

Volunteerism and Experiential Learning in the Environmental Education Curriculum of the Province of Ontario

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ABSTRACT

Environmental education curriculum is framed as the foundation for the successful achievement of goals and objectives related to solving current environmental problems of the planet. While environmental education curriculum can be conceptualized from different theories, research that frames the curriculum simultaneously from Elliot Eisner's and Benjamin Bloom's perspectives is less prevalent. This research explores the environmental education curriculum of the province of Ontario in the context of Eisner's critical framework and Bloom's taxonomy of educational objectives. In so doing the research answers four questions:

- What does/does not Ontario's provincial environmental education curriculum teach pertaining to Environment?
- Is there any contradiction, harmony and complementary domains embedded in the provincial Environmental education curriculum?
- How does the provincial environmental education curriculum (explicit curriculum) fit to the school culture (implicit curriculum)? Is there a missing link between the two (null curriculum)?
- Which of the educational domains (knowledge, attitude or skill) is dominant in the implicit or explicit or null curriculum?

In conclusion, the research argues there is a dire need to intensify skill and attitudinal based environmental educational objectives in Ontario's provincial environmental education curriculum. Apart from reviewing and analyzing the curriculum the research helpfully shows the missing links in the provincial environmental education.

Preface

This research traces its objectives back to my childhood growing up in a densely forested area, swimming in the river water, collecting wild berries and brushing my teeth with selected plant roots that kids of my age would decide to dig out from the grassy field. As children we never got tired of chasing rabbits or trying adventurous activities such as feeding chicks from our mouth. We were never afraid of thorny plants that left their marks on our face as well as on different parts of our body (mine being a huge scar on the side of my right knee). In every case, our deeper affection with nature was established on a concrete foundation for years to come. Planting seasonal vegetables and perennial trees in our backyard was also part and parcel of my childhood when my dad would tell me and my siblings to help him till the soil. It is these memories of well rooted affection with nature which continued to influence my life as an adult defying changes related to population pressure, urbanization, and industrialization that brought new introductions to the “pristine” environment.

Fast forward, during my high school years, the call for environmental protection came clearer than ever before. Engagement in seedling stations, planting trees, awareness creation, and environmental activism reached their highest stage due to changes in the nature of my participation that grew from a small home-based back yard garden to student-led and school-based regional environmental activities. This experience also helped me to establish a progressive environmental club in my college where I was trained to teach Geography and environmental studies. I could not ignore environmental club leadership when I was teaching in a school in Addis Ababa. My exposure as student, as teacher trainee and as a teacher influenced my thought about the role of schools and students in environmental works. This life experience is instrumental in motivating me to set the objective of my study and this specific research: high

school students can make a difference if given the necessary opportunity to volunteer and to develop environmental protection skills through experiential environmental education.

Foreword

This Major Paper, Volunteerism and Experiential Learning in the Environmental Education Curriculum of the Province of Ontario, has been undertaken in partial fulfilment of the requirements for the degree of Masters in Environmental Studies at the Faculty of Environmental Studies at York University. The paper connects two of the researcher's components of his area of concentration: environmental education and community organizing (students' environmental volunteerism). This paper enabled the researcher to fulfill at least five of his learning objectives. These are : building his knowledge base in environmental education, learning about the various barriers that hinder students' engagement in environmental protection and conservation, conducting concrete research projects motivated by experiential learning to deepen his interdisciplinary knowledge, to learn to be highly capable of organizing active community participation in the protection and conservation of natural environments, and identify the different approaches to community-based natural environmental protection activities and to evaluate their effectiveness.

The aim of the paper is to review Ontario's grade 11 and 12 environmental education curriculum and provide a conceptual analysis (based on quantitative analysis of qualitative data) of what the curriculum intends to teach, and barriers and issues that are left out of the curriculum. With this in mind, it owes its theoretical foundation to Elliot Eisner's model for curriculum evaluation. In Eisner's *The Educational Imagination: on the design and evaluation of school programs*, curriculum evaluation cogitates three foundations: what the curriculum teaches (explicit curriculum), what the school culture looks like (implicit curriculum) and what is being ignored by the curriculum (null curriculum). Elliot's theory is selected owing to its comprehensiveness and holistic features.

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Chapter One

1.1 Introduction

Let every individual and institution now think and act as a responsible trustee of Earth, seeking choices in ecology, economics and ethics that will provide a sustainable future, eliminate pollution, poverty and violence, awaken the wonder of life and foster peaceful progress in the human adventure.

— *John McConnell, founder of International Earth Day*¹

The 21st century inherited a legacy of complicated environmental problems together with sophisticated technological developments that human beings had never imagined a half-century ago. The planet witnessed advancements in the areas of transportation, communication, space science, use of alternative energy sources, development of human capital to name a few. On the other hand, the issues of global warming, cross boundary communicable diseases, extinction of plant and animal species, atmospheric and water pollution, as well as depletion of natural resources are humanity's day-to-day phenomena.

Canada is not an exception to the above trends. Environmental problems and the response from the policy makers and the community at large reflect this trend. Among many responses education, mainly environmental education, which involves curriculum design and review is considered a major task.

As one of the most highly industrialized and populated areas in North America the province of Ontario is a good case study to depict both the aforementioned environmental problems and environmental education's response to addressing environmental problems. The educational system in the province is continuously evolving to accommodate the needs of its growing

population and economic activities. During the first decade of the 21st century, the provincial educational system decided to introduce a curriculum that delivered more environmental content for students at every grade. In order to facilitate this action, in the year 2007 the province established a panel of experts called the Working Group on Environmental Education. The group later recommended the most important areas of intervention, one of them being preparation of a comprehensive environmental education curriculum¹.

According to the Working Group on Environmental Education, schools have a vital role to play in preparing young people to take their place as informed, engaged, and empowered citizens who will be pivotal in shaping the future of their communities, province, country, and global environment². The group from the beginning took this position about the role of the school in promoting social change. This fact linked schools' work and environmentalism's concern for the future generation. Today, international policy makers and organizations such as UNESCO agree that schools in general and environmental education in particular can play a tremendous role in shaping the current and future states of the environment, empowering students to work for environmental causes', helping them to act as responsible citizens and realize sustainable development in their communities and beyond³. Hence, assessing the role of environmental education in schools is an invaluable task in places such as the Province of Ontario both for knowledge generation and policy implication. As part of its recommendations, the Working Group⁴ suggested the dire need for a highly visible and well integrated environmental education curriculum in the provincial education system. The integration of environmental education

¹ Shaping Our Schools Shaping Our Future: Environmental Education in Ontario Schools Report of the Working Group on Environmental Education. June 2007. www.edu.gov.on.ca.

² *ibid*

³ UNESCO, World Summit on Sustainable Development Johannesburg, 26 August – 4 September 2002 p3

⁴ 2007:13

within the existing curriculum would facilitate the revision of topics as the main curriculum gets updated following the cyclical curriculum review procedure in the province. Such actions “would help teachers to make key connections and build effective environmental education programs”.

This research therefore is designed to evaluate the provincial environmental education curriculum. With this in mind, it owes its theoretical foundation to Elliot Eisner’s model for curriculum evaluation. In Eisner’s *The Educational Imagination: on the Design and Evaluation of School Programs*⁵, curriculum evaluation cogitates three foundations: what the curriculum teaches (explicit curriculum), what the school culture looks like (implicit curriculum) and what is being ignored by the curriculum (null curriculum). Elliot’s theory is selected owing to its comprehensiveness and holistic features⁶. The research argues a well-balanced curriculum, be it environmental education or any other curriculum designed to instill knowledge, cultivate good citizenship or develop skills among learners, needs to consider various contexts. Such contexts may incorporate volunteerism and place based environmental education.

Several research studies suggest that traditionally, environmental activities are performed by a group of volunteers who are dedicated to give to their community, country and the rest of the world from mainly an altruistic point of view (Melosi, 1995; Lester et al, 2001; Lois, 2006; Shallcross & Robinson, 2006; Gosine, 2008; Bekkers, 2007; O'Brien et al, 2010; unv.org⁷). This study tries to draw a common line between the provincial environmental education curriculum and student volunteerism. In addition to volunteerism it also considers experiential

⁵ Eisner, Elliot (1994). *The Educational Imagination: On the Design and Evaluation of School Programs* (3rd Ed.). New York: Pearson Publishers.

⁶ *ibid*

⁷ The environmental movement was started by volunteers, and it has thrived on volunteer effort. It will require the ingenuity and actions of millions of volunteers to address the challenges ahead. <http://www.unv.org/en/news-resources/resources/fact-sheets/doc/environmental-volunteerism.html>

environmental education in its attempt to evaluate the provincial environmental education curriculum.⁸ The researcher believes that, both volunteerism and experiential learning are not alien to the discourse of curriculum and curricular formulation or design. All these can be comprehensively discussed in Bloom's Taxonomy of Educational *Domains*⁹: knowledge, attitude and skills (KAS). The broader definition of the terms is mentioned under sub-section 2.4 (Bloom's Taxonomy of Educational Objectives) below; however, it is worthwhile to briefly define these three terms. Firstly, knowledge deals with curricular objectives that require students to recall or memorize facts or execute lower level analysis of issues; whereas, attitude refers to objectives of a given curriculum that deal with behavioural change in students. Lastly, skills refer to activity oriented objectives that result in students' development of mental and motor skills. Hence, the research employs this integrative approach using Eisner's framework and Bloom's taxonomy to explore Ontario's environmental education curriculum.

1.2 Research Questions

The major objective of this research is to review Ontario's environmental education curriculum and seek responses to the following four questions:

What does/does not the Ontario provincial environmental education curriculum teach pertaining to environmental knowledge and action?

⁸ One of the findings of numerous researchers is the fact that EE often did not exist or if it did exist it was done as an extracurricular activity by individual teacher's initiative (the Working Group on Environmental Education, 2007; Russell & Burton, 2000). Hence in this research I use the notion of 'traditional' to refer to this trend of EE in the past in Ontario.

⁹ Domains in this paper refer to categories of curricular objectives which are divided into Cognitive (knowledge), Affective (attitude) or Psychomotor (skills)

Is there any contradiction, harmony and/or complementary domains¹⁰ embedded in the provincial environmental education curriculum?

How does the provincial environmental education curriculum (explicit curriculum) fit with the school culture (implicit curriculum)? Is there a missing link between the two (null curriculum)?

Which of the educational domains (knowledge, attitude or skills) is dominant in the curriculum?

1.3 Environmental Education in the Province of Ontario: a Retrospective View

The history of environmental education *per se* is a recent phenomenon in the educational system of Ontario. Environmental education was hardly existent and if it did it was only as a form of extracurricular activities as a result of individual teacher's initiative (Russell & Burton, 2000)¹¹. Later it gradually embedded with other subjects such as Geography and Biology. In short, it was not given due emphasis during various curricular reviews until the 2000s. However, beginning 2005, century the province started to move ahead to incorporate environmental education in both elementary and high school curricula. This bold move was primarily a result of the Working Group on Environmental Education, an advisory committee established by the province in March

¹⁰ Complementary domains, for this research, are defined as curricular objectives that work in place of another in order to achieve a given task. For example: knowledge based objectives that require skill based responses.

¹¹ Russell, C. L., Burton, J. (2000). A Report on an Ontario Secondary School Integrated Environmental Studies Program on Canadian journal of environmental education. Vol 5 (1) – 2000. Retrieved from <http://cjee.lakeheadu.ca/index.php/cjee/article/view/314/246>, pp. 288

Environmental education, if it occurs at all, is offered as an isolated elective course (often in science or geography) or as an extracurricular activity, and its existence in a school is frequently due to the efforts of one or two committed teachers (Russell, Bell, & Fawcett, in press). The current political context in Ontario adds further challenges; teachers are faced with funding cutbacks, a mandate to change from a 5-year to a 4-year secondary system thereby limiting space for electives, and a “back to basics” curriculum which leaves less room for environmental concerns to be addressed.

2007 and encouraged to comply with commitments to the United Nations Decade of Education for Sustainable Development (2005-2014)¹². As far as the Working Group on Environmental Education is concerned, after its institution it was given a mandate “to provide a report to the Minister of Education, through the curriculum council and to analyze and research successful approaches to teaching and learning about environmental education throughout schools in the province.” The Group later submitted a document called *Shaping Our Schools, Shaping Our Future: Environmental Education in Ontario Schools, the Report of the Working Group on Environmental Education* which was published by the provincial government in June 2007. In this document the group recommended three main areas of intervention: leadership and accountability, curriculum, teaching and resources. In its recommendation the group also pinpointed the substantial need for comprehensive environmental education in the province due to the sizeable curricular gap in the education system. In addition, the Group set the tone for provincial environmental education by giving it a comprehensive definition and recommending that it be adopted as the definition used in Ontario schools –

Environmental education is education about the environment, for the environment, and in the environment that promotes an understanding of, rich and active experience in, and an appreciation for the dynamic interactions of:

- The Earth’s physical and biological systems
- The dependency of our social and economic systems on these natural systems
- The scientific and human dimensions of environmental issues
- The positive and negative consequences, both intended and unintended, of the interactions between human-created and natural systems¹³.

The working group also found out that “while environmental education is reflected in elements of Ontario’s elementary and secondary school curriculum, there are few topics directly focused

¹² Acting Today Shaping Tomorrow: A Policy framework for Environmental Education in Ontario Schools. 2009. www.edu.gov.on.ca.

¹³ Shaping Our Schools Shaping Our Future: Environmental Education in Ontario Schools Report of the Working Group on Environmental Education. June 2007, pp.6 www.edu.gov.on.ca.

on environmental education, and content tends to be fragmented and inconsistent in the absence of systems thinking. The curriculum does not currently articulate a sequence of environmental expectations, nor does it adequately address the need for environmental education to be reflected across the curriculum¹⁴.

The incorporation of environmental education was not the only change that was witnessed in the provincial educational system but it was also a reform towards the introduction of a “cyclical curriculum review process that ensures that Ontario’s curriculum adapts to the changing world around us, reflects advances in our knowledge of teaching, learning, and child development, and continues to meet the needs of Ontario students”¹⁵.

In February 2009 the province made a huge leap and published *Acting Today, Shaping Tomorrow: A Policy Framework for Environmental Education in Ontario Schools*, a document that further outlined the policy framework for environmental education in Ontario, with an objective to provide the implementation of environmental education in boards and schools across the province. The document has set three main goals. First, “by the end of Grade 12, students will acquire knowledge, skills, and perspectives that foster understanding of their fundamental connections to each other, to the world around them, and to all living things”¹⁶. Second, increasing “student engagement by fostering active participation in environmental projects and building links between schools and communities”.¹⁷ Finally, increasing “the capacity of system

¹⁴ *ibid* (2007:7).

¹⁵ *ibid* (2007:7)

¹⁶ *Acting Today Shaping Tomorrow: A Policy framework for Environmental Education in Ontario Schools*. 2009, pp.11 www.edu.gov.on.ca.

