining operations is like a time bomb ticking, which will be around long after the mines close. One such mine, located near the reserve on the Serpent River, eighty kilometres south of Elliot Lake, Ontario, may no longer make the headlines; however, that does not mean that the suffering is over. In fact, the people of the reserve are often sick and many children are born with deformities. Furthermore, the traditional way of life has been disrupted and many no longer hunt or fish due to the fear of contamination. The worldview of these peoples has been significantly altered. The rivers and forests on which they depended for food and cultural reinforcement are no longer seen as safe (Isacsson, 1990).

A study titled, *A Second Diagnostic on the Health of First Nations and Inuit People in Canada*, which was released in November 1999 by the Department of Indian Affairs and Northern Development (DIAND), Statistics Canada, and the First Nations... (FNIRHS) recognizes that on Broughton Island, Nunavut, over 60% of Inuit children under the age of 15 and almost 40% of Inuit women of childbearing age have PCB levels that exceed Health Canada’s recommendation. It also notes that the levels of PCBs in newborn children of the Inuit of northern Quebec, as well as the

Montagnais of the Lower and Mid Shore of the St. Lawrence River, have PCB concentrations that are four times higher than the PCB concentrations found in infants of southern Quebecers. Furthermore, the PCB concentrations of the Inuit and Montagnais are at a level where cognitive impairments are expected to result. Another study was reported to show that mercury levels in newborns of the Inuit of Quebec and the Northwest Territories were up to fourteen times higher than those of newborns in the southern Quebec population. Again, the concentration of the contaminant, in this case mercury, was reported to be at the threshold for the appearance of neurological impairments. The report also warns that a fear of contamination in game meat and fish can lead to changes in lifestyle and eating patterns that have a negative effect on a person's overall health. Traditional ways of life for aboriginal people and the spiritual and cultural connection to the land can be disrupted (DIAND et. al., 1999).

The greatest tragedy for Canadians would be for us to have people suffer in isolation and in vain. Such an impending disaster, which is slow in developing, has the potential to alter the worldview of future generations. Children are affected by such slow growing technological disasters; it is time to recognize children's perceptions of their environment and realize the potential health effects of this perception, not only on their physical health but also on their emotional and mental well being.

Certainly we do not know for sure what their future reactions will be or what lasting effects there might be for the hundreds of children of the Tar Ponds and other children who face environmental contamination. Will they learn to fear, be forced to

leave their homes and change schools, or will they become activists themselves alongside their parents? We do know that the story is not yet over and that this situation is as much a Canadian predicament as it is a global situation.

In education we must continually ask ourselves if the child understood what was being asked, what motivated the response, and how accurate the response was. Time and time again, when children are permitted to express themselves through a medium that allows for free expression the openness is evident. I am proposing that we seriously consider the use of artwork and narrative to tap into children's perceptions of their environment/world.

Chapter 3 **Methodology**

This chapter describes the process of inquiry. The opening section covers special considerations for a researcher when working with children. Next, the rationale behind using children's artwork and narrative as a research tool is explained. From this the reader is guided through the formulation of the research question, initial contact with the school, and the design of the research measures used. It is important to note that the measures used in this study have been designed specifically for this research and, as a result, each matrix of the research method is described in detail. Finally, the decision to use frequency distributions in the form of histograms as part of the analysis is examined.

3.1 Research with Children: Special Considerations

When given a choice of expression children will often choose a variety of media. Some children will readily choose to express their ideas through poetry and drama while sketching and drawing are also popular forms of expression among elementary school children. In fact, drawings are used to explain everything from a playground argument to the parting of a friendship. Children are rarely, if ever, passive participants in activities and, as a result, are active participants in the research process. Challenges exist on how to produce reliable data while being respectful and remaining neutral as a researcher (Dockrell, Lewis & Lindsay in Lewis & Lindsay, 2000; Warren in Lewis & Lindsay, 2000; and Ian Shaw in Butler & Shaw, 1996).

As researchers, we must remind ourselves that although we have indeed lived our own childhoods, this childhood that we are investigating is not ours. In order to ensure that the research clearly reflects the views of the child, and not the perceptions

of the researcher, it is important to be clear from the beginning on research guidelines. The purpose of research needs to be explained to the children, as well as how the research information will be shared with them. “Methods of sharing this information will need to vary according to the circumstances and the maturity of the child or young persons”(Crowley in Butler & Shaw, 1996: 116). “To be meaningful, consent needs to be ‘informed’. The respondent should be given some reasonably clear idea of the purpose of the research, the nature of their contribution to the data and the manner in which the information will be used” (Denscombe & Aubrook, 1992: 127). We must recognize the relevance of children’s rights.

Human Rights for Children: A Curriculum for Teaching Human Rights to Children Ages 3-12 was written by several members of the Tacoma, Washington, chapter of Amnesty International in 1992. This curriculum is based on *The Convention on the Rights of the Child* and has a specific focus on the participatory rights of children as well as the right to information (Hatch et al., 1992).

Data collection with children requires the researcher to consider the setting, the child’s capabilities, and how to get at a child’s perspective by the most child-friendly means. The two types of settings are formal and natural. According to Dockrell et al., natural settings for children include homes, places of worship, classrooms, clubs, playgrounds, streets, and childcare centres, as opposed to formal settings such as laboratories. The laboratory allows for a certain amount of control by the researcher; however, its artificiality and unfamiliarity to the child may seriously limit the ability to generalize the findings. A natural setting, such as a school setting – which is the choice for part of this study – is not without its obstacles. First, working

with children in schools means that, although the children are in a familiar setting (for many a safe setting), the frequent changes of the school timetable, unexpected special events, classroom dramas, and staff absence may limit the researcher's work (Dockrell, Lewis and Lindsay in Lewis & Lindsay, 2000: 50).

Second, within the school setting students have learned to participate. Martyn Denscombe and Liz Aubrook found that there is a very high return rate on questionnaires that are given within a school setting. Even though it was explicitly stated that the questionnaire was not a test, the format resembled a test and resulted in the undertone of being a test. In fact, "to the extent that completing research questionnaires is perceived as schoolwork [by participating students], we need to question the extent to which such questionnaires are in fact completed voluntarily and with the willing co-operation of pupils" (Denscombe & Aubrook, 1992: 125). They further point out that within the institutional context of the school there exist subtle and at other times not-so-subtle differential power relations. The process of administered questionnaires in such a setting involved authority relations that affected the student's approach to the questionnaire (ibid: 126).

Yet another aspect of ethics within the research setting is the situation where the teacher is wearing the hats of both teacher and researcher. Simon Warren noted his own experience while conducting research as a primary school teacher in the early 1990s. Warren explains that his original research required the use of interviews. However, it was evident that his "position as a classroom teacher was having a reactive effect. 'It was impossible to determine whether the boys were producing answers they thought I wanted, or were cautious about revealing their true intentions

lest this result in disciplinary measures being taken''' (Warren in Lewis & Lindsay, 2000: 124). Warren concludes that children need to engage, and critique, different ways of "seeing." The researcher should not throw up his/her hands and exclaim that this is impossible, but rather look at yet another way of getting a little closer to the child's truth:

Could not a drama be as powerful an inscription device as a structured survey? Could not a poem speak as resonantly of the reality of children's gendered worlds as tabulated statements and descriptors? Does not a journalistic report, with evocative photographs, involve the same processes of selection and abstraction of elements, as academic research? And could not such a report speak as truthfully about children's worlds? (Warren in Lewis & Lindsay, 2000: 132-133).

Furthermore, it is imperative that, as researchers, we be mindful of the reality that knowledge is socially constructed and be open to "reconstruction" or change. Charles O'Hara, in his study of tourism as a social construction of place, makes it very clear that through qualitative research the researcher is also a learner. The researcher must realize that he/she is "not outside this process of social construction and is continuously aware (or tries to be) of her assumptions and position within the social field" (O'Hara, 2000: 41).

I cannot think of a greater truth for a classroom teacher or for a researcher within the classroom. For the length of your time in the school, you will be voluntarily or involuntarily part of that community. In a small elementary school news travels fast and by recess you will be known as "the new person" in so-and-so's class. You will have already met the principal, the secretary, and the custodian, and if you think that the kindergarten children will allow you to walk through the halls without helping to tie a shoe or zip a zipper ... you are wrong! For the duration of the

intended research project you will be part of the learning experience. It is impossible to simply walk into an elementary class and distribute a piece of paper. Once the researcher actively engages with a class, the analysis of the work has new meaning. The work that is being analyzed will have a group of faces attached to it. This, however, is not necessarily a negative aspect of the research process. It is very difficult to be dishonest when you have a child's face in your mind. A number on a page is not so difficult to change ... 1.4 ... 1.5.... it is not the same once a number has a face.

Appropriate methods and the adherence to ethics are directly linked to the human interaction. The research question will determine the methodology, the location will determine the analysis, and the human interaction will ensure the honesty of the researcher. Indeed, we must look towards new methods of investigation in order to gain access to children's perspectives of the world. And I do believe, as others do, that it is time for us as researchers to consider a range of methodologies. Depending upon our research question, the populations whom we are working with as well as the location of that population both play a significant role in determining the final selection of a research methodology.

3.2 Children: Artwork and Narrative

In the area of art therapy, drawings and sketching have long been drawn upon as a means of understanding children's views of their own situations. Cathy Malchiodi, an experienced art educator, art therapist, and clinical counselor, writes:

In all my encounters with children, I have been repeatedly fascinated and surprised by what they communicate through their drawings and have learned a great deal about them through their art expressions. As a result of these fortunate encounters, I discovered that drawings offer therapists a potent tool for understanding children's thoughts, feelings, fantasies, conflicts, and

worries, as well as perceptions and reflections of the world around them (Malchiodi, 1998: xi).

It is certainly beyond the scope of this project to look at children's pictures as a tool for therapy. However, it is the goal of this project to examine artwork as a suitable methodology to use with children in seeking indicators of children's perceptions of the environment and how they see their world.

Some thirty years ago, Rhoda Kellogg noted that "children's art has major significance for psychology, education, and esthetics, and important implications for sociology, anthropology and other areas of study" (1970: 12). Certainly, the famous story of *Joey: A 'Mechanical Boy'* clearly demonstrates how a child's perception of the world can influence how a child draws the world and his or her place in it. Joey was removed from his humanness to the extent that he drew himself as a machine. From these drawings there can be no doubt as to how Joey perceived himself within a mechanical world. Joey's counselors reported that, "Drawing these fantasies were a first step toward letting us in, however distantly, to what concerned him most deeply" (Bettelheim, 1959: 123-124). Indeed, Eileen Kane and Mary O'Reilly- De Brun remind us that " in many societies, drawing or modeling can be a way to get people, particularly children, to discuss their ideas" (Kane & O'Reilly-De Brun, 2001: 231).

Market researchers of the 1990s are interested in expanding the consumer market and creating life long customers. As a result, these researchers are investing heavily into research to help them better understand the child consumer. A favoured researcher technique employed by these researchers is picture-drawings. James McNeal explains that picture-drawings allows children to answer questions "unfiltered by socially desirable behavior (Should I answer this way or that?) while

retrieving visually stored information” (1992:218). McNeal says that “Children lack verbal skills as well as socializing skills, and adults often are intimidating, thus adding to the problem of eliciting meaningful and fruitful dialogue” (ibid: 213). On the other hand, pictures that are in the mind of the child are reproduced in the drawings and evoked at purchase times. As stated earlier by McNeal, children draw truthfully what is in their minds. The market researchers then study the images and try to manage the images of the children in order to build a consumer base. The emotional tone of images, which is often manifested in the faces of the characters in the drawings or the use of bright colours for symbols such as rainbows holds significance for the next purchase (ibid:58). Indeed, the picture-drawings hold much information for the researcher:

Asking children to draw ‘what comes to your mind when you think about going shopping’ naturally provides some of the same information as verbal inquiries, but it also produces additional and richer results. Children’s minds seem to give somewhat different and more thorough directions to expressive behavior as compared to verbal behavior. Each resulting picture is a unit of thought, not a series of disjointed ideas linked together by an interviewer’s questions (McNeal, 1992:60).

