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Exploring Teachers' Understandings of Education for Sustainable Development (ESD)

Abstract

This paper draws from a research study which was designed to explore tertiary teachers' understanding of the theory and practice of education for sustainable development. Through conversations with thirteen research participants from two higher education institutions in Southern Philippines, the question, "What is education for sustainable development?" was interpreted in the light of teachers' lived realities and experiences. A qualitative research approach and principles from Gadamer's philosophical hermeneutics guided the inquiry.

Through a series of three conversations with each participant, the teachers' interpretation of sustainable development and education for sustainable development expanded into wider circles of understanding. The participants brought forth their observations and experiences as well as their struggles and concerns in their teaching of education for sustainable development and in their encounter with sustainable development issues. The conversations were audiotaped and transcribed. Several themes emerged as the conversations progressed and these were organized into broader categories. Data presentation was thematically based. Reflections followed each presentation of data.

Several contradictions and dilemmas were revealed in the conversations. These involved contradictions between personal and public responsibility in caring for the environment, between the concept of sustainable development as environment and development and environment versus development, a local-global dilemma and a dilemma in the integration of ESD amidst the need for reforms in education. Reflections on the conversations with the participants disclosed a desire for change in education in terms of goals, curricular structure, and pedagogy. The participants' experience of empowerment and engagement in the research process demonstrated possibilities for them to make the practice of education for sustainable development alive and dynamic in their personal and professional lives. As well, the hermeneutic process led to the participants' understanding of themselves as ESD educators. The inquiry also offers possibilities for the two institutions and national environmental and educational agencies for a more effective implementation of education for sustainable development in both formal and nonformal contexts by bringing the voices of implementors in the process of policy-making and leadership. Leaving the conversation open brings an invitation to interested scholars and organizations from both North and South countries to join in an ongoing process of interpretation and dialogue. Reflections on the subject and the process of

inquiry situate education for sustainable development as the hope for the earth and for life.

Exploring Teachers' Understandings of Education for Sustainable Development (ESD)

by Caridad Bernardino, PhD.

The Global Ecological Crisis

In recent decades, concerns over the state of degradation of our global environment have grown with resonance as the tentacles of environmental pillage unleash their horrifying impact in various corners of the world. Global warming, deforestation, pollution, loss of biodiversity and other major environmental problems have continued to threaten the survival of planet earth (Bradford & Dorfman, 2002). Humanity has suffered the ravages of climactic fluctuations propelled by El Nino, the rage of hurricanes and the fury of devastating floods. In both North and South countries, excessive logging and forest fires have left many mountains bare. In various sites, the atmosphere is blanketed by toxic gases from belching vehicles, puffing factories and gasping industrial plants. Some rivers and lakes have become biologically dead as they choked with pollutants that have snuffed out the life forms in them. Integrally linked with these environmental problems are the exponential increase in the number of people enmeshed in poverty and the growing scarcity of natural resources. The future of the planet is at stake and upon it depends the survival of all life forms (WCED, 1987; Brown, 1991, Goodland, 1996; Linden, 1997, Kluger & Dorfman, 2002). It has been ten years since the historic Earth summit in Rio de Janeiro but as has been noted at the Johannesburg Summit (2002),

When the United Nations General Assembly authorized the holding of the World Summit on Sustainable Development, it was hardly a secret - or even a point in dispute - that progress in implementing sustainable development has been extremely disappointing with poverty deepening and environmental degradation worsening. What the world wanted, the General Assembly said, was not a new philosophical or political debate, but a summit of actions and results. (p. 1)

Indeed, the clamor for ecological reforms has been vigorously articulated, advocated and pursued by environmentalists, nongovernmental organizations, people's organizations, government and private agencies and concerned citizens for the past several decades. It has given birth to global treaties, conventions, laws and other binding structures that highlight the necessity and urgency of pushing through the ecological agenda in both local and global contexts. However, the need to translate these commitments into actions is critical as reflected and stressed in the World Summit on Sustainable Development (WSSD) message in Johannesburg.