¹⁷ *Shaping Our Schools Shaping Our Future: Environmental Education in Ontario Schools Report of the Working Group on Environmental Education*. June 2007, pp.14 www.edu.gov.on.ca.

leaders to implement evidence-based environmental education programming, practices, and operations”¹⁸.

1.4 Methodology

A qualitative methodology was used to explain the three key areas in this curriculum evaluation (as outlined by Elliot’s work above): What does the curriculum teach? What does the school environment look like? And what is ignored in the curriculum? An exploratory method is utilized to uncover key areas of concern in Ontario’s environmental education curriculum.

The research collected data from Ontario’s environmental curriculum by reviewing its specific objectives for the given grade levels, quantitatively analyzed the data and synthesized it with prior research that was conducted around student volunteerism and experiential education. The provincial curriculum encompasses 17 disciplines out of which nine are selected for this research. The selection is made purposively according to their presence in grade 11 and 12. The disciplines that are chosen accordingly are as follows:

- The Arts (Dance, Drama, Media arts, Music, Visual Art)
- Business Studies (Accounting, Entrepreneurship, International Business Essentials)
- Canadian and World Studies (The Individual and the Economy, Law, Politics, Geography, History)
- Health and Physical Education (Healthy Active Living Education, Health for Life, Recreation and Fitness Leadership)
- Mathematics

¹⁸ *ibid*:18

- Native Studies (English: Contemporary Aboriginal Voices, Current Aboriginal Issues in Canada, Aboriginal Beliefs, Values, and Aspirations in Contemporary Society, Aboriginal Governance: Emerging Directions...)
- Science (Biology, Chemistry, Physics)
- Social Science and Humanities (Family Studies, Food and Nutrition)
- Technology Education (Communication Education, Computer Technology, Green industries, Hair Styling, Aesthetics, Health Care, Hospitality and Tourism)

With the research objectives in mind and in order to measure the ongoing progress of the provincial environmental education curriculum, a modified version of Bloom's Taxonomy of Educational Objectives suggested in his book *Taxonomy of Educational Objectives: The Classification of Educational Goals, Volume 1*¹⁹ and its domains: (cognitive domain (knowledge), affective domain (attitudes) and psychomotor domain (skills)) was used as an additional tool to analyze the qualitative data. The theory helped to uncover if the explicit curriculum in chapter three exhibited bias towards a single domain, incorporated all the three very well or provided the necessary weight to each objective. In short, the most important idea behind using this theory is to offer a unique insight into the implementation of the explicit curriculum in Ontario's secondary schools. The qualitative research further addressed school culture and, with an insight from Marx's Volume I, ideas that the researcher assumed were given less emphasis by the provincial environmental education curriculum.

¹⁹ Bloom, B. (1969). *Taxonomy of Educational Objectives: The Classification of Educational Goals, Volume 1*. New York: David McKay Company Inc.

1.5 Organization of the Major Paper

The overall structure of the study takes the form of four chapters, including this introductory chapter, which consists of the introduction, historical context of environmental education in Ontario and methodology. Chapter Two begins by laying out the theoretical dimensions of the research, and looks at the literature review, theoretical and conceptual framework to the research with a particular emphasis on Elliot Eisner's (1994) book *The Educational Imagination: On the Design and Evaluation of School Programs*, Benjamin Bloom's (2001) *Taxonomy of Educational Objectives: The Classification of Educational Goals, Volume 1*, volunteerism and experiential education. The third chapter analyzes the provincial environmental education curriculum by dividing it into three main categories: explicit, implicit and null curriculum. The analysis for each category will also incorporate the KAS model (as defined above). Finally, the conclusion gives a brief summary and critique of the findings. The fourth chapter concludes the research by briefly summarizing and recommending the findings as a base for future studies.

1.6 Limitations of the study

This major paper does not engage with primary data. For this reason, its main data sources are secondary materials that are not validated against primary data sources such as interviews and questionnaires. In addition, due to practical hindrances the paper cannot provide a vigorous review of the provincial curriculum. The other critical problem of this research emanates from its broad scope which may result in ignoring specific cases that do not comply with the conclusion of the study. As far as provincial documents are concerned, the research considered only a very few number of them which may have led to some hasty generalizations. In short, the reader needs to bear in mind that the research is conducted as an academic exercise not for practical curricular implementation procedures.

Chapter Two

2. Conceptual and Theoretical Framework

Critiquing a curriculum needs serious conceptual, theoretical and philosophical engagement. In the same manner, critiquing an environmental education curriculum brings together two broad field of studies: education and environmental studies with their conceptual, theoretical and philosophical foundations. In this section the nature and dynamics of curriculum, as well as experiential learning and volunteerism as viable responses to environmental problems are discussed.

2.1 Curricula and Curricular Evaluation

The definition of curriculum is contextual. For the sake of this research, the definition from Dictionary of Education (2009) is used. According to the dictionary, curriculum can have three contextual definitions. Firstly, it is “the content and specifications of a course or programme of study”; secondly, it is “the totality of the specified learning opportunities available in one educational institution”; thirdly, curriculum is “the programme of learning applying to all pupils in the nation”²⁰. As far as this research is concerned, environmental education curriculum deals with the contents and specifications of the various disciplines that embed environmental issues within them.

Curriculum is meant to communicate an intended message or assignment from various angles. The way this communication works can take different forms that can be practiced in the

²⁰ A Dictionary of Education [electronic resource] / edited by Susan Wallace. Oxford; New York: Oxford University Press, 2008. Oxford Reference Online, viewed October, 20, 2014).

<http://www.library.yorku.ca/e/resolver/id/1237540>

academic field or simply as a school culture. From this spirit, it is worth discussing Eisner's three forms of educational curricula: explicit, implicit and null curriculum. To begin with, Eisner's depiction of explicit curriculum entails what is noticeable or apparent or intended by the curriculum. Ebert and Culyer (2014) write "the school curriculum is concerned with the subjects that will be taught, the identified "mission" of the school, and the knowledge and skills that the school expects successful students to acquire." ²¹ The explicit curriculum is the contextual "language" of the classroom depending on the discipline as well as the school community. Every member of the school, from the student to the teacher from the administrative body to the parents committee, communicates it with one another. For example, addressing environmental problems is a common principle in the school in which all members of the school try to be part of the conversation, the belief or the action. In simple terms, "the explicit curriculum can be discussed in terms of time on task, contact hours, or high school credit courses. It can be qualified in terms of specific observable, measureable learning objectives."²²

Implementation of a curriculum package, however, is not the only activity that can be observed in the school. Students can come to the school wearing clothes that convey environmental causes, follow seasonal dress codes, and eat fruits and vegetables that depend on the season of year and the producer, speak different languages, express their feelings and even discuss documentary movies that are produced based on ancient environmental schemes. The common aspect of these issues is that they are not part of the explicit curriculum or they are only indirectly triggered by it. There are "other things that are included in the message of the school that are not typically part of the explicit curriculum". These messages are occasionally referred

²¹ Ebert, E., Edward, C. (2014) School: An Introduction to Education 3rd edition e-book Cengage Learning, pp.148

²² *ibid*:148

to as the “hidden curriculum” or implicit curriculum. In simple terms, the implicit curriculum deals with “the lessons that arise from the culture of the school and the behaviours, attitudes, and expectations that characterize that culture.”²³ It may not necessarily be indicated as an across the board message. The implicit school curriculum involves issues that maybe be identified with a particular group of the school community but not others.

The third most important criteria for curriculum evaluation, according to Eisner, is the null curriculum. Unlike the explicit curriculum that is planned by all stakeholders of the school system or the implicit curriculum that is triggered by the school culture, the null curriculum is the curriculum that is intentionally left out or neglected during the curriculum development process. Ebert describes null curriculum as follows:

This aspect of curriculum refers to the options students are not afforded, the perspectives they may never know about, much less be able to use, the concepts and skills that are not a part of their intellectual repertoire. Topics such as evolution or sex education (issues of gender orientation, alternative lifestyles, and alternative family configurations) provide examples²⁴.

These aspects of a given curriculum can serve as viable tools to critique and evaluate a school curriculum in a comprehensive and holistic manner. Pertaining to evaluating a curriculum from an environmental paradigm, the above three perspectives can illuminate much about the eco-friendly status of a curriculum. What does/not a curriculum implicitly and explicitly teach about the environment? Eisner’s framework is plausibly applicable in answering these three different but interrelated questions. Nevertheless, this framework provides us only a skeleton of the curriculum; and hence, to explore the eco-friendly status of a curriculum two more aspects of environmental education can be applied. These are volunteerism and experiential learning as

²³ *ibid*

²⁴ Ebert, E., Culyer, R. (2014). *School: An Introduction to Education* (3rd edition). Belmont, California: Wadsworth, Cengage Learning, pp.149

viable strategies to teach and engage citizens in environmental education. Eisner's explicit curriculum can depict what a curriculum teaches while the notion of volunteerism and experiential learning can show how a curriculum teaches about environmental concerns.

2.2 Students' Volunteerism

The greatest virtues are those which are most useful to other persons.

Aristotle

Environmental engagement can be accomplished in various ways. While some express it in the form of activism others do it from their office desk to fulfill what is required of them by their employers. Students for their part have a hand in co-curricular activities or other settings that are located miles away from their schools, either to fulfill their mandatory volunteer hours or as a form of "environmental solidarity". This shows that volunteering takes various forms to achieve the intended mission.

There are a number of definitions given to volunteerism.²⁵ Though these definitions underline that volunteers need to believe in what they are doing, most of them place the concept as a process of filling a gap and doing what is needed by a specific group or foundation. Definitions of volunteerism have some common features, such as: volunteers are not forced to volunteer: volunteering is carried out for the benefit of others (to fulfill altruistic objectives); it is an act of "the privileged server to the unprivileged recipient"; it assumes the community as static; it is unpaid, and it needs to take place in an organized context. Some of the definitions of volunteerism are reviewed as follows: Volunteering is an "act of selflessly giving your support,

²⁵ Cohen, M. A. (1984). *Volunteer! A Comprehensive Guide to Voluntary Service in the United States and abroad*. Yarmouth, Maine: intercultural Press, Inc., pp.6

love, talents, skills, motivation, [and] dedication to something you believe in”²⁶. This definition implies volunteerism is done for the sake of achieving altruistic objectives by an individual or groups who believe in accomplishing the action for free. The satisfaction attained by the volunteers committing their time, knowledge, skills, energy and money is the end goal of volunteering. This sort of definition may not perfectly suit the current state of volunteerism. For example, the same organization that echoes this definition is established based on a for-profit corporate model. Thus the time, knowledge skills and money invested by volunteers in such environments mainly contribute to the profit making scheme of the franchise. This is one of the thousands of examples that contradict the nature of altruistic volunteering.

Cohen (1984)²⁷ defines volunteering as something that “involves participants in work that is done alongside others in order to respond to human needs and to enrich the lives of others...”

Cohen’s definition more or less incorporates some of the common features of volunteerism mentioned above. Accordingly, volunteering depends on altruistic individuals who are determined to give and enrich the lives of others. Such definitions fall short of addressing the mutual benefits of volunteering. In simple terms, they are one sided and glorify the contribution of the “donor” and undermine the “recipients”. They only show the tradition of professional and personal development of the volunteer by helping others, and free labour. Contemplating volunteerism from a single dimension is one of the troubled areas in defining or conceptualizing the notion.

As seen above, volunteerism is defined in a vague and subjective manner that try to determine the nature, function or characteristic features of volunteering either without a thorough understanding of the concept *per se* or the necessary rewards the volunteers should get from their

²⁶ A definition taken from a bulletin board at Sunrise Seniors’ Living Inc. in Thorn hill, Ontario

²⁷ Cohen (1984:6)

relationships with the host organization/the community. One of the very serious problems of these definitions is that they disregard a number of issues including individual volunteers who decide to give their best to the environment without a host organization mainly for the sake of altruistic purposes which will be discussed in Chapter Two in relation to theories of volunteering.

In a more radical way, Hazel Henderson's theory of "The Love Economy" provides a new place for volunteering in the traditional economy. In her theory, Henderson argues the assumption of the Gross Domestic Product (GDP) is faulty and ignores activities that are not exchanged for money. Therefore, it requires an all-inclusive "beyond GDP" modification. The "Love Economy" places volunteering as one of the four elements of a given economy. For Henderson, the "Love Economy" has four elements: 1) the private sector that innovates and hires individuals; 2) the public sector (hospitals, roads, airports, and schools); 3) the love economy (volunteers, women spending their time taking care of their family, and people sitting on school boards, etc.) and 4) Mother Earth. Seeing volunteers and volunteering as part of the greater economy is a major step to acknowledge its impact on various dimensions.

Volunteering is never a new introduction to the "modern" world and depending on the type of activities involved, it has been a part of most societies throughout human history²⁸. Through the years, women "volunteered" in their households, men led spiritual services, children and youth helped the elderly, students contributed volunteer hours to their community, people of various sexual orientations organized civil rights movements and sporting activities were organized by free volunteer labour. Simultaneously, the volunteering platform has gradually changed into exploiting surplus labour such that altruistic volunteering has evolved into corporate profit

²⁸ Rochester, C. (2006). Making Sense of Volunteering: A Literature Review. London: The Commission on the Future of Volunteering <http://practicalwisdomr2z.co.uk/consultancy/wp-content/uploads/2011/05/Making-sense-of-volunteering-ROCHESTER-2006.pdf>

maximizing. For example, current developments in Canada's volunteering and unpaid internships environments are obvious features of these changes. Handy et.al (2010) tracked such changes in Canada's volunteering platform and wrote "volunteering increases among those who volunteer for episodic and less demanding purposes, rather than among those who view volunteering as an expression of their core values."²⁹ Such changes in volunteering behaviour are mainly emanated from the market led economy that requires students or fresh gradates to present some form of volunteering experiences prior to assuming their paid jobs. The authors write:

[Y]ou've [*sic*] been told to enhance your resume with descriptions of your volunteer activities and projects you've [*sic*] participated in and the responsibilities you shouldered for each one. There's no doubt that the time you spend as a volunteer leader can be invaluable to you, not only for the often unique experiences you gain but also because it can help you secure a better job in summers and after graduation.³⁰

This is what primarily led corporations to maximize profit using the free labour provided by volunteers who knowingly or unknowingly subject themselves to exploitations in the name of building experiences. This leaves highly demanding volunteering works such as environmental activities without the necessary number and quality of volunteers endangering the environmental cause. The trend is not limited to corporations but also the federal government. In its recent broadcast, the CBC radio covered the state of the Canadian field of volunteering, which is being affected by the deep budget cuts that let many of the federal institutions such as Canada Post, Aboriginal Affairs, Correctional Services and others to search for volunteers more than ever

²⁹ Handy, F., Cnaan, R. A. , Hustinx, L. , Kang ,C. , , Brudney, J. L., Haski-Leventhal, D. , Holmes, K. , Meijs, L.