From this we recognize that picture-drawings are a rich research technique that has value with children subjects.

I believe that children’s artwork and narrative are suitable methodologies to acquire some indicator of a child’s perception of world risks. Although children’s artwork has not been studied in any great detail in relation to technological disasters, it has been used to help illustrate the seriousness of a situation or to add a human element to a disaster. In the following three examples we can hear and see the power of artwork as a medium of expression. First, Kai Erikson visited Grassy Narrows,

Ontario, at the time of the mercury poisoning in the 1970s, and had a classroom of children draw pictures:

When I visited Grassy Narrows and was trying to earn at least a wary measure of respect, I went to the local school and asked a classroom full of children to draw pictures submerged under fifteen feet of ice, but they did what they could to humor me. The lake they produced, almost without exception, was drawn in black crayon, and I thought I was in the presence of an extraordinary set of data when the menacing dark shapes appearing in that already black water were revealed as sharks. Two thousand miles from the nearest ocean! Sharks! What better evidence of a nature turned menacing? Alas, it turned out that the Band Council had recently shown the movie *Jaws* to the children of the reserve, and that, of course, places a severe limit on what I dare claim for those drawings. Still, it may make sense to suppose that those sharks arrived in Grassy Narrows just in time to give substance and contour to what was otherwise a shapeless dread" (Erikson, 1994: 37-38).

Second, Michael Edelstein illustrates his work in Legler, which is a section of Jackson, New Jersey:

A five-year-old boy whose house abuts a toxic waste dump draws a picture of his home and its surroundings. In the center of the drawing is the building, crudely sketched as any five year old might depict his house. A 'For Sale' sign dominates the front yard. In the backyard, a tall mound of red material is shown leaching residue under the house. Facing this mound, his back to the house, stands the boy. His face is shown with a massive frown (Edelstein, 1988: xv).

Third, Mala Gitlin Betensky has studied pictures drawn by Holocaust children at the Terezin Concentration Camp between 1942 and 1944. In addressing artistic expression by children, Betensky reports that these children drew, painted, and cut and pasted as though they needed to tell the world about their world. We only have their pictures to tell their thoughts and feelings, as these children are long since dead:

The children's pictures are visual evidence that no matter what the scarcity of art materials and the degree of stress, there is a capacity for self-expression and creativity. These children ingeniously expressed their inner experience with scraps of discarded office forms and bits of colour more readily than with words, although many also wrote poems (Betensky, 1995: 187).

I do believe that it is time that we treated children's drawings with as much attention as we treat other forms of data collection. The force of such drawings is undeniable. Indeed, a second significance of these reflections is the realization that drawings reflect the moment and the place in society in which the artist is living.

When I first began my teaching career over ten years ago, I taught in an outport on the Lower North Shore of Quebec. The children drew pictures of "Long Liners" (a type of fishing vessel) on an open expanse of blue water beneath a sky filled with seagulls. My next teaching position was in Kazabazua, Quebec – a predominantly logging community. The children drew chainsaws and J5s (a type of logging machine) in the bush among tall trees. I agree with Robert Coles and Margaret Sartor: "It is not hard, looking at children's drawings or paintings, to see the important influences of personal experience, or the influences of race and class and region and historical moment on a boy's, a girl's, sense of what matters in life – the shaping forces upon the particular world a child calls his or her own" (Coles & Santor, 1992: 8).

The significance of such a methodology is that drawings often portray a reaction to one's own experience and in a sense becomes a mode of expression that allows us to move beyond cultural mores. In this research project, we are interested in finding out whether an examination of artwork will allow us to view a child's perception of world risk. Supported by an examination of narrative work that accompanies the artwork, I believe we have a very useful tool for tapping into a child's view of the environment/world.

Gary Buma (1996) reports that many social scientists are now combining research techniques, which is in fact what I am doing here by combining artwork and narrative techniques. Within the social science field there is Catherine Riessman who reminds us that for some researchers narrative based research may have a more precise definition than others. She says:

There is considerable disagreement about the precise definition of narrative. Among one group the definition is so overly broad to include just about anything. In the clinical literature, for example, there is reference to illness narratives, life stories, and narration in psychotherapy about the past. However compelling narrative may be as a metaphor for telling about lives, systematic methods of analysis and detailed transcriptions are often lacking (Riessman, 1993: 17).

Despite the conflict of definition, Reissman (1993) points out that it is not the world that tells a story but rather a person. The person may come with culture and background but it comes nonetheless from the person. Arthur Berger also supports narratives even in the form of captions saying that: "By telling their readers what characters are thinking, authors can provide important information about such matters as what has happened in the plot (that is, summaries) and ideas a character may have about various other characters and what is motivating them" (Berger, 1996: 46).

Certainly, as researchers we cannot access another person's reality directly. We are working with language, symbols and often assumptions. Nonetheless, by proposing the combination of artwork and a brief narrative to help explain the artwork, we are looking to see what we can learn about how children understand their world.

This research is document research; that is, children's drawings and narrative documentation. With the cooperation of the Grade 5/6 class of Wakefield Elementary

School, and appropriate consent, I invited the children to participate in the creation of a classroom book that speaks of their impressions of today's world. To conduct the inquiry, each child who wished to participate in the exploratory project was asked to sketch a picture of how he or she views the world in which they live. Each child was also invited to write a brief paragraph (not more than 100 words) explaining the meaning of the sketch. As researchers, we were looking to see if the artwork and writing show any evidence of a child's environmental/world perception.

The class will be provided with the classroom book of the children's work, and both the school and the Western Quebec School Board will be provided with a detailed account of the researcher's findings. The methodology of this project is qualitative in nature, in that this study is concerned with understanding the environment/world from the perspective of the participant.

The **research question** that we wish to answer is as follows:

How do children understand the environment and the world? What can we learn from children's artwork and narrative voice? How does this specific research design deal with the concerns of working with children?

3.3 Making Contact

Prior to contact with the school, the project proposal was reviewed by Carleton University's Ethics Committee. The researcher then set up a meeting with the Principal of Wakefield Elementary School to discuss the intended project. Following the initial meeting, a hard copy of the proposal was given to the Principal for her to review (see Appendix 3). Once approved by the principal, she then presented the proposal to the Governing Board of Wakefield Elementary School. Each school within the province of Quebec is required to have a governing board, which is a

committee made up of teachers, parents, and the principal to facilitate the running of the school and ensure that all concerned have a say in its organization. Once passed at this level, the parent representative presented the proposal to the Education Committee of the Western Quebec School Board. The Education Committee reviewed the project and a school board member was assigned to review the project in depth. On February 7, 2002, the researcher received official confirmation that the project had been accepted. This process took a total of almost five months from the submission of the initial proposal to Carleton University's Ethics Committee. I feel that it is extremely important that any researcher wishing to work within the school system be aware of the inherent time constraints. The process of acceptance is lengthy and completely beyond the control of the researcher.

Once official acceptance was obtained, the next step was to invite a class to participate in the activity. As I am currently employed as a teacher at Wakefield Elementary School, I invited my class to participate in the activity. The decision to use only one classroom was two-fold. First, schools do exist for educational purposes and not research purposes, and therefore one must beware not to overburden the school or its teachers (Borg & Gall, 1971; Schumacher & McMillan, 1993). Second, the Quebec teachers are currently embroiled in a pay equity dispute with the province's Ministry of Education. While teachers are only boycotting extra-curricular activities at this point, it is suspected that pressure tactics are likely to increase in scope. The next possible increase in pressure would be a work-to-rule campaign, whereby teachers would be very careful to strictly follow the ministry guidelines for the school day. Although art and writing are curriculum activities, any change in

schedule could cause unnecessary tension in an already difficult situation. The researcher did not want to put any teacher in an awkward situation where they may genuinely wish to support the project, yet feel compromised if they were to change their planned classroom activity for the project. It is for these reasons that the researcher decided that, for this school year, it would be best to work only with the one classroom and declined the offer of other teachers also interested in the project.

It should also be noted that to invite a class to participate in a research project, a letter to the parent or guardian is required and a permission slip (see Appendix 4) must be signed and returned to the researcher prior to the commencement of the project. This process will take at least a week and the researcher must set aside the time for this process.

3.4 Importance of Positive Human Relationships in Research

At the onset of conducting research within the school system, it is necessary to establish positive relationships with the school staff, the parents, and the children. A researcher cannot overlook the complexity of human interactions when conducting research with human subjects within an institutional setting such as an elementary school (Schumacher & McMillan, 1993). This is a simple fact, yet surprisingly seems to have been overlooked by researchers on a number of occasions. Walter Borg and Meredith Gall, both educational researchers, report that it is imperative for the researcher to establish and maintain positive working relationships with all those involved during the time the research is carried out. They make reference to the fact that “teachers may refuse to cooperate or may even sabotage your work by doing such things as complaining to parents that your research is interfering with class work, or

taking children on field trips on days when you have scheduled testing” (Borg & Gall, 1971: 58). Having taught within the school system for a number of years, I was professionally a bit taken aback when I first read this.

Now, however, I fully agree with Borg and Gall that fruitful research within the school system is only possible through warm relationships between the researcher and the school personnel. A positive human relationship within the school system requires more than good communication. It involves respect for timetables, listening to those whom you are working with, flexibility, and above all else patience. As Sally Schumacher and James McMillan remind us, “schools exist for educational purposes, not for research purposes studies cannot unduly interfere with educational processes” (1993: 23).

The school community is a relatively small community, and as I discovered as a researcher and knew as a teacher, the community does not comprise only the teaching staff, parents, and children, but also the support staff – all are interested in the life of the school. It is very important that if/when support staff approach the researcher, he/she is willing to take any questions or concerns seriously. The administrative assistant is the first person the parents often meet in the school system, and over the years the parents generally come to know this individual very well. In the case of childhood sickness, emergencies and even bill payments, it is the administrative assistant with whom the parent/guardian will first speak.

In small schools, such as Wakefield Elementary, the custodial caretakers participate in the school life. They are generally invited to school fundraisers and are present for after-school activities. In some cases the custodial caretakers may be

personal friends with the parents. The point is that the caretakers are involved in the life of the school and may prove to be an invaluable support to the researcher when the time is taken to develop and maintain positive, warm relationships.

3.5 Sample Population

The sample population comprises one combined class of Grade 5 and Grade 6 students. This combined Grade 5 and 6 class is typical of any rural or remote school in Quebec, where combined classes are generally the norm and the sex ratio of boys and girls varies from year to year. The class in question is composed of 25 children ranging from 10 to 13 years of age. Seventeen of the children are in Grade 5 and eight are in Grade 6. In total, the class has six boys and 19 girls. All of the children live in the catchment area of the Wakefield Elementary School, with the exception of one girl whose family recently moved to just north of the Wakefield area yet has maintained permission to attend the school.

As a whole, the Wakefield Elementary School population draws from a fairly wide range of family backgrounds. Some families own working farms or hobby farms. Others own local businesses or work within the Wakefield area, while in a number of families one if not two parents work in Ottawa or Hull and commute back and forth daily. Interestingly, Wakefield is also the home of a number of artists, and some children have at least one parent who earns a living through their artwork. Social assistance is necessary for some families, yet all seem to view the school as a real “heart” for the community and parents give incredible support to the school and its teachers. Indeed, the school seems to somehow be attached to many of the community events and support flows both to and from the school.

3.6 The Classroom Experience

The project was conducted during the first class of the day (8:30 – 9:30 a.m.) on Wednesday, March 12, 2002. Unfortunately, two of the participants were absent due to illness, one child was unable to get his ideas down on paper within the scheduled time and six others did not wish to participate. Thus the total participation rate was 16 or 64 per cent of the class.