Environment and Development in "Sustainable Development"(SD)

The issue of the global environment as integrally linked with development has gone a long way since it was brought into the international arena. The origin of the term can be traced to the efforts of the Third World coalition during the pre-Stockholm negotiations to bring their concerns to the agenda of the United Nations Conference on the Human Environment in Stockholm in 1972. The link between environment and development established the term, “sustainable development” which refers essentially to *a pattern of development which is not harmful to the environment* (Williams, 1993, p. 18). With the publication of the “World Conservation Strategy” by the International Union for Conservation of Nature and Natural Resources (IUCN), The World Conservation Union, the United Nations Environment Programme (UNEP) and the World Wildlife Fund, the term gained currency in international and development circles. The World Conference on Environment and Development (WCED) (1987) Report gave greater impetus to the integration of environmental concerns and development goals in the broader concept of sustainable development. It defined the term as, “development that meets the needs of the present without compromising the ability of future generations to meet their needs” (p. 43). Although the Commission’s definition has been widely accepted, the report nonetheless, drew criticisms from other environment and development thinkers. Sustainable development has since been further popularized by the major international document, Agenda 21, following the Earth Summit in Rio de Janeiro.

The concept of sustainable development has deep implications to the lop-sided relationship that exists between the North and the South. It reveals the underlying power structure that has brought about the exploitation of resources, unsustainable modernization strategies and a host of transnational practices that have tended to undermine indigenous knowledge, tradition and culture. The North-South environment and development dilemma poses a very serious challenge to the pursuit of global sustainability.

As contained in Agenda 21 (Quarrie, 1992), the promotion of education, public awareness and training is vital to the attainment of sustainable development. Both formal and nonformal systems are recognized as effective means to bring about transformation in people’s attitudes and values as well as the capacity to assess and address environmental issues and concerns. Education helps in the development of environmental and ethical awareness, knowledge and understandings as well as skills, attitudes and behavior consistent with sustainable development. It therefore, helps facilitate the transition towards sustainability.

The Philippine Environmental Context

The Philippines is one of the countries in Asia that is confronted by a deep environmental crisis. Composed of many islands dispersed along the Pacific, the country, although endowed with rich and abundant natural resources, is heavily indebted and has been struggling economically. This situation has stemmed from the effects of its plundered environment due to the pursuit by successive administrations of the goals of modernization.

Deforestation due to illegal logging and other causes has plagued the country for several years. Forest depletion had been found to be between 100,000 to 210,000 hectares per year from 1969 to 1988. This situation has been aggravated by other problems such as the loss of

biodiversity, soil erosion and siltation (Kalaw, Jordan & Torres, 1991). Compounding the situation is the threat to the cultural survival of people displaced from their ancestral lands often to give way to “development” projects (Arquiza, 1990; Stiles, 1991; Alianza, 1991; Soriano, Claudio & Fansler, 1995). Destructive fishing methods such as muro-ami and the use of dynamite and cyanide as well as the pollution of its major river systems have adversely affected its coastal and marine resources (Arquiza, 1990; Kalaw, Jordan & Torres, 1991). Recent surveys also showed the substantial decrease of mangrove growth (Alianza, 1991; Kalaw, Jordan & Torres, 1991; Mincher, 1991 Soriano, Claudio & Fansler, 1995) due primarily to the construction of commercial fishponds. Mining operations have also caused the pollution of river systems. Marcopper Mining Corporation, a Canadian firm, has left the river systems in Marinduque Province heavily polluted adversely affecting the lives of subsistence fisherfolk and the residents in the area. The scenario is bleak with resources rapidly dwindling and the economy struggling under the weight of foreign debt resulting in a chain of socio-economic and cultural problems such as poverty, crime and violence, disease, unemployment and others.