C. P. M. , Pessi, A. B. , Ranade, B. , Yamauchi, N. and Zrinscak, S. . A (2010). "Cross-Cultural

Examination of Student Volunteering: Is It All About Résumé Building?" in Nonprofit and Voluntary

Sector Quarterly June 2010 vol. 39 (3) pp. 498-523. Retrieved from

http://journals1.scholarsportal.info.ezproxy.library.yorku.ca/pdf/08997640/v39i0003/498_aceosviiarb.xml

³⁰ *ibid*

before³¹. With this in mind, the researcher undertake a brief look into volunteerism, its roots, theories and related issues to help discuss its relevance to this research. The researcher strongly believes that volunteerism is a praxis of environmental education. It is a praxis that requires students to integrate theoretical changes in behaviour through environmental patriotism. As a praxis it also requires students to participate in environmental activities to evaluate the theoretical skills into real life situations. Therefore, volunteerism partly culminates skill based educational objectives of the provincial curriculum.

As seen in the beginning of this section, volunteering is done for various reasons. Of these reasons, altruism seems to play a greater role in justifying why people volunteer. Altruism is a reflection of one's pro-social personality that is revealed in the form of giving, generosity, active and helpful nature, and some people do not have these qualities³². On the other hand, volunteers can do it from a "selfish" drive to accumulate work experiences and skills, to feel useful, to gain personal accomplishment, to understand office etiquette, and learn team work. In simple terms these drives are psychological, a guarantee to well-being, and signs of community membership. Similarly, the market can also benefit from volunteers' accumulation of human capital and by exploiting surplus labour.

As many would assume, volunteering is not all about working without pay, rather it goes deeper than that. Some of the reasons that motivate people to volunteer for a particular cause can be analyzed by looking into the various social and psychological theories. Below are some selected

³¹ Government of Canada looking for 20,000 volunteers to fill positions across all departments
<http://www.cbc.ca/thisisthat/2012/10/17/government-of-canada-looking-for-20000-volunteers-to-fill-positions-across-all-departments/>

³² Dekker, P. Halman, L. (2003). *The Values of Volunteering: Cross Cultural Perspective*. New York: Springer Publishing, pp.3

theories adopted from Perkins & Zimmerman (1995)³³ and explained to show the possible purposes of volunteering that the researcher recommends and needs to be encouraged in the provincial environmental education curriculum taking into account the nature and motives of environmental volunteering can take various forms.

a. Systems Theory

According to Ritzer (2008) the origins of Systems Theory are sociological and biological. The author asserts “the argument of systems theory is that the intricate relationship of parts cannot be treated out of the whole.”³⁴ Human systems are comprised of other interrelated systems or all human systems are subsystems of other systems. Accordingly, interaction of one system with another to fulfill different functions of a system occurs to help the individual organism survive and coexist with other living organisms or nonliving things. Such systems include, “biological systems, emotional systems, cognitive systems, and spiritual systems.”³⁵ This gives rise to what Emile Durkheim called a “functioning system”.

As far as volunteerism is concerned, human beings volunteer to show solidarity and coexistence with other forms of systems. For example, when students volunteer for an environmental cause, they are doing it to show their solidarity with the other individuals who stand guard to help improve the atmospheric situation and changing climate. Here one can see a number of systems interacting one another: atmospheric system, cognitive system, social system, emotional system and at times spiritual system.

³³ Perkins, D. D., Zimmerman, M. A. (1995). “Empowerment Theory, Research, and Application” in the American Journal of Community Psychology; 23, 5; Research library Core pp 569. Retrieved from https://my.vanderbilt.edu/perkins/files/2011/09/empintro_proquest.pdf.

³⁴ Ritzer, G. (2008). Sociological Theory. 7th ed. New York: McGraw-Hill companies, Inc.

³⁵ *ibid*

b. Conflict Theory

For conflict theorists such as Karl Marx, C. Wright Mills, Weber and Durkheim, conflict has a significant place in any society. For these theorists, “conflict is desirable because it sets in motion, social action to promote social justice”. Conflict theorists suggest that where there is conflict there is stability and harmonious functioning of a given system. For instance, a closer observation of the teachings of Karl Marx suggests that conflict entails three overlapping concepts. These include: power, surplus value and Subjection. Power deals with the subjugation of the working class by the capitalist which takes four forms³⁶. In other words, power is more or less expressed in class terms as group’s access to means of production and control of not only the production but also the exchange and the fruit of the production. The cumulative impact is the class will control as state, which turned to be an instrument of this dominant class³⁷. What makes this class powerful over the other is the control of the surplus value, which is unpaid labour of the dominated class. Surplus value, for Marx, is a means of exploitation by which the capitalist class sets a means of production and exchange that gives it the upper hand to determine the rate at which the product is exchanged and make profit. It is simply the excess of sales revenue over the direct cost of goods sold³⁸. Moreover, it is possible to stretch this Marxian unpaid notion and one can plausibly argue that the surplus value includes unpaid value of nature. Subjection deals with the social, political and ecological condition of the oppressed class, which involves different forms of alienation- alienation from one self and fruit of labour, alienation from social

³⁶ Jessop, B. (2012). ‘Marxist Approaches to Power’ in E. Amenta, K. Nash, A. Scott, eds, *The Wiley-Blackwell Companion to Political Sociology*, Oxford: Blackwell, pp. 3-14 (1) power and class domination; (2) the mediations among economic, political, and ideological class domination; (3) the limitations and contradictions of power that are grounded in the nature of capitalism as a system of social relations, including their spatio-temporal aspects; and (4) the role of strategy and tactics.

³⁷Marx (1887)

³⁸ Bottomore, T. (ed) (1983). *A Dictionary of Marxist Thought*. 2nd ed. Malden, Massachusetts: Blackwell Publishers Inc. pp.528-531

interaction and finally alienation of man from nature³⁹. According to Ritzer (2007)⁴⁰, for Durkheim such controlling mechanisms are *social facts* which are the social structures and cultural norms and values that are external to, and coercive of, actors. For example, volunteers are constrained by organizational bureaucracy as well as norms and values of the host organization).

The application of Conflict Theory to volunteerism can be seen in areas of one's ability to access power and corporation exploitation of surplus labour. For example, minorities, such as racialized bodies, queers, gays, lesbians and all unheard voices, can access power in the form of volunteerism, though not all have the opportunity to access and exercise power. Even to those willing to give it their best, Spade (2011) argues "participatory forms of organizing, such as non-professional membership-based grassroots organization are replaced by hierarchical, staff-run organizations operated by people with graduate degrees."⁴¹ Therefore, access to power faces challenges by the organizational, financial and ideological structures of the nonprofit organizations that host volunteers. Volunteerism does occur in vacuum and reflect the social conflict for power and control of resource. Volunteers will not be less political and conflict-ual as long as s/he is operating in the capitalist system which inherently an adversarial/ conflict-ual system. To this end, Spade recommends changes in the system that have to deal with the "pillars of social justice infrastructure." Accordingly, these pillars are: the pillar of policy, the pillar of consciousness, the pillar of service and the pillar of power. Spade believes that the pillar of power is the most underutilized but useful of all the pillars due to the fact that the pillar deals

³⁹ Marx (1887)

⁴⁰ Ritzer, G. (2008). *Sociological Theory*. 7th ed. NY: McGraw-Hill companies, Inc. pp.75

⁴¹ Spade, D. (2011). *Normal life: Administrative Violence, Critical Transpolitics, and the Limits of Law*. Brooklyn, New York: South End Press. pp.61

with factors like empowering and enabling the beneficiaries to get help from the non-profit and vice versa.⁴²

c. Empowerment Theory

According to Perkins (1995:569) empowerment theory is “a construct that links individual strengths and competencies, natural helping systems, and proactive behaviours to social policy and social change”. Therefore, for empowerment theorists the role of volunteerism is to “reduce/eliminate the exploitive conditions in the social environment.” People need to gain power to have control over their issues and volunteering serves as an opportunity to do so.

The ideas disseminated by empowerment theorists about participating in volunteering activities and the role that the participation plays are problematic. In most cases, the organizing principles or structures of the host organization/community might duplicate the hegemonic heteropatriarchal/patriarchal practices. As seen above, host organizations provide trainings that “mould” volunteers for exploitation, discard their values and adapt that of the organization’s or in some cases maintain the system that discriminates against certain members of the community in one way or another. Volunteering in this case, serves more as a tool of inequality than achieving altruistic objectives which in turn reproduces the hegemonic structures that are suggested by Spade (2011) above.

d. Social Exchange Theory

“Actors will not contribute goods and services to others unless they profit from the exchange”

Wilson (2013:220)

Social exchange theory is deeply embedded in “psychology, sociology and economics to explain human behaviour based on self-interest and choices made to accomplish personal goals”⁴³. For

⁴² *ibid*:181

⁴³ Perkins (1995)

this reason, most volunteering discourses are influenced by Social Exchange Theory. As seen above under definitions of volunteering and elsewhere in this paper, individuals' motive towards volunteering are partly influenced by their choices to maximize rewards and minimize costs. In this regard, volunteering provides people with "opportunities to express or demonstrate their beliefs, learn new things; fend off feelings such as guilt, shame and isolation, enhance self-confidence and a sense of efficacy." From a social exchange theory perspective, volunteering serves as a way for individuals to sell themselves to achieve certain objectives, such as job experience, work ethics, and skills. Social exchange theory, like that of systems theory is embedded in social sciences such as sociology and psychology. However, social exchange theory is primarily anthropocentric whereas systems theory incorporates almost all elements of the ecosystem: the biotic and abiotic alike. Therefore, when exchange theory is deemed anthropocentric and sketchy, systems theory is biocentric and comprehensive.

e. Maslow's Hierarchy of Needs

Maslow's Hierarchy of Needs (self-actualization) theory is one of the classical psychological theories that won wide acceptance in various fields. According to this theory, human beings try hard to hierarchically fulfill their needs through a gradual process by which they maximize their potentials. The pyramidal appropriation of human needs shows the basic physiological needs at the bottom of the pyramid which is followed by security needs, affection needs, self-esteem, self-actualization and finally self-transcendence. Therefore, volunteerism may simply be an activity that allows people to experience self-actualization (distinction, fairness, mastery, and love for others)⁴⁴.

Maslow's theorizing is one way of addressing motivation and achievement. However, the theory is problematic from a number of perspectives. First of all, needs have no distinct stages or

⁴⁴ Maslow (1987).

boundaries. Secondly, there is always a possibility of achieving one stage before the other without following the given ranking. Thirdly, volunteerism is a means to an end not a goal by itself: therefore, it might not fit into Maslow's distinct hierarchy of needs.

2.2.1 History of Volunteerism

"We ask not what our country could do for us but what we could do for our country"

J.F. Kennedy

The past three or four centuries have significantly shaped the nature of volunteering in Canada and elsewhere in the world. The period exhibited transformation in the nature and characteristics of volunteering. This section will briefly take a look at the changes that occurred during this period of time. Most of the volunteerism related literature focuses on volunteering that emerged in the 17th century. For instance, some link the concept with a person called N. F. Voluntaire who "offered himself for a military service in the first half of the 17th century"⁴⁵. Volunteering activities associated with military service are evident from the dawn of human "civilization". Almost all ancient, medieval and some modern states conscript individuals who would like to join the military voluntarily and serve their country; this does not mean there are no countries that force their citizens to undergo compulsory military service.

The Industrial Revolution altered agricultural based human "civilization" to a mobile industrial society. In the mid-1700s Great Britain acquired the position of "the Workshop of the World" which marked the beginning of the first Industrial Revolution. The production process employed a new system whereby machines began to regulate human beings and in turn social relations severely suffered from the consequences of the production process. The role of human beings in

⁴⁵c.1600, "one who offers himself for military service," from M.Fr. *voluntaire*, noun use of adj. meaning "voluntary," from L. *voluntarius* "voluntary, of one's free will" (see *voluntary*). Nonmilitary sense is first recorded 1638. The verb is first recorded 1755. Retrieved from <http://dictionary.reference.com/browse/volunteer>

controlling the production process got out of their hands. The system exclusively exploited workers with the help of economic philosophies introduced by 17th century economists such as Adam Smith.

Overall, the Industrial Revolution was caught between optimism and pessimism.⁴⁶ On the optimist side, human health and living condition were “improved”, slavery was “abolished”, ideas started to disseminate at a faster pace than ever before and cities begun to boom. On the pessimist side, exploitation of workers exacerbated, a new form of bourgeoisie and working class division occurred, environmental degradation and pollution became part of industrial cities, and cities became difficult to manage. Such situations gave birth to new fields of study such as sociology whose main focus was group behaviour (including volunteering), social ills and social organizations that host volunteers.

The Post-Industrial period hosted the two major world wars: WWI (1914-18) and WWII (1939-45), the Korean War and other wars that required the contribution of multitude of volunteers in every field. During these wars, not to mention the civil war in Spain where volunteers from different European countries marched in solidarity with Spanish Republicans under the umbrella organization of “the International Brigade”, volunteers played a significant role in treating wounded soldiers, providing medical supplies, helping migrants resettle, constructing residences, establishing rehabilitation centers (for example, Sunnybrook Hospital in Toronto), teaching and such others. This demand for volunteers started to rise in the post 1980s period mainly in Great Britain and the USA. By then, the neo-liberal state had withdrawn (is continuously withdrawing) itself from its public responsibility. Currently, we see more and more hospitals, nursing homes

⁴⁶ Potter, J. (1962). “‘Optimism’ and ‘Pessimism’ in Interpreting the Industrial Revolution: An Economic Historian’s Dilemma” in *Scandinavian Economic History Review*, December 2011, Vol 10(2) pp245-261. Retrieved from <http://dx.doi.org/10.1080/03585522.1962.10407629>

and other not-for-profit service providers moving from nonprofit to for-profit status⁴⁷. The demand for volunteers is rising mainly to fill the gaps created by the withdrawal of the state from its responsibilities. For example, the Canadian Broadcasting Corporation (CBC) recently reported that the government of Canada was looking for 20,000 full time volunteers⁴⁸. These are positions that should be filled by highly skilled volunteers, for instance, who can act as Chief Negotiating Officer at the Department of National Defense.