1. Wednesday Morning – the Classroom Experience The researcher settled the class, waiting for the attention of all the participants prior to giving any instruction. The researcher then explained that the participants would receive paper and crayons, and once everyone had these materials the full set of instructions would be given. As this is standard procedure within the classroom, participants were not disturbed in the least.
2. One piece of drawing paper, one piece of writing paper, and eight pencil crayons (black, blue, red, yellow, orange, brown, purple, and green) were distributed to each participant.
3. Extra pieces of both drawing and writing paper were left on a desk for those who felt they wanted to start again and to diminish the idea that this was a test. The children were made aware that they would be making a classroom book and that this was part of a research project that involved looking at world views.
4. The researcher once again waited to have the full attention of all the participants and then introduced the exercise by saying:

- a) "Please use the piece of paper in front of you and the pencil crayons provided to draw a picture that illustrates your thoughts on how you see your environment /your world."
- b) "Once you have completed your drawing, please use a second piece of paper to explain in your own words your drawing. Remember not to write more than 100 words or a brief paragraph."

At this point, a few of the participants verified that they could, in fact, really draw what they thought. The researcher then walked around the class and individually reassured the participants that, yes, they could draw what they truly thought.

Some participants did ask for clarification of what was meant by 'how they saw the world.' To this the researcher responded by ensuring the children that this was not a test, there were not right or wrong answers and how they chose to define the terms were up to them. One girl asked if she could draw a gun. Generally in the elementary school any form of violence is frowned upon and usually gun drawing is not accepted. Once reassured that it was all right if it was indeed her choice, she happily set out to draw her picture.

5. Children were reminded that they would have one classroom period in which to complete their work. The total drawing and writing time per participant ranged from 45 minutes to almost 1½ hours. A number of students wished to have more time and would have gladly enhanced their pictures had time permitted. It became clear as the work period continued that the children were much more interested in drawing and enhancing their drawings with words than in writing on a second sheet of paper. Indeed, I was forced to make an on-the-spot decision to accept the

participants' point of view. One participant said quite simply, "But why do I have to write on that paper? My drawing says everything. See? I made this "X" here and I wrote here." I could see no reason to disagree, as the child was perfectly correct. The drawings and messages on the drawings are self-explanatory, as will be covered in more depth in the findings and interpretation section.

6. For children who may ask for assistance in generating ideas, it is important that the researcher does not influence the child's decision on what to draw or what to write. Some children will take longer than others to begin their task. Extra thinking time is to be expected for some, and it does not mean that the participant will not produce or even abandon the task. It is simply that some children take longer to plan than others.
7. As children finish their work, it is very important that the researcher (a) ensure that each child has identified his or her drawing, and (b) provide another activity so that the children are not left without anything to do. In this case, children were given the option of reading one of their books or drawing another picture.

For ethical purposes the researcher had intended that each child identify his/her work with a letter, allowing those who truly wished to sign their name the freedom to do so. The idea of using letters proved to be rather useless as not one child chose to use a letter code. In fact, the general consensus was, "This is my work and I do want to sign it. It is what I have to say."

8. Drawings and writing were collected and matched by the letter procedure.

Information was kept in the following record card:

Participant's Alphabetic Code: _____

Sex: _____
Date of Birth: _____
Grade Level: _____

9. At the time of this writing, the researcher is in the process of compiling the classroom book. Upon completion, the classroom book will be shared with the classroom and the children will be invited to explain and read their work to their classmates.

The step-by-step nature of the classroom experience is extremely important on a number of levels. It is imperative to maintain the authenticity of the research, and yet equally essential to allow the children to know exactly what is going to happen so that classroom management is maintained and respect for their working environment is secure. When working in a large group situation it is important that everyone know what is going on. It is also very important in maintaining a warm professional relationship with the school staff, the parents, and the children, so that the research is in no way perceived as just “fun and games” or a “filler.” Just as Schumacher and McMillan have reminded us, the purpose of schools is not research but education. We, as researchers, must recognize this and demonstrate the importance of allowing children to participate while being part of a well-managed project experience.

3.7 Research Measures

In developing research measures that would be effective in analyzing the artwork, I reviewed social science methodologies as well as methodologies that are used to

teach art to children and techniques used in the practice of art therapy with children. I wish to make it very clear that this study is in no way a study of psychology. The research into art therapy was simply another reference point for me to use in designing possible matrices for the analysis of the pictures. None of the matrixes used in this particular research has been previously used. They were, however, inspired from themes and theories used in social science, art education and art therapy.

The analysis is divided into two separate parts: the picture analysis and the written analysis. The picture analysis consists of eight matrixes and the written analysis consists of two. In each case, the matrixes were used to tally simple frequency counts of various features of the drawings and writing. In no way were the matrixes intended to hinder the holistic nature of drawings; they are merely a tool enabling the researcher to better conceptualize the work and to determine, whether any trends in colour, tone, or vocabulary emerge from the work. The matrixes are also relevant in the sense that they would allow another researcher to conduct the same activity and have a baseline of data with which to make comparisons and references.

Due to the fact that each measure has been developed particularly for this study, I will explain why each measure was developed and its purpose in the analysis.

The first matrix is titled the *Prominent Feature – Per Drawing*.

Matrix 1

War	Pollution	Wildlife	Hunger	Universal And Everyday Problems	Peace & Hope

The reason for a focus on a prominent feature came primarily from two sources: (1) the work done by Mala Gitlin Betensky (1994) in her analysis of “Art Expressions by Children Under Ultimate Stress (Terezin Concentration Camp, 1942-44),” where she looked at visual display as one aspect of the children’s drawings, and (2) the 1986 publication of *Dear World: The Canadian Children’s Project / Le Projet des Enfants Canadiens: Cher Monde*, in which children were asked, “What would you do to put the World right?” In this publication the authors divided world concerns into war, pollution, drugs and alcohol, universal problems, hunger, and peace and hope. I chose to follow similar lines and made a matrix with the headings: war, pollution, wildlife, universal and everyday problems, hunger, peace and hope, and other. I included wildlife as a topic for two main reasons. First, children of this age are generally very interested in wildlife, and second, a number of children have parents and relatives that actively hunt or go birding each fall, and they eat wild game at home. The “other” column allows for any features that I had not thought of. As a researcher, I was also interested in seeing if there would be any consistency among the dominant features across the sample.

The second matrix is titled *Prominent Life Form – Per Drawing*.

Matrix 2

Land Animal	Marine-Life	Birds	Human	Other

This matrix provides a focus for the analysis in terms of land, sea, air, or the human element. The prominent headings of this matrix are: land animal, marine life, birds,

human, and other. The purpose of this matrix was to narrow down the life form(s) (if any) that emerge as an area of concern. Another purpose of both the first and second matrices was to add an element of mass and space. The mass (that is, the bulk or volume of an object) as well as the space (that surrounds the prominent object) may, when viewed holistically, provide information as to the “power” or “weight” of the subject matter. This, in turn, centres one with respect to the significance of the feature to the artist (Gaitskell & Hurwitz, 1975: 88).

The third analysis of the artwork is to look at the *Overall Texture of the Drawing*.

Matrix 3

Heavy-Repeated Shading	Medium – Double Shading	Light – Single Shading	No Shading

The headings of this matrix are: heavy – repeated shading, medium – double shading, light – single shading, and no shading. Texture is a relevant element in both art education and art therapy. In art education, light to dark shading of a drawing is a powerful element to which the artist as well as the viewer may respond strongly. For this reason, it is valued (Gaitskell & Hurwitz, 1975). In art therapy literature, the elements of shading show up to varying degrees. Lines of contrasting texture and compulsive shading between figures and in the interior of figures reveals anxiety, as do short, violent lines tempestuous whirls and heavy, dark shaded objects (Tanay, 1994; and Betensky, 1995).

The fourth matrix to be used is titled *The Dominant Colour of Use – Per Drawing*.

Matrix 4

Black	Blue	Red	Yellow	Orange	Purple	Green	Non-determinant

Colour is certainly the most complex element of this analysis and educators, such as Charles Gaitskell and Al Hurwitz (1975), warn of not only its emotional appeal but its cultural appeal as well. However, some researchers such as Rhoda Kellogg, do not even look at the significance. As she says, “I do not consider the use of color in children’s art because choice of colors is limited to what is made available by adults” (1970: 1-2). Nevertheless, I agree with Gaitskell and Hurwitz that while colours are complex for children, “...teachers [or researchers] will discover that colour has an appeal far in excess of the other elements of design” (1975: 95-96). It was largely for this reason, as well as my own experience of teaching art classes for the past few years, that I decided to include colour as a matrix in spite of its complexity.

A number of colour trends did emerge within the literature. For instance, pure aggression and high anxiety seem to magnify themselves in black and red (Naevestad, 1979; Tanay, 1994; and Gregorian et al., 1996). In fact Gregorian et al. (1996) have done an entire study on the “Colors of Disaster: The Psychology of the ‘Black Sun.’” Here they report that over and over traumatized children will choose to colour the sun black, communicating they believe in an apocalyptic image of darkness and gloom.

Furthermore, these researchers believe that children who cannot verbally communicate their trauma will do so through colour changes of their work (1996: 11). Other colours that may work as contrast colours or may also have negative connotations are violet/purple and green, whereas orange may signify love (Naevestad, 1979). In this matrix, I chose to use the following headings: black, blue, red, yellow, orange, green, purple, brown, and non-determinant. The choice of the eight colours was practical: (1) pencil crayons come in packs and these were the 8 colours within the pack and (2) the colours of emotion appearing within the literature were also represented by the colours in the pack of pencil crayons.

In fact, the choice to use pencil crayons was also one of practicality and function. Over the years, I have realized that for detailed drawing and sketching the majority of children prefer to use pencil crayons. It is certainly much easier to have children work with the tool of their choice than to offer another type of sketching tool and have them unmotivated or uninterested in the tool rather than the actual subject matter.

The final section of the picture analysis is focussed on tone. By 'tone' we mean evidence of a positive or negative aspect in the environment or the world at large. Here I am looking for such things as smiling people, animals, or a sun – indicators within the picture that may signify a positive aspect. Depictions of a poison sign or large 'X' over an element of the drawing that would indicate a negative aspect of the drawing. In an attempt to discover any such trends, the following four matrixes are used: (1) *Evidence of a Positive Aspect in the Environment/World*, (2) *Evidence of*

a Negative Aspect in the Environment/World, (3) Location of the Positive Aspect, and (4) Location of the Negative Aspect.

Matrix 5 Evidence of a Positive Aspect in the Environment/World

[May be demonstrated by cleanup activities, positive interaction among people, animals & the environment or smiling sun, children and/or animals]

Yes – dominates the drawing	Some evidence of a Positive aspect	Little or no evidence of a positive aspect

Matrix 6 Evidence of a Negative attitude towards the Environment/World

[May be demonstrated by pollution, environmental degradation, negative interaction among people, animals & the environment or frowning sun, children and/or animals]

Yes – dominates the drawing	Some evidence of a negative aspect	Little or no evidence of a negative aspect

Matrices 5 and 6 (*Evidence of a Positive/Negative Aspect in the Environment/World*) are very similar in format. In each case the three columns read: Yes – dominates the drawing, Some evidence of a positive/negative aspect, and Little or no evidence of a positive/negative aspect.

Matrix 7 Location of the Positive Aspect in the Environment/World

Local Home/School	Local Town Wakefield	Province/Territory Quebec	Country Canada	Global World	Other

Matrix 8 *Location of the Negative Aspect in the Environment/World*

Local Home/School	Local Town Wakefield	Province/Territory Quebec	Country Canada	Global World	Other

The purpose of the final two matrices (*Location of the Positive/Negative Aspects*) is to try to locate the geographical area of concern. Each matrix is composed of six columns that read: Local #1 (Home/School), Local #2 (Town/Village, in this case Wakefield), Province (Quebec), Country (Canada), Global (World – larger than Canada), and Other. These matrixes conclude the picture analysis.