The Philippines stands at the crossroads of a development dilemma. Greatly inspired by the success of the Asian NICs (Newly Industrializing Countries), government officials have adopted development strategies designed to spur economic growth. However, due to the country’s reliance on western economic formulas and development strategies, the country’s trek towards sustainability seems to be long and weary. There is the strong desire for economic growth believed to be the antidote to poverty but at the same time, there is an urgent and pressing need to protect the environment in order to conserve its resources. In response to the call for ecological reforms, the Philippine Council for Sustainable Development was created following the Earth Summit in Rio de Janeiro. It formulated Philippine Agenda 21, a document which adopted *a framework that places people and nature at the center of development initiatives*. (Philippine Council for sustainable Development, 1996, p.v). Making Philippine Agenda 21 a “living document” (Habito, 1996, p. v) however, remains a challenge to the political leadership and all stakeholders in the development process. Thus, although sustainable development has become a byword in official discourse, what it means in theory and practice raises vital questions for the well-being of the Filipino people and their environment.

Environmental Education in the Philippines

In the field of education, concern over environmental degradation has been expressed through the efforts to foster environmental literacy in schools and nonformal settings (e.g. media, community education). Early efforts towards environmental education have been undertaken mainly by the formal education sector. In 1984, through the Department of Education, Culture and Sports (DECS), soil conservation concepts were integrated into the school curriculum at all levels. Ecological issues were also incorporated in natural and social science subjects at different levels. In the University of the Philippines in Los Banos (UPLB), courses in ecology and environmental studies were offered. By 1988, there were about 12 interdisciplinary undergraduate degree programs related to the environment offered by colleges and universities in the National Capital Region and the Southern Tagalog area (Hart, 1991). Presently, many schools as well as major environmental groups are offering environmental courses, workshops and seminars in the field (DENR-DECS, 1992; Soriano, Claudio & Fansler, 1995). To address

problems spawned by population growth, poverty and decades of environmental misuse some 20 educational institutions and NGOs formed the Environmental Education Network of the Philippines (EENP) in 1988. The network hopes to coordinate research projects and initiatives among environmental and educational institutions in the country and to establish linkages with regional and global environmental programs (Hart, 1991; DENR-DECS, 1992).

An Environmental Education Strategy was initiated and developed in 1989 by the Environmental Management Bureau (EMB) with assistance from the United Nations Development Program, the Department of Education, Culture and Sports (DECS), academic institutions and NGOs (Hart, 1991; DENR-DECS, 1992; Soriano, Claudio & Fansler, 1995). This strategy aimed *to develop an environmentally literate and responsible citizenry that can ensure the protection and improvement of the Philippine environment and promote sustainability, social equity and economic efficiency in the use of the country's resources.* (DENR-DECS, 1992). Hence, there has been a need to integrally link education to the concept of sustainability and environmental and development concerns and to reexamine the goals of education in the light of evolving perspectives on the role of education in society.

The role of education in the pursuit of sustainable development is a crucial one. Philippine Agenda 21 (1996) recognizes the significance of education for sustainable development in enhancing economic, political, ecological and cultural literacy and competence and in promoting the emotional, mental, moral and spiritual potential of the human being. It should be noted that there had been quite a few but significant steps that have been undertaken by the government sector as well as nongovernmental and people's organizations towards the pursuit of sustainable development in terms of policies, programs and projects. In rising however, to meet the challenge of the transition towards sustainability, there is a pressing need to look into the role of education in catalyzing action towards sustainable development. In this regard, it must be recognized that although environmental education has gained legitimacy in the schools, there is a need to reconceptualize it in terms of education for sustainable development to make it more relevant to the present context. Hence, as the term, sustainable development gained a stronghold in official discourse, the theory and practice of education for sustainable development in Philippine educational institutions likewise constituted a most appropriate theme of research and investigation.