Volunteerism in Canada followed a more or less similar pattern to that of USA, Great Britain or other “developed” nations. However, according to Lautenschlager (1992), volunteerism in Canada followed its own adaptations as well. The author says volunteerism in Canada is a result of “a strong emphasis on hard work and self-reliance and on taking responsibility for our own life and actions.” Moreover,

Canadians have become increasingly sympathetic to the idea that none of us is self-sufficient all the time...the idea of good neighborhood transformed into voluntary organizations...pioneers learned the skills of living from first nations peoples. As more and more settlers arrived the commitment to voluntary cooperation to achieve common goals.⁴⁹

Currently, volunteers and volunteering are at a crossroads. On the one hand, volunteerism such as environmental stewardship is benefiting from the fruits of technology that can deliver messages to every individual who has similar interest with the other. On the other hand, the researcher strongly believes that budget cuts and technological advancements are scrambling hours that could be dedicated to volunteering. There is no clear indication as to where

⁴⁷ Volunteering in For-Profit Settings: Exploitation or Value Added? <http://www.energizeinc.com/hot/feb00.html>

⁴⁸Government of Canada looking for 20,000 volunteers to fill positions across all departments
<http://www.cbc.ca/thisisthat/blog/2012/10/17/government-of-canada-looking-for-20000-volunteers-to-fill-positions-across-all-departments/>

⁴⁹ Lautenschlager, J. (1992). Volunteering: A traditional Canadian Value. Ottawa, ON: Multiculturalism and Citizenship pp.15

volunteering is going or growing. In recent years, sporting events such as Olympics are seen benefiting from volunteer hours dedicated by thousands of students and youths who manage to “throw away” their communication devices for a common good⁵⁰. On the contrary, opening full time volunteer positions in the case of Canada dismantles the spirit of volunteerism and darkens its trend. Therefore, volunteerism is seen hanging on the cliff.

2.2.2 Environmental Volunteerism/Stewardship

Volunteers are the backbone of environmental movements from the beginning. These movements and volunteers have a strong and time tested bond. For instance, in the various United States’ environmental justice movements the role of volunteers was crucial. According to Gosine and Teelucksingh (2008), the grassroots activists, organizers, and researchers who were engaged in struggles at Warren County not only launched a new social movement but also introduced new ways of speaking about and analyzing environmental phenomena⁵¹. The movement which was started by these grassroots volunteers in the beginning of the 1980s grew into a national policy agenda by the next decade.

Lester et al (2001:1-2) assert that due to the efforts made by volunteers, environmental justice took the center stage to become “a nationally recognized issue in 1982, when a protest in Warren County, North Carolina resulted in a request for U.S. General Accounting Office (GAO) to study hazardous waste landfill siting in EPA Region 4.” In less than a decade environmental justice

⁵⁰London Olympics: How volunteers made the Games <http://www.bbc.co.uk/news/uk-19201329>

⁵¹ Gosine A, Teelucksingh C (2008) “Environmental Justice: A brief History” in Gosine A, Teelucksingh, C. *Environmental Justice and Racism in Canada*, Toronto. EM Pub. pp. 1-29

The grassroots activists, organizers, and researchers who were engaged in struggles at Warren County not only launched a new social movement but also introduced new ways of speaking about and analyzing environmental phenomena. They coined the terms and concepts such as environmental racism and environmental justice as a way to represent, explain, and draw attention to how racialized discrimination, socio-economic conditions and environmental health are inextricably linked. Single space be consistent with footnotes

became a national policy issue by challenging the status quo. To this effect, “the environmental justice movement has been very successful in identifying and bringing to public awareness the problems of environmental justice such as disproportionate environmental health risks and their cumulative impacts⁵².” As Ryan et al (2001)⁵³ put it “the environmental movement would not exist without volunteers”. To this end “many of the improvements in environmental quality over the past three decades have been made by volunteers.”

Students are significant players in environmental movements. To this end, they can volunteer in their schools and communities in various ways. As far as environmental stewardship is considered, students can take part in extracurricular activities that are specialized in environmental protection, conservation, bird watching and other similar tasks. In their 2007 *American Educational Research Journal* publication about extracurricular activities Hart et.al. (2007) mention participation in extracurricular activities can only help the current state of students’ behaviour and environmental volunteering.

Involvement in extracurricular activities also may promote future civic participation. Extracurricular activities provide students with opportunities to learn civic and leadership skills, such as giving speeches, coordinating efforts with others, influencing others, writing documents, and holding meetings. Youth who are leaders of activities may be more prepared to engage civically in the future. There is evidence that participation in student government, a prominent leader position, does lead to increased civic participation⁵⁴.

⁵² Lester, J., Allen, D., Hill, M. (2001). *Environmental Injustice in the United States: Myths and Realities*. Boulder, Colorado: Westview Press.pp1-2

⁵³ Journal of Environmental Planning and Management Robert L. Ryan, Rachel Kaplan and Robert E. Grese (2001). Predicting Volunteer Commitment in Environmental Stewardship Programs. JOEPOM 44:5, 629-648

⁵⁴ Hart, D., Donnelly, T. M., Youniss, J., Atkins, R. (2007). “High School Community Service as a Predictor of Adult Voting and Volunteering” in *American Educational Research Journal* March 2007, Vol. 44, No. 1, pp. 197-219 DOI: 10.3102/0002831206298173 C 2007AERA. <http://aerj.aera.net>

All in all, in this piece volunteering is viewed as subjective and defined from its functional, structural or related criteria. Review of various literatures did not exclusively indicate one definition of volunteerism per se. Likewise; the theoretical understandings of volunteering have shown their flaws without exception. However volunteerism holds a significant place in the environmental movement. Whether some say volunteerism is at a historic high and others say volunteerism is on the decline, its role is insurmountable to curb environmental problems. Moreover, allowing students to give what they can with regards to time and knowledge will help the environmental cause grow stronger and bolder.

2.3 Experiential Environmental Education and Contemporary Environmental Challenges

Our communities are being plagued with problems such as: lack of comprehensive environmental planning; indiscriminate use of pesticides; community blight; air and water pollution; traffic congestion; and the lack of institutional arrangements needed to cope effectively with environmental problems. While these problems are legitimate concerns of community governmental officials and the planners, the responsibility for their solution rests to a large extent, with citizens. Stapp, William, et al. (1969:33)

According to UNESCO, education is an important tool “to empower children and adults alike to become active participants in the transformation of societies”⁵⁵. Whether it is formal, informal or non-formal education, the learning process in one’s developmental course determines a number of situations. Similarly, environmental education holds a vital place in changing the dynamics of environmental problems. It helps not only to change citizens’ behaviour but also to create awareness pertaining to policy intervention⁵⁶. With this role of environmental education in mind, the section tries to expand on the role of experiential environmental education in combating contemporary environmental problems.

⁵⁵ The Role of Education <http://en.unesco.org/themes/education-21st-century>

⁵⁶ Winfield (2008:31)

The root to introducing experience based environmental education goes, but is not limited to various United Nations' meetings and intellectual movements as far back as the 1960s and 1970s. With this regard, the Stockholm Declaration, the Belgrade Summit, the Tbilisi Declaration and the 1969 environmental education definition by Stapp et.al⁵⁷ in the Journal of Environmental Education were very important.

Education in general and environmental education in particular have seen various changes throughout history. Some of these changes include the rise of alternative ways of pedagogical practices, which challenged the system of formal education. In this long history 'formal education in schools-which was rigid, characterized by rote learning and endless repetition of mechanical tasks-came to see ineffective, worrying pedagogical questions arose.'⁵⁸

According to Smith & Knapp (2011)⁵⁹ experiential education therefore gradually developed into "a holistic philosophy of education that grounds many people's pedagogy. Similar to aspen trees, the roots of experiential education spread wide". While arguing about its gradual progress into a holistic philosophical subject matter, the authors criticize the western tradition of sole ownership of experiential education.

In the mid 1950's Benjamin Bloom devised a curriculum development tool called *Taxonomy of Educational Objectives*. According to Pierce and Gray (1979)⁶⁰, Bloom's theory incorporates three domains. These are the cognitive domain (knowledge), the affective domain (attitude) and

⁵⁷ Stapp, W.B., Bennet, D., Bryan, W. Fulton, J., McGregor, J., Swan, J., Wall, R., Spenser, H. (1969). "The Concept of Environmental Education" in the Journal of Environmental Education, Volume 1 (1), 1969. Retrieved from <http://www.tandfonline.com/doi/abs/10.1080/00139254.1969.10801479?journalCode=vje19#.VHU9rYvF-So>

⁵⁸ Evans (1994:2)

⁵⁹ Smith, T.E., Knapp, C.E. (2011) Sourcebook of Experiential Education: Key Thinkers and Their Contributions. New York, NY: Routledge, pp.80. Retrieved from <http://jee.sagepub.com/content/36/1/80.citation>

⁶⁰ Pierce W. D., Gray C. E. (1979) Deciphering the Learning Domains: A Second Generation Classification Model for Educational Objectives. Washington D.C.: University Press of America. pp15

the psychomotor domain (skills). Environmental education followed a similar curricular development pattern (with more emphasis on the importance of knowledge, emotions and behaviour). Stapp et.al (1969) wrote “environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems [knowledge], aware of how to help solve these problems [skills] and motivated to work toward their solution [attitude]”⁶¹. The move culminated when the Tbilisi Declaration came into effect by the end of the 1970s. The declaration “called for the development of knowledge, problem solving skills, and values clarification in relating to environmental sensitivity.”⁶² In the years to follow various United Nations member countries incorporated the declaration into their education system. This enabled experiential education to take its own form as experiential taxonomy. According to Norman & Bell (1979)⁶³, “the experiential taxonomy, developed in 1975 and tested and researched in the ensuing years is an effective tool for various purposes”.

Although one can look at the human experience through the cognitive taxonomy, the affective taxonomy and the psychomotor taxonomy none of these addresses the whole of human experience. Each deals with only a particular aspect of the total human interaction with an experience. A gestalt taxonomy is needed to provide a framework for understanding, planning, and evaluating the meaning of a total experience. Rather than using three or more taxonomies as models for planning, implementing, and evaluating, the educator in the field needs a taxonomy that is unified, complete, and functional and can be easily used (Norman 1979:1-2).

Experience and place based environmental education are areas that need to be improved and well integrated into mainstream education. According to Carlson & Berleant (2004), in a world where “more and more [things are] transmitted to us as texts” the educating process must change to embrace experiential perspective.

⁶¹ Stapp et.al (1969:34)

⁶² Locke, S., Russo, R., Montoya, C. (2013). “Environmental education and eco-literacy as tools of education for sustainable development” in the Journal of Sustainability Education, Vol. 4, January 2013. Retrieved from <http://www.jsedimensions.org/wordpress/wp-content/uploads/2013/01/RicardoRusso2Winter2013.pdf>

⁶³ Norman, S., Bell, R. (1979). *The Experiential Taxonomy: A New Approach to Teaching and Learning*. New York: Academic Press, Inc. pp xi preface

More and more, things are also replaced by artificial nature, which is described, for example, by the exhibition publication, *Artificial Nature*. At the same time as our living environment changes into artificial environment, our literacy follows, and we forget our earlier skills, which have become mere ballast. A Finnish author coins the term “room person” for a relative of “reading person.” Room person lives indoors in heated and electrically lit rooms, detached from changes in weather, and only looks out at the autumn rain. This way of life leads to alienation from the language of nature, to incomprehension and helplessness. Nature becomes romanticized and mystified-and it becomes dangerous once more.”⁶⁴

According to Evans (1994:1) experiential education means “the knowledge and skills acquired through life and work experience and study which are not formally attested through any educational or professional certification”. Understanding experience itself is the most important idea behind experiential education. Norman (1979:2) described that “experience cannot be understood by fragmentation or isolation; it has identity, continuity, and a broad base involving all human senses and activities.” In such a way, an experience based environmental education is all about enabling students to use their senses and identify activities that bring about significant improvement to environmental problems. In short, “individuals can and do learn by doing as well as through formal instruction and most important that many learn without being taught at all”.⁶⁵

Luckner & Nadler (1997) explained experiential education as “learning through doing. It is a process through which individuals construct knowledge, acquire skills, and enhance values from direct experience”. Therefore, this learning begins with the students’ direct or indirect exposure to the issue. Moreover, the authors mentioned “experiential learning is a philosophical orientation toward teaching and learning which values and encourages linkages between concrete, educational activities and abstract lessons to maximize learning.”⁶⁶

⁶⁴ Carlson & Berleant, (2004:286)

⁶⁵ Evans (1994:2)

⁶⁶Luckner & Nadler (1997:3)

The main causes that create most of the contemporary environmental problems include the culture of capitalism⁶⁷, negligence or the clashing interests of environmentalists, developers, and others⁶⁸. Individuals, groups or governments tend to lack the necessary awareness to tackle environmental problems or they tend to ignore them. Therefore, experiential environmental education and volunteerism need to play a significant role in combating contemporary environmental problems.

This is mainly due to the fact that experiential environmental education is based on principles that try to practically unlearn what we already know about nature and natural environments in theory. Johnson (2006); raised a crucial question challenging the present generation; “will the next generation of conservation biologists be nothing but a bunch of computer nerds with no firsthand knowledge of natural history? Does it follow that they will have no personal emotional ties to the land?” The question clearly indicates the current “nature-human” relationship in a very precise way. In doing so, it questions the fate of natural environments from the perspective of a

⁶⁷ Robbins, R.H. (2008). *Global Problems and the Culture of Capitalism*. 4th ed. Boston: Allyn & Bacon

⁶⁸ Balint, P. J. (2011). *Wicked Environmental Problems: Managing Uncertainty and Conflict*.

Washington, D.C.: Island Press pp1-2

For almost a century, advocates for preservation and for development have argued about the effects of human actions on the environment. These arguments have been made more difficult to resolve because there are still considerable uncertainties in science, and because it takes a long time for the effects of human actions to show up in the environment. Both sides, and other groups who fall along a continuum between them, have exploited these uncertainties in appeals and litigation. The logical result was for government agencies to produce more complex documents justifying their decisions and to include and advocate for more science, causing many to assume these disputes were based in science. But we believe the evidence shows that the underlying differences in stakeholder positions are not so much related to uncertainties in science or failure to consider particular aspects of the scientific literature, but rather to conflicting values and preferences, and therefore differing views on desirable outcomes. These elements of the argument are rarely, if ever, considered in the decision-making process. As a result, most environmental arguments continue to produce more detailed documents and longer processes without resolving the underlying issues.

“technology obsessed” generation. This notion takes one’s attention to the biophilia-biophobia discourse⁶⁹. According to Kellert & Wilson (1993), biophobia is defined as:

A partly genetic predisposition to readily associate, on the basis of negative information or exposure, and then persistently retain fear or strong negative/avoidance responses to certain natural stimuli that presumably have continued risks during evolution⁷⁰.

In this regard, a biophobic tendency is a tendency to praise technology more than nature, to depend more on built rather than natural environments or in general, a fear of nature.

On the other hand, according to Peter et al. (2009), “Edward O. Wilson (1984) coined the term ‘biophilia’ to refer to what he and his colleagues hypothesized as a fundamental, genetically based human need and propensity to affiliate with ‘life and lifelike processes’”⁷¹. The term biophilia has a lot to do with experiential environmental education. Experiential environmental education helps students reconnect to nature and encourages them unlearn biased conceptualizations, enabling them to live in harmony with other living and nonliving things and so on. Peter et al. (2009) suggested that:

Studies have shown, for example, that even minimal connection with nature—such as looking at it through a window—can promote the healing of hospitalized patients, can increase health in the workplace, and can reduce the frequency of sickness in prisons. In hundreds of other studies, interaction with pets has been shown to benefit a wide range of clinical patients—from adults with Alzheimer’s disease to children with autism—as well as people within the general population. Young children develop rich interactions with animals. Based on preference ratings for different sorts of landscapes, people tend to prefer natural environments more than built environments, and built environments with water, trees, and other vegetation more than built environments without such features.