The writing analysis comprises two matrices. Here I am counting the frequency of positive or negative feelings towards the environment/world. The first matrix is simply a record of a clear positive or negative statement, and is titled *Evidence of a Clear Positive or Negative Statement about the Environment/World*.

Matrix 9 *Evidence of a Positive Statement*

[Frequency analysis of positive or negative feelings towards the environment/world i.e. The water is polluted. The rivers are getting cleaner. The birds are happy.]

Positive Statement	Negative Statement

It is divided into two columns, one titled Positive Statement, and the second titled Negative Statement. Examples of such statements might be: “The rivers are getting cleaner,” or “The birds are happy.” The reason for such an analysis is to make a

simple distinction between the positive and negative words, phrases, or statements that might be made by the participants.

Matrix 10 *Evidence of Positive or Negative Noun Modifiers.*

Positive Noun Modifier	Negative Noun Modifier

The second matrix of the writing analysis has only two columns: Positive Noun Modifier, and Negative Noun Modifier. In order for me to ensure reliability of the tally, I have set in place three rules to resolve the ambiguity of the written analysis.

These rules are as follows:

Rule 1: Noun modifiers are those words that precede or follow a noun. Note that noun modifiers are words that almost always end in: -ed, -ing, -en, -y, -some, -like, -ful.

Rule 2: Noun modifiers that reflect a quality that refers to the state of a participant's perception of the environment/world will be scored.

Rule 3: Noun modifiers that reflect a quality that refers to how the participant feels about the health of marine life, land animals, or birds – either locally or globally – will be scored. Any reflection on how the participants view themselves will also be scored.

It is important to note that this means that not all adjectives will be scored. For instance, those adjectives that refer to a type, such as “an” or “some,” will not be scored. Nor will adjectives that have to do with numbers, such as first, second, etc.

The rules for the noun modifiers are adopted from methods and tools of observational

research proposed by Walter Borg and Meredith Gall (1971), and my own professional experience as a schoolteacher.

3.8 Frequency Distributions/Histograms

The decision to use frequency distributions as a way of analyzing the data collected was largely due to the size of the sample. This exploratory study simply has a data base that is too small for statistical analysis. However, Borg and Gall remind us that “since content analysis [which is what we are in effect doing in this study] usually depends on frequency counts, it is very important to control for the length of the communication” (1971: 254). In order to control the length of communication with the participants we had the time frame of one class period for the data collection and our written communication did have a limit of 100 words attached to the study design.

Furthermore, when looking at frequency, studies are easier to carry out and require less sophistication on the part of the researcher, in terms of psychological and sociological expertise, than is required for the content analysis of deeper psychological and social variables (Borg & Meredith, 1971:252). The frequency distributions would thus allow the researcher to be distanced from the notion of an “art therapy” which was certainly a consideration because I am not a trained psychologist, although I did research the area of art therapy for inspiration in terms of creating the scoring matrices.

From the literature we realize that a number of researchers agree that matrices and frequency distributions do help people to see what is going on with the data. They allow the researcher to conceptualize the information being collected (Buma, 1996;

Hedrick, Bickman & Rog, 1993; Kane & O'Reilly – De Brun, 2001, & McNeal, 1992). In fact, Kane & O'Reilly – De Brun explain that in an analysis “[T] the first step is to get an overall idea of what is happening. We should look at each variable in turn to see how it is distributed” (2001: 313). Such comments further support the use of frequency charts as first and foremost this is an exploration of a methodology and as a researcher I am interested to see what the data will show.

Catherine Marshall and Gretchen Rossman note two specific weaknesses of frequency charts. First, the researcher runs the risk of missing the overall picture as variables are focussed on individually. Second, when looking at variables one at a time there could be a misinterpretation due to cultural differences (1996: 100-103). I agree. Nonetheless, I feel that the manageability of such counts, and the ease with which one can get a picture of what is going on from such an in-depth study, merits the use of frequency distributions. Furthermore, we must keep in mind that the researcher is also studying each document individually and, as this is an exploration of a methodology, limitations will be noted as the analysis proceeds.

This concludes the discussion on the design of the scoring procedure. The results of this analysis will be described in the following chapter “A Closer Look at Children’s Artwork and Narrative: Research Findings and Interpretations”.

Chapter 4 A Closer Look at Children's Artwork and Narrative Research Findings and Interpretations

To evaluate the methodology of matrices and do justice to the collected artwork and narrative I begin the evaluation process with a holistic view of the collected data.

First, I present the reader with the scored matrices, in order to provide a quick overview of how I used the matrices in relationship to the data collected. Then a snapshot of all the pictures is presented in a thematic format with an analysis of the relevant features of each picture. Next, a series of histograms is provided where we look deeper into the relative frequencies of the elements evident in the artwork and narratives. I also examine the proposed methodology of matrices, scrutinizing for what the matrices are able to capture and what they do not anticipate. In a couple of circumstances I give suggestions on ways to adapt the matrices and rescore the results. I want to know what we learn about how a child sees his or her environment/world from an overview of the artwork and narrative presented.

As I began the task of looking through the data before me the most astounding realization I had as a researcher was the complexity in how children define their world... their environment. The open-ended question posed to the children of: "Could you please draw a picture using the pencil crayons provided and the paper in front of you, as well as write a short paragraph (not more than 100 words) which explains what you think of the environment? Your thoughts on the world around you?" lead to a huge spectrum of definitions of personal environment and personal interpretations.

4.1 Children's Perspectives

To begin the data analysis, the scored matrices are provided as a first step to the overall understanding of information collected. The matrices are shown without comment as a way for the reader to have an overview of the raw data collected.

Interpretations of the data are provided, in chapter 3 with references to the matrices in the Artwork and Narrative section 3.7. A comparative analysis of the data is provided in the section on Histograms in section 3.8.

4.2 The Matrices

The following set of ten matrices is given in two sections: the matrices used for the picture analysis is followed by the matrices for the written analysis.

Picture Analysis:

Matrix 1:

Prominent Feature – Per Drawing

War	Pollution	Wildlife	Hunger	Universal And Everyday Problems	Peace & Hope
3	7	3	0	3	1

Matrix 2:

Prominent Life Form – Per Drawing

Land Animal	Marine-Life	Birds	Human	Other
4	2	1	5	2

Matrix 3:

The Overall Texture of the Drawing

Heavy-Repeated Shading	Medium – Double Shading	Light – Single Shading	No Shading
5	6	2	2

Matrix 4:

Dominant Colour of Use – Per Drawing

Black	Blue	Red	Yellow	Orange	Purple	Green	Non-determinant
4	0	5	0	0	0	0	12

Note: The dominant use per drawing scored >16 due to the fact that some of the participants chose to illustrate more than one drawing per sheet of paper.

Matrix 5:

Tone of the Drawing – Evidence of Positive Aspect of the Environment/World

[May be demonstrated by cleanup activities, positive interaction among people, animals the environment or smiling sun, children and/or animals]

Yes – dominates the drawing	Some evidence of a Positive aspect	Little or no evidence of a positive aspect
1	0	15

Matrix 6:

Tone of the Drawing - Evidence of a Negative Aspect of the Environment/World

[May be demonstrated by pollution, environmental degradation, negative interaction among people, animals & the environment or frowning sun, children and/or animals]

Yes – dominates the drawing	Some evidence of a negative aspect	Little or no evidence of a negative aspect
14	1	1

Matrix 7:

Location of the Positive Aspect in the Drawing

Local Home/School	Local Town Wakefield	Province/Territory Quebec	Country Canada	Global World	Other
0	0	0	0	1	0

Matrix 8:

Location of the Negative Aspect in the Drawing

Local Home/School	Local Town Wakefield	Province/Territory Quebec	Country Canada	Global World	Other
1	4	0	0	9	1

Written Analysis:

Matrix 9:

Evidence of a Clear Positive or Negative Statement about the Environment /World
[i.e. The water is polluted. The rivers are getting cleaner. The birds are happy.]

Positive Statement	Negative Statement
1	14

Matrix 10:

Evidence of Positive or Negative Noun Modifier

Positive Noun Modifier	Negative Noun Modifier
1	23

From this quick overview it becomes clear that some matrices are more effective than others. For instance, at a glance at matrices 5 and 6 we realize the prevalence of negative outlooks. In fact, in terms of scale we realize that in 15 of the 16 cases a negative attitude dominated the drawing as opposed to providing a positive message. We also recognize that global concern as opposed to local concern is of greater relevance for these children.

Certainly, as we begin a closer scrutiny of the artwork and narrative within the following pages we quickly learn that these participants provide complex and diverse interpretative drawings and narratives of their world.

4.3 Artwork and Narratives

In this section the artwork and narrative of each participant is provided and analyzed in relation to the matrices. The eight matrices used for the picture analysis include:

Matrix 1 *Prominent Feature – Per Drawing*, Matrix 2 *Prominent Life Form – Per Drawing*, Matrix 3 *The Overall Texture of the Drawing*, Matrix 4 *Dominant Colour of Use – Per Drawing*, Matrix 5 *Tone of the Drawing – Evidence of Positive Aspect in the Environment/World*, Matrix 6 *Tone of the Drawing – Evidence of a Negative Aspect in the Environment/World*, Matrix 7 *Location of the Positive Aspect in the Drawing* and Matrix 8 *Location of the Negative Aspect in the Drawing*.

To aid with the analysis I have provided the material in accordance with the headings of Matrix 1 *Prominent Feature – Per Drawing*, which consist of: War, Pollution, Wildlife, Hunger, Universal and Everyday Problems, and Peace and Hope. To further aid the reader the pictures are not only documented in the thematic presentation but also grouped in appendix 1. I needed a starting point for the analysis and this matrix allowed me to determine the main focus or foci of each of the drawings. Matrix 1 clearly identified the major emerging themes of the drawings, hence allowed for a more precise focus on the overall presentation of the pictures.

Following the headings from left to right across Matrix 1 we realize that 3 of the 16 pictures had a prominent feature of war. Seven of the 16 pictures showed a prominent feature of pollution. Three of the 16 pictures showed wildlife as the prominent feature. None of the pictures made reference to hunger. Three of the 16 had a prominent feature of universal and everyday problems and one of the 16 had a prominent feature of Peace and Hope.

Theme – War

The following 3 pictures make distinct reference to war. Figure 1 is the most graphic scene of war.

Figure 1. *Drawing A*

Age 11

The narrative of this illustration reads: *This picuter [picture] is war. the Big X means that there shouldn't be any war. So meaning world peace!*

The tanks, guns and explosions show a destruction of war. The narrative at the top of the picture indicates the necessity of world peace, which is emphasized with the exclamation mark at the end of the sentence. In fact, this may be one of the most explicit pictures within the collection.

The only life forms found in the drawing are human, with the overall texture of the drawing being one of repeated shading. In fact, if we look closely, every aspect of the picture has been repeatedly shaded. The choice of the large "X" coloured in red

and heavily shaded supports the use of Matrix 3 *The Overall Texture of the Drawing*, Matrix 4 *The Dominant use of Colour*, Matrix 6 *Tone of the Drawing – Evidence of a Negative Aspect in the Environment/World* and Matrix 8 *Location of the Negative Aspect in the Drawing*. The message is global [“meaning world peace”]. The force of the message is seen with the repeated shading and the choice of colour reflects the colour trends discussed in chapter 3 where “pure aggression and high anxiety seem to magnify themselves in black and red (Naevestad, 1979; Tanay, 1994; and Gregorian et al., 1996).

Figure 2. *Drawing B*

Age 10

The three messages of this picture are pollution, deforestation and an end to people fighting.

The reference to human violence is found at the top centre of the picture where one character is illustrated as shooting the other. As we look closely we can see

the depiction of a gun, the bullets and the red blood on the character and the earth around her/him. The narrative in the bottom left hand corner supports this as the caption reads:

I wish people would stop fighting and live in peace!

In this case the use of the narrative which gives a message of the need for peace is stated, thus confirming that the human violence in the middle of the picture is a depiction of war. This is an important aspect of the methodology as we have the use of artwork and narrative working together for a clearer understanding of the picture.

The drawing is quite complex with a series of messages being illustrated. Matrix 8 *Location of the Negative Aspect* picks up on the global concern. Even though the location of the war may be in the center, the picture is the globe. The connectedness of the world is enhanced by the visual aspect of the human chain of stick people surrounding the image of the globe in the centre of the picture. Indeed, if we look closely we realize that the images are represented with various hair colour and style, which does give the impression of human diversity.

Figure 3. Drawing C

Age 11

The illustrations indicate the concern of war, guns and both water and land pollution.

In the upper left hand corner as the character is pointing the gun he is saying: *prepare to die!* The exclamation mark is heavily shaded and the two figures that lie on the ground show evidence of blood and where their eyes would be the child has drawn in "Xs". The body is devoid of all life...not even the eyes remain.

In the upper right hand corner the rabbit on the ground also lies dead, in place of its eyes are "Xs" and the figure holds a hand to its nose with the word, *stinky* in the caption box coming from its mouth. The colours of this drawing are aesthetically pleasing yet the message of death and degradation is clear. The overall tone is negative.

A peace sign is in the lower right hand corner.

The narrative at the bottom of the paper emphasis the messages of each of the illustrations adding as well the element of deforestation within the narrative.

I wish people would stop fighting and live in Peace. They should stop

Polluting the water, Stop cutting down trees and stop polluting.

The diversity of the drawings and the multi- component aspect of some of the pictures is time-consuming to study and it is at this point that the matrices simplify the analysis process for the researcher. The matrices give a point of reference on which to examine the drawings and allow the researcher to synthesize the information. This is a key point that works with the developed methodology.

From Figure 2 and Figure 3 we recognize that Matrix 1 *Prominent Feature – Per Drawing* resulted in a scoring of 3 separate subjects in these two cases due to the complexity of the drawings.

Theme - Pollution

My initial reaction on viewing the pictures collectively was that pollution would be a major concern for these children. Indeed, this matrix confirmed this reaction as a total of 43% of the children indicated in one form or another a concern for pollution on their drawing. I did feel however, that it would have been helpful to actually indicate the location of the pollution, such as land, water or air. By creating another matrix (Matrix 1A) after the initial scoring procedure on the location of the pollution I realized that the participants with pollution issues indicated land and water pollution as the largest concerns. However, two pictures did include evidence of air pollution. In Figure 3 *Drawing C* a reference was made to the pollution being “stinky” and this was scored as an indicator of air pollution.

In order to facilitate the analysis of pollution, the pictures are presented in three sections: first, those pictures which show only land pollution, second, those pictures which illustrate only water pollution, and finally those pictures which illustrate multi-pollution themes.

Land Pollution

Figure 4. *Drawing D*

Age 11

Figure 5. *Drawing E*

Age 11

In Figure 4. *Drawing D* the participant has written and underlined the following message:

No more litring [littering] it is disgusting

A large Candy Bar with a heavily shaded red circle and bar through it dominates the upper right hand side of the drawing.

Matrix 2 scores the *Prominent Life Form* as human and Matrix 4 *Dominant Colour of Use* scores red as the large red circle with the bar, though it stands out the most in the picture.

Matrix 8 *Location of the Negative Aspect* had a score of Local Town as it was not clear from the picture that the littering was happening on the playground. I made the decision that the picture was something local due to the presence of local parks.

In Figure 5. *Drawing E* (previous page) the drawing shows a garbage can in the middle of the picture with a message that reads: *Empty Garbage Can* and a black stream with what would appear to be garbage in it runs through the lower right hand corner. In the top left hand corner of the drawing we see the frowning sun looking down at the litter. The message which appears in black at the bottom of the drawing is only partially readable. The opening of the message reads: *Don't litter keep the earthe* [earth] *poloted* [pollution] *free* .. the last of the message is not readable. The narrative follows closely to the illustration.

Figure 6. *Drawing F*

Age 11

In Figure 6. *Drawing F* a number of different colours are used which renders Matrix 4 *Dominant Colour of Use* irrelevant. However, very important to note is the sad face of the sun with a tear streaming from an eye illustrated in black. In the lower right hand corner a black "X" covers the red sign of a skull and crossbones on the garbage can. The narrative reads, *If the world was a better place....Critic don't litter why should we!....There would be no pollution [pollution].*

The message, of this picture is of pollution and the colours used to portray the garbage can are red and black.

The choice of the colours red and black to consistently illustrate a negative aspect of a picture lead to the creation of Matrix 4a, which is discussed in the section on histograms. Section 4.4.

Water Pollution

Figure 7. Drawing G

Text as part of Figure 7

- Oil pollution has Been Dumped in the ocean for years and has killed over 100 species that have lived in the ocean. Whaiel's, fish & Sea lions have all Been exposed to the oil. Its only a Mater of time till the ocean flore has Been swepted clean from all wild life. Some Beluga whails have gotten cancer, from oil pollution. So if you care about wild life in the ocean, Put a stop to oil pollution, Being Dumped in the ocean.
-
-

Age 11

The subject matter is oil pollution and the detail of the drawing and text are as compelling as the time and effort put into the picture. The narrative shows that the child was determined that the message be understood by all. The evidence of the black oil and sea life is clear.

The text reads:

Oil pollution has Been Dumped in the ocean for year's, and has killed over 100 species that have lived in the ocean. Whaiel's, [whales] fish and sea lions have all Been exposed [exposed] to the oil. It's only a Mater [matter] of time till the ocean flore [floor] has Been swepted [swept] clean from all wild life.

Some Beluga Whails [whales] have gotten cancer, from oil pollution. So if you care about wild life in the ocean, Put a stop to oil pollution, Being Dumped in the oceane [ocean].

Both the picture and the narrative allow the reader to understand the child's perception that oil pollution within our oceans is cause for alarm. The picture is graphic and the narrative, which includes the statement: *It's only a Mater of time till the ocean flore has Been sweeped clean from all wild life.*

This is likely a reference to the trawler impacts on the bottom of the ocean floor indicating a merging with pollution issues in the author's mind. This may also be a clue to the source of information, which in my opinion may be television; the visual image is one fact and the comment another.

Matrix 2 shows that the *Prominent Life Form* is marine life. Matrix 3 shows that the overall texture of the drawing is medium to double shading. In fact, 100% of the picture is shaded.

Figure 8. *Drawing H*

Age 10

The black pipe which is spilling brown and black water into the larger body of water has a distinct red “X” drawn across the top of it. The pipe is set off in the lower right hand corner and the message: *Do not polute [pollute]* is placed in the top right hand corner, discreetly away from the center of the picture. Nonetheless, the communication of pollution is clear.

The colour chosen for the “X” is red and the colour chosen for the message is blue.

Matrix 2 does not score for a prominent life form. Matrix 3 shows only light shading and Matrix 4 does not show any dominant colour. Matrix 6 does however indicate evidence of a negative aspect and Matrix 8 shows the location of the negative aspect as global, as it was considered by the scorer that such a large body of water with the large horizon could be considered an ocean.

Land, Water and Air Pollution

Figure 2. *Drawing B*

Age 10

In *Drawing B* clouds emerge from what looks like a large factory or city building. A pipe is spewing black wastewater directly into the ocean and a car with black exhaust is coming from its back end.

*I wish people would start walking or riding bikes instead of driving cars ...
There's TOO MUCH POLLUTION [POLLUTION]!*

The words “TOO MUCH POLLUTION” are all capitalized and underlined twice, giving emphasis to this particular message. The evidence of land, water and air pollution is clear.

Figure 3. *Drawing C*

Age 11

In the top right hand corner we see the dead rabbit with Xed out eyes and the narrative which reads: *Too much Pollution.*

In the lower part of the picture the theme of pollution continues only this time it is water pollution. A figure dropping a can of oil overboard from a boat while a fish and octopus swim near by. The final caption reads: *I wish people would stop fighting and live in Peace. They should stop polluting the water. Stop cutting down trees and stop polluting.* The message to stop polluting is repeated twice.

Matrix 1 *Prominent Feature* scored twice for subject matter. The narrative did indicate a third issue as well, that of cutting down trees or deforestation.

Theme – Wildlife

Figure 9. Drawing I

Age 10

Figure 10. Drawing J

Age 10

In Figure 9. *Drawing I* the caption reads: *It would be a better world if animal life was just left alone to let mother nature take her course.* And the sign reads, *no hunting or poaching.*

In Figure 10. *Drawing J*, the detail of coconuts, vines on the trees, leopards, and what would appear to be a tiger swimming in the water, allows the reader to visualize a jungle setting. The narrative reads: *I think that there should be no poaching in the world. It makes me feel sad to know that an animals [animal's] life is taken almost everyday. So please don't poach because someday we might not see one of our beautiful wild animals, again.*

The sign with a parrot sitting on top reads: *No Poaching.* The message of no poaching is clear, although it would appear that one location is tropical with tigers and palm trees, while the other could be more of a temperate climate with what would

appear to be a mountain goat on a hill and a little brown rabbit in the lower left hand corner. A rabbit not unlike the little brown rabbits we see in our climate zone. The detail of the forest in Figure 10 allows Matrix 8 to score outside of Canada. However, it is the narrative of both Figure 9 and Figure 10 that make reference to the world that confirms the scoring of global/world location.

Figure 11 *Drawing K*

Age 11

The caption of Figure 11. *Drawing K* reads: *My picture show's that you should not kill whale's [.] It is very curl and mean[.] So people should put a stop to it[.]*

The person on deck of the ship named "SS Sailor" is saying: *Strate* [straight] *Ahead*.

By looking at Figure 9, Figure 10 and Figure 11 collectively we see that the theme of poaching or hunting is evident. Equally evident is the diversity of location to which the participants made reference.

Theme - Universal and Everyday Problems

Figure 12. *Drawing L*

Age 12

Caption 1: *I hate u. U r so ugly*

Caption 2: *boo hoo*
[tears streaming down the child's face]

Caption 3: *Ha Ha Funny Joke*

Caption 4: *Thanks it was pretty funny*

The playground environment clearly portrays human relations as a concern. In Matrix 1 this drawing scored under universal and everyday problems. Humans score as the prominent feature and the concern of negative human interactions, such as bullying are at the forefront. The picture demonstrates a very relevant and personal issue for a number of children - playground bullying - and was scored in Matrix 8 as local home/school due to the incidents of playground bullying experienced by some children.

In the next caption the purchaser is shown as running out of the store. The swirling circles at the location of the feet indicate the speed at which he or she is leaving the store.

Very bottom left: *I'm a smoke machen* [machine]

I'm out of sigerets [cigarettes]

I'll get summe [some] *more*

Goes back to store: *how meny* [many] *do you wont* [want]

all you got

but you have no mony [money]

I'm brock [broke] *crap!*

Smoking was scored in Matrix 1 as a universal and everyday problem. Matrix 2 showed that the theme was human and Matrix 4 scored the dominant colour of use as red because it is front and center and focuses the attention of the observer to the message of the picture. Matrix 8 scored the location as local town.

Figure 14 scored under universal and everyday problems as the animal depicted was not wildlife. Neglect was seen as the main theme as opposed to the animal.

Figure 14 *Drawing N*

Text as part of Figure 14

Age 11

Figure 14 shows a dog tied outside the house with an empty food dish while the people are inside talking at the table.

The written analysis tended to follow the pictures extremely closely except in this following duo. The picture gives the message that pets are part of our lives and then the narrative provides a reference to the September 11, 2001 bombing in New York.

Text: *Visiter* [Visitor] *where's that puppy you got?*

Owner of puppy – *Oh, that old thing? He's tied up outside.*

An arrow points to an empty food bowl and it is written *Empty food bowl*. The water for the puppy comes from the storm gutters where it collects in a barrel at the bottom.

Beside the arrow it reads: *Water for puppy* and finally, the arrow beside the puppy has the words: *very sad puppy* and tears can be seen running down the puppy's face.