⁶⁹ Johnson (2006:1)

⁷⁰ Kellert and Wilson (1993:76),

⁷¹ Peter H. Kahn, Jr., Rachel L. Severson, and Jolina H. Ruckert. (2009). “The Human Relation with Nature and Technological Nature” in *Current Directions in Psychological Science*. Volume 18—Number 1. Pp.37-42. Retrieved from http://depts.washington.edu/hints/publications/Human_Relation_Technological_Nature.pdf

Indeed, it would appear more than a mere cultural convention that flowers are often sent to people who are in the hospital or who are going through periods of mourning. The need and propensity to affiliate with nature appears great, as do the resulting benefits.⁷²

In every case, experiential environmental education places responsibility of ownership over the learner by which “individuals accept responsibility for their own learning and behaviour, rather than assigning that responsibility to someone else.”⁷³ This practice of taking responsibility is crucial in combating contemporary environmental problems. As seen above, the tendency to deny one’s own responsibility to tackle the causes of environmental problems is posing greater risks to the natural environments. This argument seems to get support from Takako (2006), in which the introduction of experiential education enabled a community “to acquire a sense of ownership in educating their young people, something that was previously believed to be the sole responsibility of the school.”⁷⁴ Therefore, if well designed, experiential environmental education enables students to develop responsible attitude to combat environmental problems.

Such conditions are attributed to the diverse characteristics of experiential education. For instance, according to Karlin & Berger (1971), experiential education, “stresses giving children a multiplicity of experiences rather than instructing them by lecturing or reading. It involves stimulating them to thought and action...No sedentary program this, it is just the opposite vital, moving, living and breathing.”⁷⁵ This particular characteristic feature of experiential education can be applied to environmental education that strives to mingle with conventional mainstream education system.

In the conventional education system, theories have a greater place in the teaching-learning process. However, experiential education places emphasis on practical learning by which:

⁷² Peter et al (2009:39)

⁷³ Luckner & Nadler (1997:3).

⁷⁴ Takako (2006:282-283)

⁷⁵ Karlin & Berger (1971:21)

Learners are engaged intellectually, emotionally, socially and/or physically. This involvement helps produce a perception that the learning task is authentic. Learners develop an in-depth understanding of what theory from reading or lectures might mean in actual practice. Relationships are developed and nurtured: learner to self, learner to others, and learner to the world at large.⁷⁶

Experience based learning processes ignites one's interest towards learning materials. In most cases, students pay more attention to materials that have direct relationships to their lived experiences. Therefore, experiential environmental education has a potential to improve not only environmental problems, but it also boosts the overall academic capacity of students. With this in mind, after completing an experiential education based research, Takako (2006) writes:

Apart from the main research theme of the human-nature relationship, the students' academic performance has improved since the integrated experiential pedagogy was instituted. It may be explained by a combination of reasons: the curriculum was popular among students and they were excited to be at school; the curriculum contexts were suitable and interesting to the students; the improved relationships between the community and the school (due to locally and culturally appropriate education); and the improved relationships between the teachers and the students (enhanced by experiential activities outdoors). The result of all of these factors was that the students were more receptive to academic learning.⁷⁷

Experiential education is practically based on the experiences of learners who take part in the educating process. These experiences can have various forms of presence. Norman and Bell (1979:2), ingrate experiential learning with Blooms taxonomy of education learning as 'attitudinal, or physical responses.'

When used in education, experience can be hypothetically divided into seven stages;⁷⁸ these are: sensation, awareness, excitement or mobilization of energy, action, contact, closure, and withdrawal. The authors suggest "stages of experience" start from a "hypothetical zero point", and "the bases for the stages of experience lie in how we flow energetically. Starting from a

⁷⁶ Luckner & Nadler (1991:4)

⁷⁷ Takako (2006:283)

⁷⁸ Luckner & Nadler (1991:61-62)

stage where our energy is waiting to be invested and our attention is open to anything”. *Ceteris paribus*, if an individual or groups stay focused, these seven stages pursue one another. Such categorizations are generalized but still help us assess the role of environmental education in combating current state of environmental problems.

In summary, as far as combating the current environmental problems is concerned, the role of experiential environmental education can take various forms. As seen above, though generalized, it can be used by subdividing the “experience” into seven stages- sensation, awareness, excitement and mobilization, action, contact, closure, and withdrawal. It is useful to recognize that the stages are not described as sequential or mutually exclusive to one another. They are rather hypothetical and would follow any pattern to achieve a given course of action such as combating contemporary environmental problems.

2.4 Bloom’s Taxonomy of Educational Objectives

As mentioned above, Bloom’s taxonomy of educational objectives is used in the research to frame elements of Ontario’s curricular objectives. With this in mind, the section will present a tabular description of curricular objective categories and their indicators.

a. The Cognitive Domain

Pierce & Gray (1979); Anderson et.al. (2001)⁷⁹ state that Bloom has classified the cognitive domain into six levels. These are: knowledge, comprehension, application, synthesis, analysis and evaluation. The main focus of the cognitive domain is to make sure that students are able to

⁷⁹ Anderson, L.W., Krathwohl, D.R., Airasian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths, J., Wittrock, M.C. (2001). *A Taxonomy for Learning, Teaching, and Assessing: A revision of Bloom’s Taxonomy of Educational Objectives*. New York: Pearson, Allyn & Bacon.
<http://www.nwlink.com/~donclark/hrd/bloom.html>

recall as much information as possible. According to the Working Group on Environmental Education, environmental education should enable students to learn about:

- The resources of the Earth, particularly soil, water, minerals, and air, their characteristics, and their role in supporting living organisms;
- The nature of ecosystems and biomes, their health, and their interdependence within the biosphere;
- The dependence of humans on environmental resources for life and sustenance;
- The characteristics of human societies, including nomadic, hunter-gatherer, agricultural, industrial, and post-industrial, and the impact of each on the natural environment;
- The role of science and technology in the development of societies and the impact of different technologies on the environment;
- The process of urbanization and the implications of deruralization;
- The interconnectedness of political, economic, environmental, and social issues in the present world;
- Cooperative national and international efforts to find solutions to common environmental issues and to implement strategies for a more sustainable future⁸⁰.

Table 2.1 Key terminologies in a cognitive domain

Category	Key Terminologies in a Curriculum (Read as “at the end of the lesson the student...”)
Knowledge: recall data or information	Arranges, defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states
Comprehension: Understand the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.	Comprehends, converts, diagrams, defends, distinguishes, estimates, explains, extends, generalizes, gives an example, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates
Application: Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place.	Applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses

⁸⁰ Shaping Our Schools Shaping Our Future: Environmental Education in Ontario Schools Report of the Working Group on Environmental Education. June 2007. pp 26 www.edu.gov.on.ca.

Analysis: Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences	Analyzes, breaks down, compares, contrasts, diagrams, deconstructs, differentiates, discriminates, distinguishes, identifies, illustrates, infers, outlines, relates, selects, separates
Synthesis: Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure.	Categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes
Evaluation: Make judgments about the value of ideas or materials.	Appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports

b. The Affective Domain

According to Anderson et.al. (2001) and Pierce and Gray (1979), the affective domain is “most commonly associated with feeling and usually displayed in the form of emotional reactions to given events, objectives, behaviours, policies, or situations.” In such a way, students develop the ability to admire, like, appreciate, characterize or value their environment. The Working Group recommended the following objectives to fulfill this domain. Accordingly, environmental education needs to enable students to:

- appreciate the resilience, fragility, and beauty of nature and develop respect for the place and function of all living things in the overall planetary ecosystem;
- appreciate that human life depends on the resources of a finite planet;
- appreciate the role of human ingenuity and individual creativity in ensuring survival and achieving sustainable progress;
- become mindful of perspectives other than their own and be prepared to modify their ideas and beliefs when appropriate (e.g., understand and respect First Nation, Métis, and Inuit concepts of knowledge);
- appreciate the challenges faced by the human community in defining and implementing the processes needed for environmental sustainability;

- develop a sense of balance in decisions that involve conflicting priorities;
- maintain a sense of hope and a positive perspective on the future⁸¹.

Table 2.2 Key terminologies in affective domain

Category	Key Terminologies in a Curriculum (Read as “at the end of the lesson the student....”)
Receiving Phenomena: Awareness, willingness to hear, selected attention	Asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits, erects, replies, uses.
Responding to Phenomena: Active participation on the part of the learners. Attends and reacts to a particular phenomenon. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).	Answers, assists, aids, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes.
Valuing: The worth or value a person attaches to a particular object, phenomenon, or behaviour. This ranges from simple acceptance to the more complex state of commitment. Valuing is based on the internalization of a set of specified values, while clues to these values are expressed in the learner's overt behaviour and are often identifiable	Completes, demonstrates, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works.
Organization: Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system. The emphasis is on comparing, relating, and synthesizing values.	Adheres, alters, arranges, combines, compares, completes, defends, explains, formulates, generalizes, identifies, integrates, modifies, orders, organizes, prepares, relates, synthesizes.

⁸¹ Shaping Our Schools Shaping Our Future: Environmental Education in Ontario Schools Report of the Working Group on Environmental Education. June 2007. pp.27 www.edu.gov.on.ca.

<p>Internalizing values (characterization): Has a value system that controls their behaviour. The behaviour is pervasive, consistent, predictable, and most importantly, characteristic of the learner. Instructional objectives are concerned with the student's general patterns of adjustment (personal, social, emotional).</p>	<p>Acts, discriminates, displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, serves, solves, verifies.</p>
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c. The Psychomotor Domain

According to Anderson et.al. (2001), Pierce and Gray (1979), the psychomotor domain “recognizes the distinction between sensory inputs to the brain, the cognitive and/or affective processing of inputs, and the subsequent transmission of the outputs.” In general, the domain deals with the transmission of signals, ability to move our body, coordinate bodily activities, perform skillful actions being able to decide the use of appropriate skills, and combining psychomotor skills. The Working group asserted the following objectives would be fulfilled when skill based lessons are provided to students in Ontario schools. Thus, environmental education should enable students to:

- define such fundamental concepts as environment, community, development, and technology, and apply these definitions in local, national, and global contexts;
- use a range of resources, communications skills, and technologies in addressing environmental questions;
- develop problem-solving skills and critical and creative thinking skills, including the ability to reason and apply logic, to recognize and apply abstract patterns, to identify connections and relationships between ideas and issues, and to test ideas against new information and against personal experience and beliefs;
- Work towards a negotiated consensus when there are differences of opinion;
- detect and assess bias and evaluate different points of view;

- recognize the need to incorporate an environmental perspective in decision making models⁸².

Table 2.3 Key terminologies in psychomotor domain

Category	Key Terminologies in a Curriculum (Read as “at the end of the lesson the student....”)
Perception (awareness): The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation.	Chooses, describes, detects, differentiates, distinguishes, identifies, isolates, relates, selects.
Set: Readiness to act. It includes mental, physical, and emotional sets. These three sets are dispositions that predetermine a person's response to different situations (sometimes called mindsets).	Begins, displays, explains, moves, proceeds, and reacts, shows, states, volunteers.
Guided Response: The early stages in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing.	Copies, traces, follows, react, reproduce, responds
Mechanism (basic proficiency): This is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency.	Assembles, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, and organizes, sketches.
Complex Overt Response (Expert): The skillful performance of motor acts that involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinated	Assembles, builds, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, and organizes, sketches.

⁸² Shaping Our Schools Shaping Our Future: Environmental Education in Ontario Schools Report of the Working Group on Environmental Education. June 2007. pp.28 www.edu.gov.on.ca.

<p>performance, requiring a minimum of energy. This category includes performing without hesitation, and automatic performance. For example, players are often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football, because they can tell by the feel of the act what the result will produce.</p>	
<p>Adaptation: Skills are well developed and the individual can modify movement patterns to fit special requirements.</p>	<p>Adapts, alters, changes, rearranges, reorganizes, revises, and varies.</p>
<p>Origination: Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills.</p>	<p>Arranges, builds, combines, composes, constructs, creates, designs, initiate, makes, originates.</p>

Chapter Three

3. A Critique of Environmental Education Curriculum in the Province of Ontario

*As countries around the world face complex environmental and social issues, there is a growing recognition that education has a key role to play*⁸³.

The realization of environmental education or “any education concerning the environment⁸⁴” in general and experiential environmental education in particular in Ontario schools is a painstakingly long-term process which will evolve over time. The process needs to pass through inculcating environmental knowledge in the education system, changing school culture and building environmental skills. In order to champion these objectives, the province made arrangements to design a curriculum which considers not only environmental issues but also personal and social values and active stewardship⁸⁵. In such a way, the curriculum frames environmental issues in three categories: personal gain for the student in the form of knowledge, cultivating values in the form of attitudinal change and active stewardship or developing skills and direct contact with the environment. The latter can also contribute to the increased participation of students in their school environments and beyond. The curriculum also states “student engagement and leadership are central to environmental education”. Moreover, an “effective environmental education incorporates problem solving, hands-on learning, action projects, scientific inquiry, higher order thinking, and cooperative learning, and employs relevant

⁸³ Ontario Ministry of Education. *Acting Today Shaping Tomorrow: A Policy Framework for Environmental Education in Ontario Schools*. 2009, pp.3 <http://www.edu.gov.on.ca/curriculumcouncil/shapetomorrow.pdf>

⁸⁴ Fockler M.C. “Christopher Schlotmann. (2012) Conceptual Challenges for Environmental Education: Advocacy, Autonomy, Implicit Education and Values in *Canadian Journal of Environmental Education* 2013, Vol. 18, p192-194. <http://web.a.ebscohost.com.ezproxy.library.yorku.ca/ehost/pdfviewer/pdfviewer?sid=43d55724-9a65-4a46-a4c8-d1dfd0391352%40sessionmgr4001&vid=0&hid=4206>

⁸⁵ Ontario Ministry of Education. *Acting Today Shaping Tomorrow: A Policy Framework for Environmental Education in Ontario Schools*. 2009, p.25 <http://www.edu.gov.on.ca/curriculumcouncil/shapetomorrow.pdf>

subject matter and topics that actively engage students in the educational process”. The Working Group on Environmental Education asserted environmental education “in today’s world also requires the skills, knowledge, and perspectives to engage as an active, committed, and environmentally responsible citizen⁸⁶.”