Finally, the sun in the sky is shown to have a frown on it's face. The final sentence is double-shaded and it reads: *Puppies aren't for christmas* [Christmas], *theyr'e* [they're] *for life*.

The text reads: *5 million puppies dies in around a week in Illinois alone. People were making a big deal about 5 thousand people dieing* [dying] *in the Twin Tower incident. This makes me so sad.*

In Matrix 3 this drawing represents a mixture of both repeated and double shading. The score went to the medium double shading category as it represented the overall picture. It should be noted however, that 100% of the picture was shaded.

Theme - Peace & Hope

The positive attitude is evident in the following *Contract of World Peace*.

Figure 15. *Drawing O*

Age 11

The first letter is a capital "A" and then lines are drawn in with periods placed here and there and then finally we have the *Sign Here:* at the bottom where the following countries are indicated: *America, Canada, Europe, China, Japan, Iracc* [Iraq], *Russia, Afganistaen* [Afghanistan], *ect. ect.*

Figure 15 is the only collected data that received a truly positive message. Although such a score implies that in Matrix 7 all of the positive aspects are global. We must keep in mind the raw data and recognize that it is only one illustration. It is unwarranted to imply that a positive message would always be viewed globally.

Other

Figure 16. *Drawing P*

Age 10

In Figure 16. *Drawing P* the theme of deforestation is written across the top of the picture: *The world would be a better place if Humans stopped de-foresting the planet.*

The heavy shading is certainly used to express a negative, which is deforestation, yet the whole picture is not heavily shaded. In this case, it may be more true to the message to focus on the intensity of the shading for the negative aspects of the drawing, as opposed to the entire picture, or to recognize that the percentage of shading is about 80% of the picture.

The loss of habitat is portrayed by the darkened bird in the far left tree (only the head of the bird, which distinguishes it from the other heavily shaded black marks in the picture). The human element is particularly evident as the child has written, in brackets along the side of the picture almost as an afterthought, (*or people never existed*). The message is clear and powerful.

It is important to note that the theme of deforestation appeared on two other occasions.

For instance in Figure 2. *Drawing B*.

Figure 2. *Drawing B*

Age 10

Deforestation is also plainly portrayed with a person driving a large machine with brown logs in front and the waiting forest ahead. Looking closely we realize that the birds are shown to be flying directly above the forest but none are over the machine. The narrative reads: *I wish people would stop cutting down Forests and start planting forests.*

Figure 3. Drawing C

Age 11

In Figure 3 there is no drawing of deforestation. However, the narrative includes the statement: *...Stop cutting down trees...*

The Writing Analysis

The two matrices used for the writing analysis were Matrix 9 *Evidence of a Clear Positive or Negative Aspect About the Environment/World* and Matrix 10 *Evidence of Positive or Negative Noun Modifiers*. One positive statement was made out of the total of 16 and 14 of the 16 narratives showed a negative statement. One statement was considered neutral, as it was not clearly positive or negative. Within the text 1 positive noun modifier was used and 23 negative noun modifiers were used in total. Only two of the 16 participants chose to write on the separate sheets of paper provided for them. I realized, as a teacher, that this part of the exercise was seen as work for the children, and as extra work and really not necessary. In fact, one child

In the case of Figure 2 *Drawing B* the use of a rather large exclamation mark and the repeated underlining of “TOO MUCH POLLUTION!” was also not scorable.

Figure 2. *Drawing B*

Age 10

Although when rescored, these elements did not prove to be relevant as underlining was only used a couple of times and exclamation marks were used only 4 times.

Nonetheless, I would suspect that if one was working with older children one might see both of these styles being used more frequently. As a teacher, and I do realize that this may bias my interpretations, it is generally at the end of grade 5 level and the beginning of grade 6 that we see students moving from transitional writers to more advanced writers. One of the characteristics of the developing writer is that they begin to stylize their writing and play with grammatical structures. I am not suggesting that the basic messages of the narratives would be changed by such an analysis: however,

I do believe that this may prove to be an interesting component to analyze with older students.

4.4 Histograms

Keeping in mind the raw data of the scored matrices and the analysis of the drawings and narratives, this next section leads us through a comparison of the relative frequencies via the use of histograms. In each case the histogram represents the data from a matrix.

Histogram 1 (Raw data is in Matrix 1)

From Histogram 1 it is clear that the white bar that represents pollution is most often the concern of the participants. The weakness of this histogram is that, although we realize that pollution is the main concern in terms of environmental issues, it is not clear which type is more often illustrated.

As a result I created a new matrix, Matrix 1A and rescored the data. This information is found in the following matrix and Histogram 1A.

New Matrix 1A: Type of Pollution

Land	Water	Air
5	5	2

New Histogram 1A

Here we realize that land and water pollution are recognized in greater frequency to air pollution as type of pollution. This group of children from the Wakefield Elementary School also recognizes air pollution as a type of pollution.

Histogram 2 (Data from Matrix 2)

Humans played a significant role as the prominent life form per drawing. Although we do see evidence of the focus on land and marine animals these categories received fewer scores than the human category. The scores on birds and other are low in comparison to the human and land animal categories.

Histogram 3 (Data from Matrix 3)

From this histogram we realize that the overall texture of the drawing demonstrates a relative balance between the heavy shading and the medium shading. It would appear that there is little difference in the shading pattern between the heavy and medium shading patterns. There is only slightly more medium or double shading as compared to the heavy shading. In terms of light or no shading it would appear that if a participant chose to shade it would be at least a double or heavy shading technique.

Histogram 4 (Data from Matrix 4)

The largest scored category for the dominant use of colour fell into the non-determinant category, which means that the scorer could not distinguish one colour over the other.

There are however two clear peaks in the black and red. In fact, next to the non-determinant category, they stand out clearly on the graph.

In order to look closer at the two colours black and red, I created a new matrix which looked at the colour chosen to indicate a concern – Matrix 4A.

Matrix 4A

Black	Red
4	5

I then transferred the data into histogram 4A and quickly realized the significance of colour.

Histogram 4A (Data from Matrix 4A)

Hence by changing the criteria to “Colour Chosen to Indicate a Concern” we recognize that black and red are the two colours chosen, with the colour red only slightly more often than black. This further supports the argument presented in chapter 3 which argues that aggression and high anxiety seem to magnify themselves in black and red (Naevestad, 1979; Tanay, 1994; and Gregorian et al., 1996) as these are the two colours that were consistently chosen to show a concern.

Histogram 5 and 6 represent Evidence of a Positive/Negative Aspect in the drawings.

Histogram 5 (Data from Matrix 5)

Histogram 6 (Data from Matrix

From Histogram 5 and Histogram 6 we can clearly see the increased negative aspects within the drawings as opposed to positive aspects of the frequency of environment and world.

Histogram 7 and Histogram 8 are also presented together as they reflect the Location of Positive and Negative Aspects within the drawings.

Histogram 7 (Data from Matrix 7)

Histogram 8 (Data from Matrix 8)

The majority of the participants chose to express more negative outlooks, often focusing on global concerns, which clearly had the highest peak. The other peak that revealed itself is the local /town score.

Indeed, such scores show that these children are thinking globally and with global concerns.

Histogram 9 (Data from Matrix 9)

Histogram 10 (Data from Matrix 10)

From both histograms 9 and 10 we realize that the analysis of written statements and noun modifiers were slanted towards the negative. This supports the evidence

provided in Histogram 8 which showed that the majority of the drawings expressed some type of negative aspect.

From the picture analysis, writing analysis and the presentation of the histograms we have a consistent message of concern for the environment and world emerging from the data. I maintain that the matrices and frequency counts of the histograms give us an overview of what is going on with the data. The frequency counts represented in the histograms have allowed us to see just how each variable has been distributed within the study and the manageability of the counts make the histograms a workable and accurate process for this methodology.

The key points of the study will be discussed in Chapter 5.

Chapter 5 Discussion

The purpose of this paper was to explore the content of children's perception of their environment and their world by developing an appropriate, reliable method of assessing their views. The questions that I initially posed were: "How do children understand adult concerns regarding the environment and the world?"; "What can we learn from children's artwork and narrative voice?" and "How does this specific research design deal with the concerns of working with children?" I have argued that the use of children's artwork and narrative has the potential to speak as truthfully about children's worldview as does any other research technique.

In this chapter I will generalize the main findings, interpret their meaning and discuss the appropriateness of the use of artwork and narrative as a means of understanding how children see their environment/world. Finally, I review the limitations of the study and suggest changes that may enhance this type of study further.

5.1 The Main Findings

As the analysis shows, artwork combined with narrative is an effective medium for children to use as a voice of expression. The detail of the drawings proves that the participants were engaged in the activity and motivated to have their thoughts on paper. The intricacy of a number of drawings supports my opinion that drawing is a valuable means of communication.

The drawings with more than one theme show the degree to which children are aware of the complexity of environmental and world issues. Figure 2, *Drawing B* and Figure 3, *Drawing C* demonstrate multi-subjected responses to the question. Such

drawings show that the participants are seriously thinking of the question and trying to integrate their thoughts by trying to draw in different ways. Certainly, the media of drawing and short narrative allowed the children to express various ideas on one piece of paper. The free flow of thoughts is clearly evident, as is the individuality of the responses. For instance, children responded to the simple question “Could you please draw a picture using the pencil crayons provided and the paper in front of you, as well as write a short paragraph (not more than 100 words) which explains what you think of the environment? Your thoughts on the world around you?” with a huge spectrum of responses. Figure 12, *Drawing L* is that of a playground, Figure 2, *Drawing B* is literally a map of the world and Figure 7, *Drawing G* is one of a lighthouse and ocean. All are responses to the same question, yet the interpretations are individual. Common themes emerge, such as the idea of saving or protecting the world, pollution, war and deforestation.

Another success of this type of data collection was evident in Matrix 3, Histogram 3 *Overall Texture of the Drawing*. This analysis showed that the majority of pictures employed medium to heavy shading. It is evident that such shading takes time and effort, which require concentration and an engagement with the activity. To enhance the usefulness of this matrix in future research, I would also score this matrix in terms of the percentage of the picture that was shaded with light, medium or heavy strokes. I recognize that this would increase the time to analyze the picture. However, I do feel that it would give us another angle from which to study the drawings. What also comes through with the shading is an element of emotion. Indeed, Figure 16, *Drawing P* where a person is depicted in action swinging an axe and cutting down

trees, the swirls of the legs and a smile on the character's face almost show one of intent. The narrative clearly written across the top to deforesting the planet confirms to the viewer that deforestation is indeed an area of concern for this participant.

Furthermore, the heavy black shading of places where the trees are being depleted and a faint bird head just above the black shading of a tree creates a reaction within the observer as profound as one might expect from observing a Tom Thomson painting of a weathered pine. The action of drawing, which allows the participant to be involved within the process, must not be underestimated or valued less in its potential to speak truthfully about how an individual is interpreting his or her world than questionnaires or any other research method.

It is clear that children, like adults, have a number of environmental and world concerns. Interestingly, in some cases children are not only explaining how they see the world but are also offering solutions to the problems that they see in their world. This is illustrated for instance in the signing of a world peace contract (Figure 15. *Drawing O*) and the wish that "... people would start walking or riding bikes instead of driving cars... I wish people would stop cutting down forests and start planting forests" (Figure 2. *Drawing B*). By including these phrases as part of the picture it shows that the child is thinking about what could be done differently in order to make things better. In fact, in terms of bullying (Figure 12. *Drawing L*), although the overall theme does depict a negative aspect, a solution to the problem is provided as on one side of the picture we see the hurtful dialogue and on the other side the positive dialogue. Children are thinking of solutions to their concerns. The forum of

drawing one's thoughts with dialogue captions allows for the depiction of solutions to world issues and human interactions.

Colour also proved to be an interesting element to the pictures. The choice of red and black to portray a negative aspect in the drawings was certainly a success. Figure 1, *Drawing A* which had the huge red "X" across the entire picture held the most impact of all. We will remember that aggression and anxiety are often illustrated in these colours. Yet I would also suggest that we often see "danger" or "warning" signs in our environment that are in red or black. I am convinced that these "Xs" in red and black have a double meaning: first, the emotional meaning of anxiety and aggression and second, the intellectual knowledge that these colours are signals of danger and warn us that we must stop these actions.

Through Matrix 7 *Location of the Positive Aspect in the Drawing* and Matrix 8 *Location of the Negative Aspect of the Drawing* we understand that many children are thinking globally. Themes like poaching in a jungle location, deforestation of the planet, animal and welfare concerns as well as the concern of the world's oceans emerged. The global aspects of the data show children's awareness that many of today's risks are not confined to a certain space. In chapter 2 Susan Cutter reminded us that technological disasters and accidents are displayed on the evening news in front of the public. Many of us in the west, including children, have access to vast amounts of information concerning the world. I have no doubt that this information which is viewed via the most forms of media available to many of us is evident within the collected data of this project.

The scale of the perception of the themes was somewhat difficult to distinguish. In this case, I was thinking of the scale of an environmental or emotional impact from least severe impact to most severe impact. I suggest that perhaps scale is notable in the drawings of peace, war and bullying. Figure 15, *Drawing O* shows a Contract for World Peace while Figure 1. *Drawing A* shows a war scene which includes guns, tanks, bombs and death. The two appear to be on different ends of the spectrum. One could argue that Figure 12. *Drawing L*, which shows the illustration of playground bullying, is somewhere in the middle. This however, is difficult to interpret as it is like a war on the individual for those who are being bullied. Indeed, the scale in this case seems subjective and for this reason it does make judgements more difficult.

In terms of the narrative analysis, the scoring was very straightforward and I believe that the caption narrative was beneficial to a point in that it reconfirmed what the picture was saying. However, the idea to have a separate sheet of paper where the child was to write (not more than 100 words) and explain the drawing was not as useful. Only two participants chose to use a separate sheet of paper, the vast majority was happier to draw and simply include captions within the drawings that would enrich the work. It is possible that the children “ran out of steam”. We must remember that within the school setting children are accustomed to work for only limited segments of time. The time allotted for this research project was one classroom period, which in this case was just over an hour. Within this time frame the participant was required to think of what he/she was going to draw, then process how to present the material on the paper and finally to produce the drawing. This is a lot of

work. I believe that for the majority of the children it was easier to write captions as part of the drawings rather than using the separate sheet of paper whereby they would have been required to formulate a paragraph to support the drawing. The captions are direct and within a couple of sentences allow the reader to understand the message. For example, the caption of Figure 1, *Drawing A* says: *This picuter [picture] is war. the Big X means that there shouldn't be any war. So meaning world peace!* The message is certainly clear.

As was previously mentioned in the methodology section one child did feel that to write was redundant as the picture said it all. I believe as a researcher that in such settings it is only ethical to listen to the participants and, as a result, I did not insist that the children write on a second piece of paper. Indeed, I was doubly aware of my role as the classroom teacher and as the researcher. To insist, or even remind the participants that this was the initial plan, I felt would compromise the validity of the data. In future research I would recommend that the narrative section be included as a caption within the drawing or allow the child to use the same piece of paper, perhaps divided in half where part was a drawing and part was narrative. However, let it be noted that I do believe that some narrative is important as it reconfirms the scoring of the drawings as we saw in histograms 8, 9 and 10. Certainly, in the case of Figure 7, *Drawing G*, this participant went to great lengths to explain the plight of the world oceans. This participant notes the loss of over 100 species from the ocean, the belugas that now have cancer and the notion that it is only a matter of time before the ocean floor is swept clean of all life and this child relates this to oil pollution. Such

specific information and the relation to a cause shows an understanding of the situation. Indeed, the drawing depicts black oil pollution and sea life.

In the final analysis I feel that artwork and narrative together help to solidify the messages and reconfirm process of scoring for the researcher.

5.2 Limitations

This pilot project is small in terms of size and age group. We must recognize that it is an in-depth study. In fact, the very nature of the analysis is time consuming and therefore a design suitable for smaller studies. The process of conducting such research is also time consuming since it requires numerous meetings with principals, governing boards, school/parent committees, as well as signed permission forms from parents and guardians prior to any research commencement. It would be beyond the scope of such a pilot project to have a sample population within the hundreds. However, we have realized that the use of matrices is efficient and therefore if one had the budget to fund a larger initiative this would be possible.

What this project does not do is allow us to know why the participants draw what they draw or say what they say. True, this was not the purpose of the project; however, I am now curious to know why some would choose to draw about such things as deforestation. Indeed, this reoccurring theme totally surprised me. If we recall Matrix 1 *Prominent Feature – Per Drawing*, the preselected headings included war, pollution, wildlife, hunger, universal and everyday problems, and peace and hope. Nowhere did I include deforestation and yet, this theme was evident in more than one drawing. I am assuming that the concern has come from the media. I can say as the classroom teacher that it was not taught in our class. I did speak with a

colleague who taught most of the children last year and I know that it was not discussed, at least in her memory. Perhaps because deforestation leaves such vivid visual images that create a lasting impression it is something we need only see once or twice for it to be embedded in our thoughts.

Chapter 6 Conclusion and Recommendations for Future Research

This paper has explored the contents of children's perceptions of their environment through the use of drawing and narrative produced by a class of children at Wakefield Elementary, Quebec in 2001. Perceptions of a child's environment and world surroundings are not trivial because with these perceptions come emotions, intellectual thought and strong visual images that impact on an individual's worldview (Edelstein, 1988).

I maintain that given a choice most children enjoy being active participants in a community. This type of study allows for active participation creating an opportunity to share the research findings, which emerged through the creation of artwork and narrative in a classroom book, as well as the subsequent sharing of this book with a peer audience. The free flow of drawing allows for action and, as the artwork demonstrates, a merging of thoughts and ideas as well. I have shown that by analyzing the artwork and narrative we can gain valuable information about children's perception of their world. Through this process, we can begin to document their concerns and insights. This documentation is no less important than the documentation of thoughts and images that is often utilized by market researchers in their quest for a larger and larger consumer base (McNeal, 1992).

The process of this type of data collection and documentation is important in another way as well. We are reminded by Michael Foucault that whoever dominates or has power in society produces the knowledge for that society. Agents of our society – such as the social entourage of family, educators, doctors and governmental agencies – help maintain the accepted structure of society, as well as the production

of truth (Foucault, 1980). In this we recognize that the child often is in a very real sense powerless to have their knowledge validated as real “truth”. Furthermore, we may also remember Anne Crowley’s suggestion that it is particularly difficult for children to have a voice in western society because they do not have access to power (Crowley in Butler & Shaw, 1996). This type of data collection and documentation allows children to have an active role in their knowledge base as they are provided with not only an opportunity to record their knowledge within a classroom book but also to present their ideas to an audience of peers. It also serves as a reminder to us, as adults, the need to provide such opportunities. Certainly, such public sharing of ideas and thoughts empowers the individual – the child.

The straightforward method of data collection and data analysis of this study allows for others to reproduce the project in a step-by-step fashion. Certainly, we cannot underestimate the value of such a process to gain further insights into children’s environmental perceptions. We, as researchers require research techniques that are readily reproducible and allow for fair comparisons. Depending on the budget, a team of researchers could certainly analyze a much larger data collection with consistency. The matrices give a framework with which to examine the drawings. This enables the researcher to interpret the diversity of drawings and the multi-component aspect of some of the pictures with uniformity.

I truly believe that children deserve to participate in research as valuable members of our society and have an important contribution to make within the area of environmental thought. I advocate that this type of research is a starting point for further research endeavours.

6.1 Recommendations

Based on the findings I would recommend that this methodology be considered as a tool for future research with children within the field of geographic, environmental and educational research. I believe that children have a right to a voice and that this is a tool that works well at getting at children's perceptions of their environment. I believe that this type of methodology could be used effectively with children to assess their perception of environmental clean-up projects.

The Canadian Government is presently involved with the clean up of the old DEW line Bases in the Canadian Arctic. This type of research could be used to explore the following questions: Is the effort being made to clean up these places having an effect on the surrounding communities? Do the children in these areas view their environment as now being cleaner?

Furthermore, I agree with Ms. Minne Grey, the Executive Director of the Regional Board of Health and Social Services, Nunavik when she states in her letter to me, dated January 11, 2001 concerning this type of project: "I believe that this kind of research would help us understand more how children perceive the issue of environment and pollution especially in relation to food" (see Appendix 2).

I would also advocate that the role of the media in terms of the environmental and world perceptions could be further explored with this type of research. The apparent content of such drawings as the oil spills in the oceans, puppies not being only for Christmas and the issue of deforestation seems likely to have been media driven. In all cases the issues have strong visual cues and have an air of media driven sensational interpretation.

I would also be interested to use this methodology with a group of children who have had direct experience with a technological disaster. For instance, I am curious to know how the children of Frederick Street in Sydney would depict their environment/world. Would any of the problems of the Tar Ponds emerge? What of the children of Walkerton, Ontario or the children who have suffered as a result of the September 11th bombing of the World Trade Centre? How do they see their environment? Is the perception of their world a safe one?

The list of communities that have faced ecological incidents or have been touched by technological disasters in Canada and the world is significant and it is relevant for us to ask what the children think. In order to begin to deal with the ongoing legacy of such places like Grassy Narrows, The Sydney Tar Ponds or the effects of pesticide use across the country in a way that addresses the needs of future generations we should begin by asking the children about their perceptions.

APPENDIX 1: Summary of Figures

Figure 1 *Drawing A* Figure 2 *Drawing B* Figure 3 *Drawing C* Figure 4 *Drawing D*

Figure 5 *Drawing E* Figure 6 *Drawing F* Figure 7 *Drawing G* Text *Drawing G*

Figure 8 *Drawing H* Figure 9 *Drawing I* Figure 10 *Drawing J* Figure 11 *Drawing K*

Figure 12 *Drawing L* Figure 13 *Drawing M* Figure 14 *Drawing N* Text *Drawing N*

Figure 15 *Drawing O* Figure 16 *Drawing P*

APPENDIX 2: Letter

Note: Original letter is scrambled

10:19-954-2818 JAN 11 '01 14:58 No.011.4.02 @03
 REGIONAL BOARD OF HEALTH AND SOCIAL SERVICES
 LE RÉGIONAL DE LA SANTÉ ET DES SERVICES SOCIAUX NUNAVIK

January 11, 2001

Ms. Karen Jones
 Geography/Environmental studies Dept.
 600 Unicef Centre
 Carleton University
 Ottawa, Ontario
 K1S 5B6

RE: YOUR PROJECT "THE ARCTIC ENVIRONMENT THROUGH CHILDREN'S EYES"

Dear Karen,

This is to inform you that I have reviewed the above proposal and support it. I believe that this kind of research would help us understand more how children perceive the issue of environment and pollution especially in relation to food.

Good luck.

Sincerely,

Minnie Grey
 Executive Director

APPENDIX 3: Communication with Wakefield Administration

1) Letter to Mrs. McIntosh, the principal of Wakefield Elementary following an initial introductory meeting during the third week of September.

Note: At this point Mrs. McIntosh and I had already met to discuss the proposed project and I had received initial support. At this stage I was giving more formal details to Mrs. McIntosh concerning the project, so that she could give a first presentation to the Governing board of Wakefield Elementary. Under the recommendation of Mrs. McIntosh I had decided not to provide this board with a presentation, as we did not want to influence a decision with my presence.

September 26, 2002

Dear Mrs. McIntosh,

First of all, I would like to formally thank you for taking the time out of your busy schedule to meet with me last week. Pleased find enclosed further details of the proposed project. Note: I have set up the following information in headings in an effort to help you follow the aim of the project more easily.

Thanks again,
Karen.