As seen in the forgoing chapter, the provincial curriculum gets revised in a cyclical manner. In accordance with this procedure, the province revised its curriculum in 2011 mainly to embed environmental education expectations and opportunities in all grades. Environmental education in Ontario is not a standalone discipline; it is rather infused into a variety of disciplines and aspects of the provincial education system. This part of the research tries to analyze the data collected by framing it into three ways- explicit curriculum, implicit curriculum, and null curriculum. The provincial environmental education curriculum wishes to teach various ambitious environmental experiences, which can also be divided into three by using Bloom’s Domains of Educational Objectives- Environmental knowledge, attitude and skill. Moreover, volunteerism and experiential learning can enrich these domains of education allowing the research to uncover the pedagogical aspect of the curriculum.

3.1 Ontario’s Explicit Environmental Curriculum

This section discusses the explicit environmental education curriculum of the province using tabular and graphic methods followed by interpretations which consider two things. First, it analyzes the emphasis given to the individual elements of each curricular objective (knowledge, attitude and skills). Secondly, it examines the three domains together to specify which of the educational domains (knowledge, attitude or skills) is dominant in the provincial environmental education curriculum. Curriculum as discussed before cannot be explained only on what it

⁸⁶ *ibid* :7

intends to teach but also how it envisages teaching. This appears more plausible when it comes to environmental education, which needs both volunteerism and experiential learning. The following section present the critique on Ontario environmental curriculum from this spirit. In order to do so, it tallies, organizes and analyzes the specific curricular objectives of the nine disciplines:

- The Arts (Dance, Drama, Media arts, Music, Visual Art)
- Business Studies (Accounting, Entrepreneurship, International Business Essentials)
- Canadian and World Studies (The Individual and the Economy, Law, Politics, Geography, History)
- Health and Physical Education (Healthy Active Living Education, Health for Life, Recreation and Fitness Leadership)
- Mathematics
- Native Studies (English: Contemporary Aboriginal Voices, Current Aboriginal Issues in Canada, Aboriginal Beliefs, Values, and Aspirations in Contemporary Society, Aboriginal Governance: Emerging Directions...)
- Science (Biology, Chemistry, Physics)
- Social Science and Humanities(Family Studies, Food and Nutrition)
- Technology Education (Communication Education, Computer Technology, Green industries, Hair Styling, Aesthetics, Health Care, Hospitality and Tourism)

3.1.1 Cognitive Domain in Ontario's Environmental Education Curriculum

Traditionally teaching and learning process is dominated by this domain in which teachers are knowledge providers and students are recipients or depending on the teacher appliers of the given knowledge. From own lived experience, the researcher argues that the cognitive domain holds the key aspect of student-teacher relationship. It may be argued that, the cognitive/knowledge based domain, in most cases, is the simplest and the most inexpensive form of the teaching learning process. For the purpose of this research, the domain is arranged in a “simple-to complex” continuum (and of course as adopted by Benjamin Bloom): knowledge being the simplest whereas Evaluation being the most complex level of understanding of the given topic of the lesson at hand.

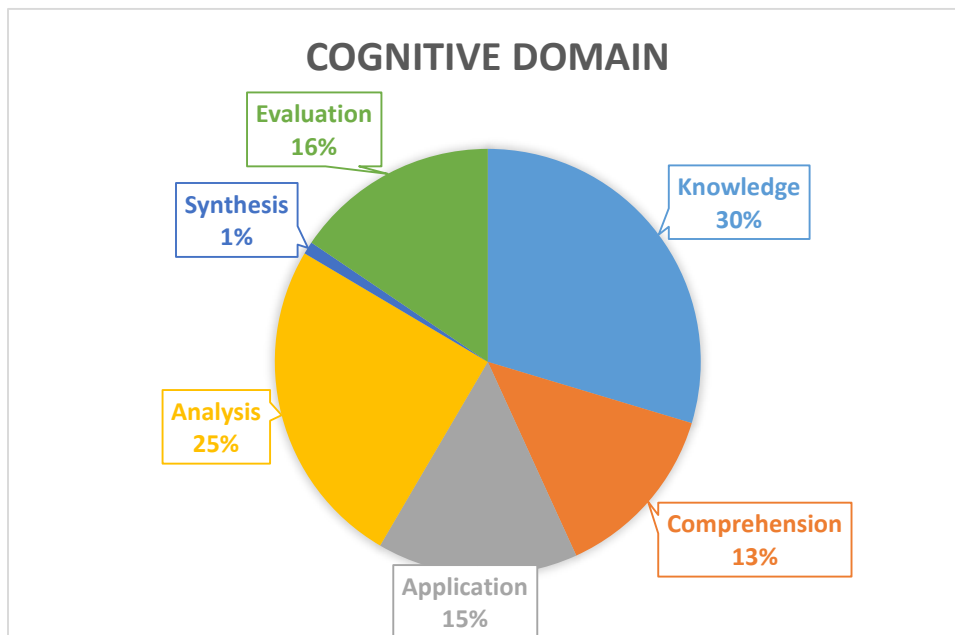
The provincial environmental education curriculum also integrates environmental cognition as part of why it intends to teach. It invokes categories that entail the level of cognition and understanding as embedded in environmentalism. This can be summarized as follows:

Table 3.1: Cognitive domain of Ontario’s environmental curriculum

Elements of the Domain	Key Terminologies in the provincial EE curriculum	Number of Appearances in the Curriculum	Percentage of Appearance in the Curriculum
Knowledge	Describe, Identify, outline	311	30
Comprehension	Explain, interpret, recognize, define	142	13
Application	Apply, demonstrate, show, use, change, predict, solve	160	15
Analysis	Analyze, compare, deconstruct, plan	263	25
Synthesis	Create, devise, gather	10	1
Evaluation	Evaluate, summarize, assess, examine	163	16
Total		1049	100
Average Number of Appearance in the Curriculum		174.8	

A closer look at both **Table 3.1** and **Graph 3.1** indicates that the cognitive domain of Ontario’s environmental education curriculum is predominantly focused on awareness creation which is 30 percent of the total intended objective followed by analysis 25 percent, evaluation 16 percent, application 15 percent and comprehension 13 percent. The lowest percentage share is attributed to synthesis. As this case very clearly demonstrates, it is important to note that there is inconsistency in the design of the curricular objectives. Moreover, higher level of cognitive elements that may be given more emphasis such as ‘synthesis’ as well as ‘application’ are attributed with the minimum curricular content. This problem was also observed with skill based curricular content (refer psychomotor domain below).

Graph 3.1 Cognitive domain of Ontario's environmental education curriculum



Subject by subject analysis of the domain shows the inconsistencies are much worse than the aggregate. For example, disciplines within the art studies such as drama, music and media studies are mainly used to serve as an awareness tool⁸⁷. In addition, the discipline is not aimed at changing attitudes and behaviours owing to the fact that there is a single objective related to behavioural change. Similarly, the discipline based analysis indicates that the cognitive domain is the main source of the teaching-learning process in disciplines such as business studies in which 49 out of the 50 curricular objectives are based on this domain the other single objective being skill based. A very complicated issue is observed from Mathematics in which the whole objective is cognitive based. These instances clearly indicate how the focus of the provincial education is biased towards knowledge creation at the cost of experiential environmental

⁸⁷ For further information refer Appendix 1.

education as well as volunteerism which can create a lot of space for student participation as well as learning by doing.

3.1.2 Affective Domain of Ontario's Environmental Education Curriculum

One of the most important tenets of any educational curriculum is to create a responsible citizen that obliges to the rules and regulations of their family, school community as well as their country. Education by its nature helps students to develop the attitudes that are deemed important to the society⁸⁸⁸⁹. Similarly, environmental education is a means by which students develop the ability to admire, like, appreciate, characterize or value their environment. Regardless, a closer investigation of the affective domain from the selected disciplines in the provincial curriculum in which the environmental education contents are embedded with shows that it is the most deprived content of all the three. Though there are certain contents that the domain shares with the other two: knowledge and skills, a thorough look at the contents shows the least emphasis given to the objective in Ontario's environmental education curriculum.

⁸⁸ Brown, R. (2012). Ready or Not? Preparing Youth for 21st Century Responsible Citizenship. Toronto: Learning for a Sustainable Future. Retrieved from

http://lsf-1st.ca/media/symposium/Ready_or_not_Executive_Summary.pdf

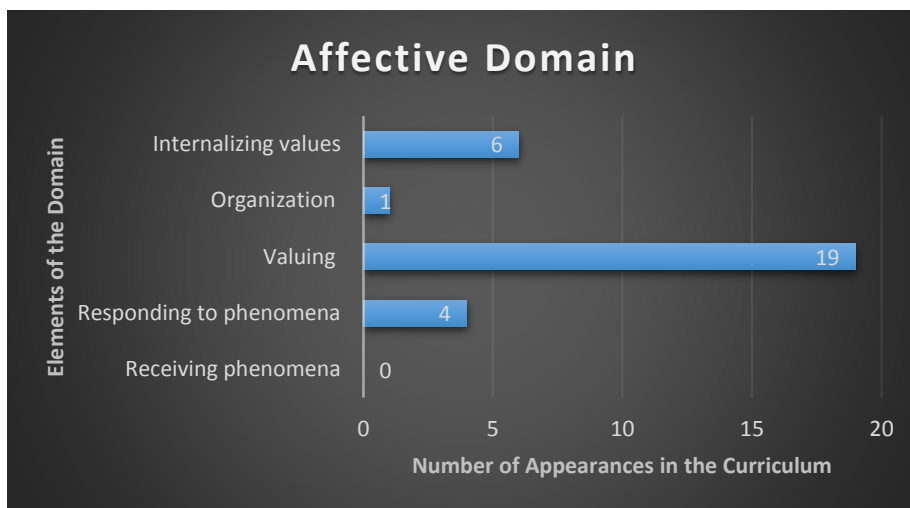
Responsible citizenship involves the determination to act in the best interest of human and ecological communities, for social, environmental, and economic benefits. Ethical decision-making requires an understanding that one's actions have both direct and indirect effects on humans and environments, and acting conscientiously to support societal movement toward a sustainable future.

⁸⁹ Shaping Our Schools Shaping Our Future: Environmental Education in Ontario Schools Report of the Working Group on Environmental Education. (June 2007), pp.6 Retrieved from www.edu.gov.on.ca.

Table 3.2: Affective domain of Ontario’s environmental education curriculum

Elements of the Domain	Key Terminologies in the Provincial EE Curriculum	Number of Appearances in the Curriculum	Percentage of Appearance in the Curriculum
Receiving phenomena	Ask, choose	0	0
Responding to phenomena	Perform, present, implement	4	13.3
Valuing	Differentiate, determine, research	19	63.33
Organization	Adhere	1	3.33
Internalizing values	Revise, propose	6	20
Total		30	99.99
Average Number of Appearance in the Curriculum		6	

Graph 3.2: Affective domain of Ontario’s environmental curriculum



With all its limitations, the curricular objective still pays attention to one of the core ideas of affective domain which is valuing. Such objectives that encourage students to differentiate what

they like, what they appreciate as well as what they determine to be ethical to the environment, take the significant number of the elements (19 out of 30).

The data unequivocally duplicates the traditional teacher dominated classroom characteristics. The lived experience of the researcher indicates that in a teacher led classroom the teacher stands in front of the students discussing ideas without making sure the students have received the message (refer **Table 3.2** and **Graph 3.2** above where “receiving phenomena”, zero out of thirty, that encourages students to ask questions, choose their likes and dislikes) and finally leaves without checking if students internalized the matter.

Discipline by discipline analysis also indicates that the affective domain is not given due emphasis in the provincial environmental education curriculum. This case reveals the need for further investigation in the domain. For instance, disciplines such as history are mainly taught to students as guided by age-old objective of sitting on the present day, learn from the past and prepare for the future. In simple terms, behavioural and attitudinal changes are the main drives behind the discipline. However, disciplines under Canadian and World Studies (The Individual and the Economy, Law, Politics, Geography, History) were given a single attitudinal objective out of 243 objectives. There are certain things to consider in areas of environmental protection, mitigating climate change and saving the planet. This lies mainly on changing the attitudes of individuals including high school students. As David Suzuki puts it:

Now there are some things in the world we can't change – gravity, entropy, the speed of light, the first and second Laws of Thermodynamics, and our biological nature that requires clean air, clean water, clean soil, clean energy and biodiversity for our health and wellbeing. Protecting the biosphere should be our highest priority or else we sicken and die. Other things, like capitalism, free enterprise, the economy, currency, the market, are not forces of nature, we invented them. They are not immutable and we can change them. It makes no sense to elevate economics above the biosphere, for example.

3.1.3 Psychomotor Domain of Ontario's Environmental Education Curriculum

It is important to recall the idea of the Working Group on Environmental Education from chapter two of this research to clearly explain the skills based domain of the provincial education curriculum. The Group unequivocally demonstrated how engaging students invigorates the idea of environmental education. For their part, they describe:

Environmental education seeks to promote an appreciation and understanding of, and concern for, the environment, and to foster informed, engaged, and responsible environmental citizenship. Effective environmental education incorporates problem solving, hands-on learning, action projects, scientific inquiry, higher order thinking, and cooperative learning, and employs relevant subject matter and topics that actively engage students in the educational process⁹¹.

Overall, the data in relation to skill-based environmental education indicates that there are a number of cases that should trigger improvement in the provincial environmental education. First and foremost, it does not encourage the spirit of volunteerism. The data presented below under **Table 3.3** and **Graph 3.3** supports the idea that there is no mention of volunteering in all 67 skill based environmental education curricular objectives. The objective does not also allow teachers to help students respond in a guided environment or to “follow” their lead (only three percent). Regardless, a big proportion of (46 percent) elements of the domain require students to develop “complex overt response” including investigating, rearranging, generating and revising a given issue.

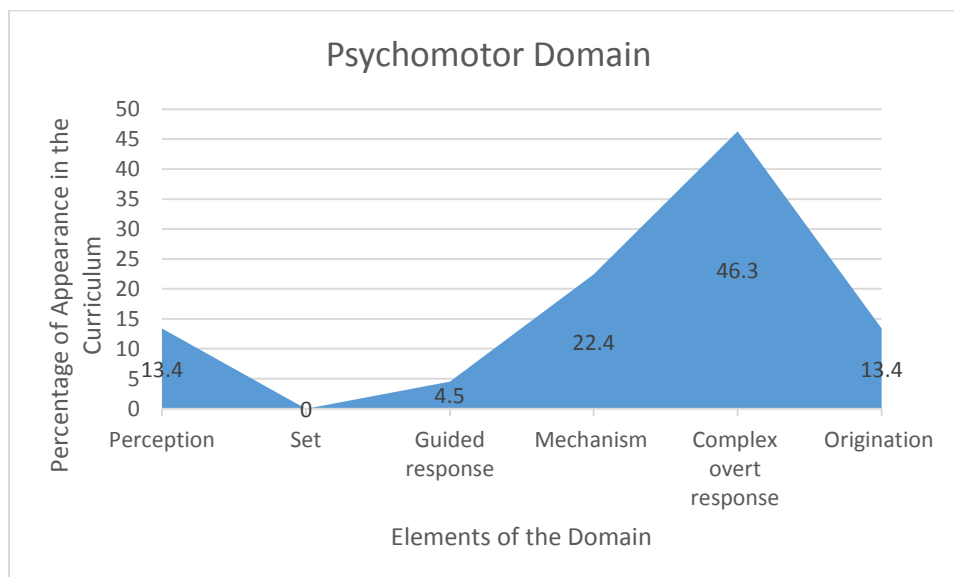
⁹⁰Tucker, E. “Top 10 Memorable David Suzuki Quotes.” Online posting. 13 April 2012 Global News. 7 October 2012. Retrieved from <http://www.globalnews.ca/david+suzuki+quotes/6442620434/story.html>

⁹¹ Shaping Our Schools Shaping Our Future: Environmental Education in Ontario Schools Report of the Working Group on Environmental Education. (June 2007), pp.6 Retrieved from www.edu.gov.on.ca.