Title: The World Through Children's Eyes

Summary

The aim of the proposed pilot project is to test the examination of artwork and narrative as a suitable methodology to be used with children. Specifically, we are seeking to acquire some indicator of a child's perception of their environment/world. With the cooperation of an elementary school class we would invite the children to participate in the creation of a classroom book which speaks of their impressions of today's world. To conduct the inquiry each child who wishes to participate will be asked to sketch a picture of how they view the world in which they live. To accompany the sketch each child will also be invited to write a brief paragraph explaining the meaning of the sketch. As researchers we would be looking to see if the artwork and writings show any evidence of a child's perception of their environment/world. The classroom will be provided with the classroom book of the children's work, as well as, a detailed account of the researcher's findings.

Applicant Statement

As an educator in both rural and remote areas of Quebec for the past ten years I have at time been in utter awe with the insights and wisdom of some of the students that I have had the privilege to work with. I believe that sketching and writing do provide a child with another authoritative voice. I have also realized that by displaying a child's work either in a "book" format or within a "gallery display" format the work somehow becomes validated. Furthermore, I believe that my ten year experience as an elementary school teacher will enable me to analyze the art work documentation both professionally and sensitively. I am interested in seeing what the environment/world perceptions and of children in a rural community such as Wakefield are. I would welcome input from the Wakefield school community concerning this project.

Purpose and Rationale

This exploratory project sets out to examine children's perception of today's world by using artwork and narrative. Within our Western society and beyond, the world of today's childhood is significantly different from that of twenty or thirty years ago. Within the span of a couple of generations, the high-tech age has given us a world very different from that of our ancestors.

Globally, we have witnessed the horrors of Chernobyl, Bhopal, Minamata, Love Canal and The September 11, 2001 collapse of the World Trade Centre in New York City. In Canada, we have the legacy of Grassy Narrows, the Spruce Budworm Spraying in New Brunswick, the Sydney Tar Ponds, and the recent water contamination in Walkerton, Ontario. We also have the detrimental social and environmental effects of the James Bay Project and the realization that a number of children in British Columbia have been born without eyes as a result of pesticide use. Furthermore, with increased frequency, scientists in the Arctic are reporting evidence of bioaccumulation of toxic contaminants such as organochlorines, PCBs, and heavy metals. Organochlorines and PCBs have been found in women's breast milk and elevated levels of trace metals have been noticed in hunters who consume high levels of traditional wild game food.

It is important to recognize that children are acutely affected by the trauma of human made disasters, just as adults. As the Sydney Tar Ponds in Nova Scotia gained recognition for its toxicity, Frederick Street became known as "Canada's Love Canal." People began to become aware of the toxicity of the area and as this happened, "children from other streets were not allowed to visit anymore, and kids from the infamous Frederick Street were treated like lepers at school, as if they had a communicable disease"(Barlow & May, 2000:139). A new fear was now creeping into the already stressed community.

Sharon Stephens, in her work with environmental justice, finds it extraordinary how little attention has been given to children with the exception of child development, education and child welfare. Stephens, encourages researchers to move beyond these categories and into the areas of environmental concerns.

However, she cautions that a focus on research involving children raises important theoretical issues. In our western culture, there exists a tendency to see children as victims or beneficiaries of adult actions and not as active participants in a community. To truly appreciate a child's perceptions of the world, many researchers may be required to reconceptualize how they view children within society. As Michael Foucault writes, we are a society of normalization and power. Within a cloak of 'normal' the agents of society such as the family, the school, the doctors work to shape children to "fit" in to our society. Society, if you will, is an arena of training, so children become productive, law-abiding adults and maintain the status quo without question (Foucault, 1980: 100-107). Children are not seen as active, capable members of our society and yet, children become our next leaders, our decision-makers. It is time we seriously consider their perceptions of the world. Their views matter to all of us.

Robert Burgess of the University of Warwick warns that we cannot assume that the social science methods used to study adults can be used in the same way to study children. Researchers need to develop innovative methods of social investigation that can be used to gain access to children's perspectives of the worlds in which they live and play (in Lewis & Lindsay, 2000:xiv). I agree. Certainly, any alternative methodology of data collection with children must be respectful and not invasive of the participant.

Periodically, toxic contaminant literature reveals that children have been asked to draw pictures of what they have experienced and the results have demonstrated the perceptions of environmental destruction. However, such endeavours seem to have been side projects rather than the "real" research. At this point, I wish to take the liberty, having been an elementary school teacher for ten years and presently back in the classroom, to state that children will often draw what they cannot say. I believe that drawing and narrative recount is as powerful as any interview methodology. Children are active participants in the world and as researchers we must seriously examine how we feel towards alternative methodologies if we hope to successfully tap into the views of this segment of our population.

I support the use of artwork and narrative as a culturally sensitive approach that is child friendly. This approach encourages a free flow of thoughts that I believe would enable us to better understand the perceptions of children within a world that, for more and more, is being seen as less and less safe!

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Description of the participants and the Recruitment Process/Classroom Procedure

Recruitment Process: Children are invited to participate in the study, however in order to participate each child is required to have a signed permission form by either a parent or legal guardian. Therefore, both consent of the child and the adult is acquired which follows with the requirements of the "Respect for the Dignity of Persons: Clause I.29" from the CPA (Canadian Psychological Association) Code 1992 in Geoff Lindsay (2000: 16).

Furthermore, with attention to the "Respect for the Dignity of Persons: Clause I.23" from the CPA each child has the right to stop his/her participation in the study at any time.

Respect the right of the individual to discontinue participation or service at any time, and to be responsive to non-verbal indications of desire to discontinue if the individual has difficulty with verbally communicating such a desire (e.g. young children, verbally disabled persons).

(CPA 1992: 33 in Lindsay 2000)

Lewis, Ann & Lindsay, Geoff. (Eds.) (2000). *Researching Children's Perspectives*. Buckingham: Open University Press.

It is possible that some students may prefer the parallel classroom activity of free choice drawing for those who do not have permission forms and opt out of the study as a result.

Process for obtaining consent: Letters of permission to participate in the research project will be given to the principal of the school and the classroom teacher. A consent form is sent to each parent or legal guardian of the children who wish to

participate in the research project which is accompanied by a letter which explains how the research project is to be conducted.

The Classroom Experience:

- a) Distribute one piece of drawing paper, one piece of writing paper and 8 pencil crayons (black, blue, red, yellow, orange, brown, white and green) to each participant.
- b) Place extra pieces of both drawing and writing paper in a suitable place in the classroom for those who may feel they wish to begin again. This exercise is not intended, in any way to make the participant to feel that he/she is writing a test. It is the creation of a book.
- c) Introduce the exercise by saying:
 - 1) "Please use the piece of paper in front of you and the pencil crayons provided to draw a picture that illustrates your thoughts on how you see your environment/your world."
 - 2) "Once you have completed your drawing please use a second piece of paper to explain in your own words your drawing. Remembering not to write more than 100 words or a brief paragraph."
- d) Remind the children that they will have one class room period in which to complete their work (Generally, 45 min. to 1 hour)
- e) For those children who may ask for assistance in generating ideas it is important that the researcher does not influence the child's decision on what to draw or write. Some children will take longer than others to begin their task ... this extra thinking time for some is to be expected.
- f) Invite children to sign their picture if they wish to, but only if they wish to.
- g) Have each child identify his/her drawing with a number and then using the same number identify the written work.
- h) Collect the drawings and writing ensuring that each drawing is matched with the appropriate written description.
- i) The researcher will compile the classroom book and return it to the school not later than the school closing at the end of June.

Dissemination of Research Results

The classroom book will be shared upon completion with the classroom at the school no later than the end of June.

Summaries of the research finding will be distributed to those who are directly interested. Those who are interested in children's perceptions and the school itself.

Anonymity/Confidentiality

Access to the information: Both myself (Karen Jones) and my supervisor (Dr. Nancy Doubleday) will have access to the data that is collected.

Confidentiality of the coding responses: There are three measures to ensure confidentiality. *First*, the sex and date of birth for the participant will not be present on the child's artwork nor his or her written work but is only found on the coded record of the work.

Secondly, on coding record which includes the child's name, sex and date of birth. The child's name will be coded with alphabet letters and a master list will be made of corresponding letters to names. This list will then be stored in a locked box in the supervisor's locked office.

Thirdly, upon the completion of the data analysis all of the information that is held in the locked box will be destroyed.

Thanks again Mrs. McIntosh and I do hope that your meeting goes well.

Karen

APPENDIX 4: Communication with Parents/Legal Guardians

1) Letter to the Parents and Legal Guardians of the participants

Note: The Governing board of Wakefield Elementary approved the proposed project in November of 2001. At this point, Mrs. Brenda Cruthers (the Wakefield representative of the Education Committee for the Western Quebec School board) was asked to take the project to the next board level meeting of the Education Committee. The December meeting was not held and the initial January meeting was postponed due to weather. The Education Committee approved the project and I received official confirmation that the project had been accepted the second week of February. At this stage I arranged another meeting with Mrs. McIntosh seeking approval to send out the following letter to our parent population.

February 20, 2002

Dear Parent/Legal Guardian,

The effects that environmental pollution and technological information have on a child's perception of his/her environment are an important aspect of a child's overall worldview. In fact, such perceptions may not only affect how a child sees his/her local environment but may influence a child's complete worldview.

We are doing a study at Carleton University, Ottawa, Ontario in cooperation with your school. This is an opportunity for children who wish to participate to express their opinions.

The research project contains two parts. In the first part the child is asked to draw a picture of what he/she feels would be important to do to save the world. In the second part the child is asked to write a brief description of what his/her picture means.

The study will take place during one classroom period. It is completely voluntary and if your child does not wish to have his/her art or written work placed in the classroom book, then it will not be included. Also, if your child wishes to stop his/her participation any time during the study this is completely acceptable.

The format of the study has been carefully evaluated by the Carleton University Ethics Committee, the school principal, the Governing Board of Wakefield Elementary as well as the Education Committee of Western Quebec School Board. There are no foreseeable risks to your child in terms of participating and we hope that your child will enjoy the activity. Please note that if your child does not wish to participate in this study, there will be a parallel classroom activity during the classroom period for your child. However, if your child does wish to participate in the study, then the attached form must be completed and returned to the school no later than February 26, 2002.

After the artwork is completed, I will review the work and make my notes. I will keep the children's names confidential in my study. However, for the class book we recognize that these young artists may wish to sign their names to their work. If a child chooses to do so, we welcome this. There will be no pressure to sign their names if they choose not to.

For the report and academic analysis, I will follow the common procedure of using a combination of alphabetic letters to stand for the names. In this way the privacy of the individual will be protected in the study itself. The only people who would have access to the list showing the names and code letters would be my supervisor and myself. This information will be kept in a locked box in my office and once the data analysis is completed these forms will be destroyed.

If for any reason you wish to contact myself, my supervisor or the chair of the ethics committee at Carleton University please take note of the following telephone numbers, or write to us.

Thank you.

Karen Jones (Researcher) – tel. (819) 459-2373
 Dr. Nancy Doubleday (Supervisor) – tel. (613) 520- 2600
 Ethics Committee Chair – tel. (613) 520-2600

Address: Geography/Environmental Studies Department
 Carleton University
 1125 Colonel By Drive
 Ottawa, Ontario
 K1S 5B6

PERMISSION/CONSENT FORM
TO BE RETURNED TO THE SCHOOL BY FEBRUARY 26TH 2002

I have read the attached letter and understand that the purpose of this research project is to study the relationship between the environment and children. I am aware that the project is strictly voluntary, and that if my child wishes to stop at any point he/she has the right to do so. I am also aware that the children will make a classroom book, with the help of the researcher, and that this work will be given to the school. I understand that the study will not reveal the identity of individual children. I give my permission for my child to participate if he/she so wishes. _____ has my permission to participate in drawing a picture and _____ (name of the child) writing about the picture.

 (signature of parent/legal guardian)

 (date)

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