Table 3.3: Psychomotor domain of Ontario’s environmental curriculum

Elements of the Domain	Key Terminologies in the provincial EE curriculum	Number of Appearances in the Curriculum	Percentage of Appearance in the Curriculum
Perception	Select, distinguish	9	13.4
Set	Volunteer	0	0
Guided response	Follow	3	4.5
Mechanism	Display, exhibit, prepare, communicate, conduct, implement, test models	15	22.4
Complex overt response	Revises, Rearrange , Investigate , generate	31	46.3
Origination	Design, develop	9	13.4
Total		67	100
Average Number Appearance in the Curriculum		11.2	

Graph 3.3: Psychomotor domain of Ontario province’s environmental curriculum



This graph clearly indicates the real disconnect between volunteering and environmental education- lack of volunteering space or “set”. Moreover, it shows the curriculum intends to cause great “overt response” albeit without the spirit of volunteerism and absence of proper experiential learning. It wishes action without proper perception, guided response and settings.

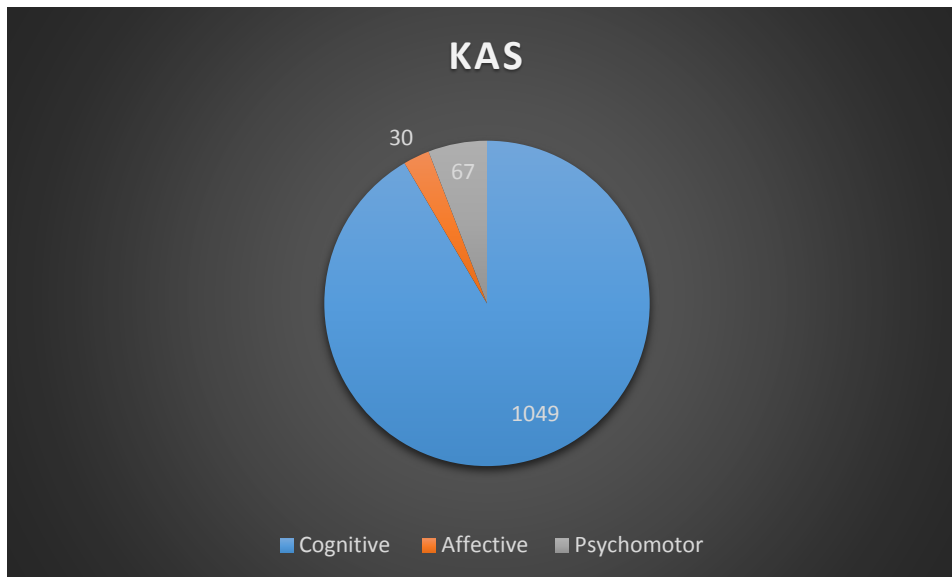
3.1.4 KAS (Knowledge, Attitude, and Skill) in Ontario’s Educational Curriculum

The following table and graph clearly shows the curricular objective gap between knowledge, attitude and skill. It is important to note that there are curricular objective areas that are shared by each domain. For instance, knowledge, receiving phenomena and perception are plainly similar. By understanding similarities and differences between the domains, one can see the areas that need intervention. However, this does not mean that the contents under these elements of the domain are one and the same. The data indicate a huge proportion (almost 92 percent) of the curriculum is dedicated to the creation of environmental knowledge for high school students. Areas where significant voids have been found to affect the aggregate output include individual disciplines such as Mathematics, Business Studies, Canadian and World Studies, Health and Physical Education as well as Social Science and Humanities (refer Appendix 1). The data appear to suggest, the crack between knowledge based objectives and the other two is significantly wide and seems unsurmountable. This is where the need to volunteerism and experiential education comes to be very important to help bridge the gap between knowledge and attitude, knowledge and skills, and attitude and skills.

Table 3.4: KAS in Ontario’s environmental education curriculum

Domain	Total Number Appearance in the Curriculum	Percentage Share	Average number of Appearance
Knowledge (cognitive)	1049	91.5	174.8
Attitude(Affective)	30	2.3	6
Skills(Psychomotor)	67	6.4	11.2
Total	1146	100.2	

Graph 3.4: KAS in Ontario’s environmental education curriculum



3.2 Ontario's Implicit Environmental Education Curriculum: Consumerism or Environmentalism

The content of educational curriculum (explicit curriculum) serves as a base to any educational system by which intended goals such as knowledge, attitude and skills are achieved. The implementation of any explicit curriculum including environmental education is subjected to various external variables. Such variables that are shared by students in the school or in simple terms what is agreed to be a school culture is called the implicit curriculum. This part of the research touches some of the contributing factors to the implicit curriculum in schools across the province. The researcher inclines to argue that students are significantly influenced by the neoliberal capitalistic consuming societal culture which “imagines the world to be merely a resource for human use”⁹². The experience of the researcher in two schools in the city of Toronto has shown the influence of big corporations with in the school premises. It is also a day-to-day news agenda to see school sporting activities sponsored by corporations that set bad example to the culture of environmentalism.

As part of Canada and home of almost half of Canada's population, the province of Ontario feels the same pain as the rest of the country. In this regard, it is useful to note some of the changes in Canadian schools that are affecting school culture directly and the implementation of explicit environmental education curriculum indirectly. Quoting Barlow and Campbell (1995), Canadian Teachers' Federation writes “Canada today is dramatically different from the Canada of twenty years ago. That change has not been caused primarily by uncontrollable forces beyond our borders, although that has been an important factor. It is the result of such deliberate policy

⁹² Haigh, Martin (2006) “Deep Ecology Education: Learning from its Vaisnava Roots” in Canadian Journal of Environmental Education Vol 11(1) p 43-56
<http://openjournal.lakeheadu.ca/index.php/cjee/article/view/503>

decisions such as deregulation, privatization, free trade, monetarism, and their many off – spring”⁹³. All the changes that occur in the country affect the school and the education system. For example, due to deregulation the government of Canada is withdrawing its hands from subsidizing schools as it used to do. Therefore, the gap is creating a fertile ground for corporations to influence students and the school culture.

Change in school cultures is not only limited to school premises. According to Schor,

Parents are probably most aware of, and certainly policy makers have paid most attention to television advertising, but innovation and expansion in the targeting of children is increasingly happening outside the TV box. Advertisers and marketers have opened up a number of new fronts for capturing children’s attention and imaginations. Indeed, television advertising represents only a fraction of total marketing expenditure”⁹⁴.

Advancements in technological innovations are encouraging students to tune in to the traditional advertising media which in turn is forcing advertisers to look for other means. Therefore, the newest “advertising frontiers include the internet, movies, cultural institutions, schools, playgrounds, social service organizations, and even private homes. These venues are in addition to the ongoing commercialization of public space that is targeted at both adults and children”⁹⁵.

A study conducted by Innes (2012)⁹⁶ indicates the true nature of consumer culture in schools. The most fascinating thing about this consumerism in schools is directly related to

⁹³ _____. (2006) Commercialism in Canadian Schools: Who’s Calling the Shots?

http://www.policyalternatives.ca/sites/default/files/uploads/publications/National_Office_Pubs/2006/Commercialism_in_Canadian_Schools.pdf

⁹⁴Schor, Juliet (2005). When Childhood Gets Commercialized, Can Children Be Protected? A Paper prepared for Yale Legal Theory Workshop, March 31, 2005, pp.4 Unpublished file:///C:/Users/User/Documents/Research/School%20environment/volunteerism/BORN%20TO%20BUY.pdf

⁹⁵ ibid

⁹⁶ Innes, Jamie (2012). Towards the re-conceptualization of outdoor education centre experiences for the delivery of integrated environmental education in Ontario. A Thesis Submitted in Partial Fulfillment of the

environmentalism. The author shows how environmentalism has lost its meaning in Ontario schools as it is “diluted”. It can rather “be seen more as a profit motive than actually a protective or stewardship motive.... Everyone’s making money off different plastic bags or compostable garbage bags.” Moreover, the school community in general and students in particular see such consumerism distractions around environmentalism than “the actual facts.” The findings in Innes (2012) research are good indicators to the culture of not only consumerism but the diffusion of this culture into environmentalism per se.

The distractions in schools are very wide in nature. Food advertising in schools is one of such distractions to environmentalism. The consumption of locally grown items that have low carbon footprint are overwhelmed by advertisements that resulted in consuming fattening foods. According to Garcia et al (2010), “in 2004 in Ontario, 59% of adults, and 28% of children and youth were either overweight or obese.⁹⁷” The authors notice such problems have their own direct and indirect causes. The direct causes are attributed to consumption of fast foods; whereas the indirect causes are those of lack of exercise, activities that do not require bodily movements as well as obsessions with the tech gadgets and TV. Regardless, in countries such as the USA food companies are estimated to spend billions of dollars every year that target students. A big portion of their advertising expenditures are allocated “for convenience foods, candy and snacks,

Requirements for the Degree of Master of Arts in Environmental Education and Communication. Royal Roads University, pp.65
file:///C:/Users/User/Documents/Research/School%20environment/Towards%20the%20re-conceptualization%20of%20outdoor%20education%20centre%20experiences%20for%20the%20delivery.pdf

⁹⁷ Garcia, J. Beyers, Uetrecht, J. Healthy, C. (2010). Eating, Physical Activity, and Healthy Weights Guideline for Public Health in Ontario. Cancer Care Ontario, pp.4
<http://site.ebrary.com.ezproxy.library.yorku.ca/lib/oculyork/detail.action?docID=10746609>

alcoholic beverages, soft drinks and desserts. Fruits, vegetables, grains and beans comprise only 2.2%⁹⁸.”

Chaplin (2002)⁹⁹ explains some of the reasons behind school cultures that affect environmental education. The author suggests, the materialistic and consumer culture in schools has garnered interest for several reasons. These are the increase in materialistic views among high school students, as well as “characterization and targeting of students as ‘hyper consumers’ by advertizers. In simple terms “schools have, for example, become sites for branding and the targets of corporate expansion.”¹⁰⁰

All in all, the end result is a culture that hinders the implementation of environmental education in schools not only in Ontario but also throughout North America and beyond.

In general, from the above analysis one can observe a scenario by which what the explicit curriculum intends to teach contradicts its implicit intention. The curriculum explicitly preach environmentalism but implicitly embrace consumerism as in the case of selling “environmentally friendly” products than the idea of environmentalism to the school community. Integrating the two aspects of curriculum with Bloom’s Taxonomy of Educational Objectives shows, the implicit teaching of the school is higher in the second and third domains, attitude and skills simultaneously; whereas, the explicit curriculum tends to be more effective on generating simile memorization and understanding. Hence, the overall implication of the curriculum seems to be less progressive from environmental paradigm perspective. As Karl Marx indicates in *Capital*

⁹⁸ Schor (2005:8)

⁹⁹ Chaplin, N.L., John, D.R. (2005). Materialism in Children and Adolescents: The Role of the Developing Self-Concept Advances in Consumer Research Volume 32:219-220.
<http://www.acrwebsite.org/search/view-conference-proceedings.aspx?Id=9078>

¹⁰⁰ Blum, D., Ullman, C. “The Globalization and Corporatization of Education: The Limits and Liminality of the Market Mantra” in In International Journal of Qualitative Studies in Education. Volume 25 (4), June 2012, pp 368 Retrieved from
<http://www.tandfonline.com.ezproxy.library.yorku.ca/doi/full/10.1080/09518398.2012.673031>

Vol. I the root cause of environmental degradation is the capitalist mode of production, which delink man not from himself but also from nature. The explicit curriculum did not show capitalism, which is impacting school culture in the implicit curriculum, as the root cause of ecological crisis. In other words, it masks how market led production de-linked the human-nature organic linkage. The curriculum cannot escape the neoliberal ideological framework that works to reserve the system in a “fire department approach” than solving the root cause of environmental problems. The system blames individual responsibility of citizens in damaging the natural environment. It is primarily focused on “greening the environment” or environmental beautification than reestablishing the human-nature dialectical bond disturbed by capitalism and its production process. If schools promote the value of extreme capitalism implicitly and teach environmentalism explicitly, alas the former will inevitably have the victory over the later.

3. 3 Ontario’s Null Environmental Education Curriculum: The Quest for Student-Nature Linkage

Ontario’s environmental education curriculum, as any other curriculum, has objectives that are deliberately or unknowingly ignored from its content. For the purpose of this research, the researcher argues the curriculum disregards the student-nature linkage due to limited emphasis on experiential environmental education which includes Indigenous knowledge and volunteerism. As seen above in the data analysis, the curriculum has its limitations in areas of attitudinal change and skills development due to lack of objectives in areas related to action based environmental education. The engagement of students in both attitudinal change and skills development is very well explained by Lotz-Sisitka (2008)¹⁰¹ in an article written on the

¹⁰¹ Lotz-Sisitka, Heila (2008) Utopianism and Educational Processes in the United Nations Decade of Education for Sustainable Development, in Canadian Journal of Environmental Education Vol 13 (1) pp 134-152
<http://openjournal.lakeheadu.ca/index.php/cjee/artile/view/866/528>

Canadian Journal of Environmental Education. In the article the author emphasized the role of youth engagement in bringing the necessary changes to the environmental cause and beyond. She further cautions on Utopian ideals while criticizing the fulfillment of gaps in environmental actions; “it is still both necessary and useful to challenge a larger cultural and economic system through utopian ideals, but this involves being reflexive and critical of these ideals at the same time.¹⁰²” Similarly, the inclusion of Indigenous knowledge in environmental education has a paramount effect to achieve attitudinal change and skills development among students. According to Kulnieks et al (2013:114)¹⁰³ one form of intervention is through an alternative practica—“The Learning Garden” in which students take part in actions that have direct relationship with the natural environment.

Neoliberal schools are predominantly areas of specialization by which students are directly and indirectly recruited to fulfill what the job market needs (Davies & Bansel¹⁰⁴; Blum & Ullman¹⁰⁵). In so doing, school curricula limit the student-nature linkage. This is where the argument from Karl Marx comes to explain such limitations. For the purpose of this particular research it may be argued that the use of environmental education with its lack of commitment towards

If ideals such as environmental improvement or participation in society are to be pursued, they need to take account of identifications of young adults that are related to daily social interactions and concerns, but which also allow for wider experimentation with local/global interchanges and socio-cultural expressions and relations with places (pp 142).

¹⁰² *ibid* pp 148

¹⁰³ Kulnieks, A., Longboat D. R., Young, K. “Eco-Literacy Development through a Framework for Indigenous and Environmental Educational Leadership” in *Canadian Journal of Environmental Education* Vol 18 p. 111-125. Retrieved from <http://cjee.lakeheadu.ca/index.php/cjee/article/view/1258>

¹⁰⁴ Davies, B., Bansel, P. (2007). “Neoliberalism and Education” in *International Journal of Qualitative Studies in Education*. Volume 20 (3), 2007, Retrieved from <http://dx.doi.org/10.1080/09518390701281751>

¹⁰⁵ Blum, D., Ullman, C. “The Globalization and Corporatization of Education: The Limits and Liminality of the Market Mantra” in *International Journal of Qualitative Studies in Education*. Volume 25 (4), June 2012, pages 367-373 Retrieved from <http://www.tandfonline.com.ezproxy.library.yorku.ca/doi/full/10.1080/09518398.2012.67303>

nature-based educational activities and environmental volunteerism is nothing but depoliticisation of the environmental crisis. Therefore, environmental education will move nowhere but depoliticize the system and alienate students.

It is not debatable that capitalism is totalizing reality and it is becoming more visible in its impact not only because of improved life standards it might bring for the mass but also to its violent depletion and exploitation of nature. It is also clear that, capitalism in one hand exploits the labour through extracting value from it; on the other hand it extracts value from nature and also externalizes cost of production to it. Both are forms of violence- violence on labour and nature. Hence, such act of violence by capitalist mode of production and process of “valorization of capital” produces serious interrelated ecological, political and economic crisis.

Throughout the planet, climate change and other related environmental problems such as pollution, desertification and degradation have become everyday phenomena. The situation is worsening in some parts of the world. The 2013 UNEP year book addresses some of these occurrences as follows:

The world is warming, and with it the Arctic. Sea ice extent was at a record low in 2012. In July, 97 per cent of the Greenland ice sheet surface was melting. Climate change is emerging as a major stressor on Arctic biodiversity. The habitats of unique flora and fauna are being reduced – with ice-dependent Arctic marine mammals especially at risk. A widely predicted northward shift of some fish species has now been observed¹⁰⁶.

These problems of course do not occur in a vacuum. They, hence, are not just ecological crises rather social, economic and political problems. Schools in general and educational system in particular form part of the socio-economic and political problems that are contributing to the ecological crisis. The void in the provincial environmental education curriculum specifically in

¹⁰⁶ UNEP (2013) UNEP Year Book Emerging issues in our global environment United Nations Environment Programme. Nairobi, available at Web: www.unep.org.

areas where students are alienated from nature or from developing attitudes that contribute towards curbing the ecological crisis need to be addressed.

Marx wrote much about ecological issues in different texts and articles; for the sake of this research, his thoughts from *Capital I*, are taken as a case in point. However, it is worthwhile to understand Marx's ecological explanation in order to engage his preoccupation, methodology and general view on the relation between nature and man. For Marx, one of the universal characters of humans is to produce; hence, production is central in his analysis. Production is also the meeting space of man and nature.

According to Marx (1887), labour is, in the first place, a process in which both humans and Nature participate, and in which humans' own accord starts, regulates, and controls the material re-actions between her/himself and Nature. Humans oppose themselves to Nature as one of her own forces, setting in motion arms and legs, head and hands, the natural forces of their body, in order to appropriate Nature's productions in a form adapted to their own wants. By thus acting on the external world and changing it, they at the same time change their own nature¹⁰⁷.

Hence, for Marx labour is not just extraction process rather it is transformation process for both nature and human. Nothing in the world is natural and fixed rather everything is in motion and relation. For Marx if there is any law, the law is the law of dialectical and organic relation between things. A product is formed as a result of metabolic relation between human and nature and has use value. Marx in his book *Capital I*, considered parts of nature such as air, virgin soil, natural meadows, have use value without having a value –social value in themselves. Even after

¹⁰⁷ Marx, Karl (1887). *Capital A Critique of Political Economy Volume I Book One: The Process of production of capital* Translated: Samuel Moore and Edward Aveling, edited by Frederick Engels. Progress Publishers, Moscow, USSR, pp :124

labour is invested on it, it remains as use value. Only when one produces for others it became commodity –social value¹⁰⁸.

In labour activity, some of the elements of nature which serve human as a raw material are ‘the universal subject of human labour’¹⁰⁹ (and not all nature is subject to labour but only those humans extract from nature). But then again nature is not just raw material, it also participates in labour activity, “it is one of the organs of [hu] man[s’] activity, one that [they] annex to [their] own bodily organs, adding stature to [themselves] in spite of the Bible. As the earth is [their] original larder, so too it is [their] original tool house¹¹⁰”. As a consequence of this complex process, a product is formed, but for Marx, the story goes beyond this. He states that “nature’s material adapted by a change of form to the wants of human [use value]¹¹¹. Labour has incorporated itself with its subject: the former is materialized, the latter transformed.... The blacksmith forges and the product is forging.”¹¹² Hence, both nature and labour are transformed in this process.

Production is not just extraction which is a one way relation; it is consequence of metabolic exchange between human and nature. So Marx presents not only material but also ecological dialecticism. Similarly to the labour process, Marx also explains the use value of a product from the relation between human and nature as follows:

Use values...are combinations of two elements – matter and labour. If we take away the useful labour expended upon them, a material substratum is always left, which is furnished by Nature without the help of [hu] mans. The latter can work only as Nature does, that is by changing the form of matter. We see, then, that labour is not the only source of material wealth, of use values produced by labour. Labour is its father and the earth its mother¹¹³.

¹⁰⁸ ibid

¹⁰⁹ Marx, (1887:124)

¹¹⁰ Marx, (1887:124-125)

¹¹¹ ibid

¹¹² Marx (1887: 126)

¹¹³ Marx (1887:30)

Marx explains the phenomena, not as fixed rather as created in the permanent motion and process as well as through dialectical interaction between various things. This also holds true for a product which is consequence of similar relation and interaction between humans and nature. In this complex relation ‘labour uses up [elements of nature as] its material factors, its subject and its instruments, consumes them, and is therefore a process of consumption.’ He argues that, the relation has consumption dimension but ‘such productive consumption is distinguished from individual consumption by this, that the latter uses up products, as means of subsistence for the living individual; the former, as means whereby alone, labour, the labour-power of the living individual, is enabled to act.’¹¹⁴ Hence, both nature and the product have similar character –both consumed by humans, albeit differently social and individual respectively. Production is a social consumption of nature to produce goods for individual consumption. It is also worth to note that the transformation of both nature and labour as consequence of labour activity.¹¹⁵

In this process, it is not enough to discuss only material exchange between the laborers themselves but as Marx argues that:

[Hu] man[s] and their labour on one side, Nature and its materials on the other, sufficed. As the taste of the porridge does not tell you who grew the oats, no more does this simple process tell you of itself what are the social conditions under which it is taking place, whether under the slave-owner’s brutal lash, or the anxious eye of the capitalist, whether Cincinnatus carries it on in tilling his modest farm or a savage in killing wild animals with stones.¹¹⁶

In so doing, Marx’s view appears neither androcentric nor eco-centric rather it focuses on relational aspect between the two. Foster (2000) also argues that it is not worth to focus on these binaries of these centers, rather it is essential to focus on how we humans are related to earth.¹¹⁷

¹¹⁴ Marx (1887:127)

¹¹⁵ *ibid*

¹¹⁶ Marx (1887:127-128)

¹¹⁷ Foster. Bellamy J. (2000). *Marx’s Ecology: materialism and nature*. New York: Moutly review press. And Burkett Paul (1999) *Marx and Nature A Red and Green Perspective* New York St. Martin’s press, pp.11

The morale of Marx's argument is vividly clear in the context of student-nature linkage. Neoliberal schools which see the student-nature link from the economic point of view are not only alienating the student from nature but also nature from the student. Budgetary limitations in schools that affect student-nature relations can be partly tackled through a vibrant act of environmental volunteerism. Schools must not be considered as factories that produce potential buyers or employees. In other words, students must not be produced to consume nature rather to admire it, to volunteer for environmental causes, to help rebuild the broken ties between human beings and nature. As seen above, students need to develop the dialectical relationship with nature through experiential education and environmental volunteerism.

Chapter Four

4. Conclusion and Recommendation

In summary, the motivation of the research had mainly emanated from the researcher's lived experience of active participation in environmental volunteerism which was not necessarily supported by the educational system which has its own limitations when it comes to environmental education that was executed in relation to the real environment.

The paper was organized in four chapters including this conclusion and recommendation section. The first chapter covered a range of introductory and methodological issues. The section argued, the 21st century inherited a legacy of complicated environmental problems together with sophisticated technological developments that human beings had never imagined a half century ago. The planet witnessed advancements in the areas of transportation, communication, space science, use of alternative energy sources, development of human capital and others. On the other hand, the issues of global warming, cross boundary communicable diseases, extinction of plant and animal species, atmospheric and water pollution as well as depletion of natural resources are humanity's day-to-day phenomena. It was underlined that there is a need for a comprehensive environmental education curriculum that integrates knowledge, attitude and skills. Ontario, as one of the highly industrialized and populated areas of Canada designed and implemented an environmental education curriculum with the help of experts. The chapter indicates the use of qualitative methodology to quantitatively analyze the data collected from the provincial curriculum.

The second chapter discussed four topics as part of the theoretical and conceptual framework of the research. In this section the nature and dynamics of curriculum as well as experiential learning and volunteerism as viable response to environmental problems were discussed. The

chapter looked at the issue of volunteerism with a special reference to student volunteerism and various theoretical perspectives with regards to the motive behind volunteering. In addition to that, experiential environmental education and its role in combating contemporary environmental problems was thoroughly discussed. The other two aspects of the chapter were the theoretical frameworks of the research namely: Elliot Eisner's book, *The Educational Imagination: On the Design and Evaluation of School Programs* and its discussions of the three tenets of a curriculum (explicit curriculum, implicit curriculum and null curriculum); secondly, Benjamin Bloom's *Taxonomy of Educational Objectives* and its three domain (knowledge, attitude and skills) were summarized to help the analysis of the study.

The third and the main chapter has dealt with the collection of data, its organization, analysis and interpretation. In order to help achieve its descriptive statistics goals the chapter used graphs and tables in relation to the explicit curriculum. It incorporated secondary materials such as Karl Marx's famous work *Capital Vol. I* to explain the implicit and null curricula. The chapter unraveled the objectives of the provincial environmental education curriculum are skewed towards knowledge than skills and attitude. As a finding, the research suggested a key aspect of skills-based environmental education is mainly to teach students about their environment on the environment itself. It may be argued that a number of situations may hinder the provision and the achievement of this curricular objective such as weather conditions, willingness of students, budgetary restriction, labour laws, parental consent, and etcetera. However, it may be safe to argue that environmentalism triumphs all the conditions. Based on the findings of the research the following recommendations are extended. These are:

1. Environmental education should explain the root cause of environmental problems, which is rooted in the capitalist system's take as a road map for civilization. This will help to generate various progressive reforms to address the problems.
2. There shall be clear harmony between explicit and implicit curriculum otherwise the contradiction between environmental the explicit curriculum and the school culture may confuse students pertaining to environmental management.
3. More emphasis should be given to higher levels of cognitive based environmental education in the provincial environmental education curriculum.
4. The provincial environmental education curriculum may need to add more objectives related to environmental skills, attitude and volunteerism.
5. Further research is needed to evaluate the findings of this research with the reality in schools across the province.

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Appendix 1

Individual tally of terminologies used in the provincial environmental education curriculum.

The Arts (Dance, drama, Media arts, Music, Visual Art)

	Key Terminologies in the provincial EE curriculum	Tally
	Analyze	6
	Apply	10
	Assess	2
	Communicate	2
	Create	3
	Deconstruct	1
	Demonstrate	6
	Describe	8
	Exhibit	1
	Explain	3
	Follow	2
	Identify	12
	Investigate	1
	Perform	2
	Select	3
	Use	8

Business Studies (Accounting, Entrepreneurship, International Business Essentials)

	Key Terminologies in the provincial EE curriculum	Tally
	Analyze	4
	Apply	1
	Assess	1
	Compare	2
	Demonstrate	1
	Describe	12
	Evaluate	8
	Explain	9
	Generate	1
	Identify	10
	Outline	1
	Summarize	4

Canadian and World Studies (The Individual and the Economy, Law, Politics, Geography, History)

	Key Terminologies in the provincial EE curriculum	Tally
	Analyze	61
	Apply	4
	Assess	15
	Compare	9
	Describe	48
	Develop	1
	Differentiate	1
	Evaluate	32
	Explain	51
	Identify	12
	Use	9

Health and Physical Education

	Key Terminologies in the provincial EE curriculum	Tally
	Analyze	4
	Demonstrate	3
	Describe	2
	Explain	1
	Identify	1
	Implement	1

Mathematics

	Key Terminologies in the provincial EE curriculum	Tally
	Solve	1
	Gather	1
	Interpret	1
	Describe	3
	Recognize	1

Native Studies

	Key Terminologies in the provincial EE curriculum	Tally
	Analyze	2
	Compare	1
	Create	2
	Define	1
	Demonstrate	12
	Describe	21
	Examine	1
	Explain	6
	Identify	16
	Predict	1

Science (Biology, Chemistry, Physics)

	Key Terminologies in the provincial EE curriculum	Tally
	Analyze	78
	Assess	32
	Compare	3
	Conduct test	6
	Demonstrate	13
	Describe	26
	Design	2
	Determine	2
	Evaluate	32
	Explain	25
	Identify	23
	Investigate	26
	Plan	7
	Prepare	1
	Propose	5
	Research	1
	Select	1
	Use	17

Social Science and Humanities

	Key Terminologies in the provincial EE curriculum	Tally
	Analyze	6
	Assess	1
	Compare	1
	Create	1
	Demonstrate	15
	Describe	5
	Determine	2
	Evaluate	4
	Explain	8
	Identify	18
	Investigate	1
	Plan	3
	Summarize	3

Technology Education (communication education, computer technology, Green industries, hair styling, aesthetics, health care, hospitality and tourism)

	Key Terminologies in the provincial EE curriculum	Tally
	Adhere	1
	Analyze	17
	Apply	18
	Assess	21
	Compare	6
	Create	2
	Define	1
	Demonstrate	56
	Describe	85
	Design	1
	Develop	5
	Devise	1
	Distinguish	4
	Evaluate	5
	Explain	35

	Follow	1
	Gather	1
	Identify	46
	Implement	3
	Investigate	2
	Outline	7
	Perform	1
	Plan	4
	Research	8
	Select	1
	Summarize	2
	Test models	1
	Use	2
	Utilize	1