The Research Question

The question, "What does education for sustainable development (ESD) mean?" was the object of the inquiry which I, as a Filipino researcher, coming from Canada, a North country, attempted to explore with thirteen teachers from two higher education institutions in Southern Philippines through a series of hermeneutic conversations. An inchoate quest, it finds its incipient traces in my younger days when the taken-for-granted rhythms of everyday existence brought forth an awareness of the intricate web that constitutes our relationship with our environment. The research question kept evolving as significant episodes in the Philippines during the 70s and 80s began to open up issues related to this research quest. A research trip to Southern Philippines enabled me to pursue this goal: to make sense of and to explore with my fellow Filipino educators in the Philippines what education for sustainable development means. It was an interest that we soon got to finally share in the spirit of collaboration and dialogue as we

engaged in the exploration of meanings through hermeneutic conversations.

Definitions of Sustainable Development

To define education for sustainable development, the term “sustainable development” needed to be first clarified. The array of definitions however, pointed to its ambiguity and contradictions.

The term, “sustainable development” has been interpreted in a number of different ways and along different streams of thought. Although the views manifest significant points of convergence, the concept continues to generate varied interpretations. Rowlands (1992) illustrates this point thus: *In 1985, one report presented a gallery of definitions in which over twenty different interpretations of the term sustainable development was presented. Today, the degree of diversity is just as wide.*” (p.386). Mearns (1993) contends that like so many words in development discourse, the strength of sustainable development is drawn from its vagueness such that it means different things to different people. Similarly, McCready (1993) asserts that the beauty of the concept lies in its ambiguity and that it can not be reduced to a definition. In the same light, Winograd (1996) contends that its vagueness brings the possibility to incorporate values into the concept and that the lack of a precise definition enables the formation of a consensus with regard to the planet and natural resources..

Sustainable development is a term laden with contradictions. Redclift (1993) traces the word “sustainable” to the Latin *sus tenere* which means to uphold. It has both positive and negative connotations. Others regard sustainable development as an oxymoron because development as commonly understood is inherently unsustainable (Mele, 1993; Ophuls, 1996). When breaking the term into parts, it becomes more complicated. Joining the two words however, brings in a third which is more than the sum of its parts (Samson, 1993)

Although the object of the study centered on defining education for sustainable development, it did not seek to formulate another definition to add to the array of definitions. Neither was it an attempt to adopt and interpret the definitions presented by prestigious international organizations. It endeavoured to escape falling into the technical trap of re-producing meanings drawn from established sources because then, the meaning of ESD becomes a given and certain discourses become privileged. Consequently, knowledge in this sense, tends to be just reproduced. Likewise, the research resisted the temptation of engaging experts or authorities in the field based on what they think ESD should be. This strategy usually dictates heavy reliance on “experts” especially those bearing western credentials. Education, in this approach, is viewed as an imposition from above and tends to ignore teachers’ personal contexts making it problematic and superficial.

The inquiry was designed to gain a deeper understanding of what ESD means to Filipino tertiary teachers, how they understood the work that they do and how they saw themselves as ESD educators. My aim was to bring the voices of teachers into an engagement with an ongoing social and cultural quest to generate meanings. I felt that an inquiry into what ESD means would find its most appropriate expression and articulation from teachers because they are the ones

who are directly involved in its practice. Teachers bring life to the concept of ESD as it is meant to be taught, practised and lived. An investigation into the practical knowledge of teachers brings out narratives that are useful because they “authorize meanings, forms of theorizing that suggest a sense of ownership and voice in the theorizing process” (Britzman, 1991, p. 51).

The Research Site

The Mindanao region in Southern Philippines was chosen as the research locale for several reasons. For many decades, Mindanao has served as one of the richest resource bases for the modernization and growth of the Philippines. In the process, the natural environment has been severely degraded. Furthermore, Mindanao has been one of the priority areas for modernization serving as the southern corridor in the country’s trade relations with Malaysia, Indonesia and other ASEAN countries. Several environmental NGOs are also in the Mindanao region, working on ways to preserve the environment and to challenge ecologically destructive policies and activities. More importantly, Mindanao is a very culturally diverse region with multiple ethnocultural communities including Muslims, Christians and the Lumads or indigenous tribes. Sustainable development issues have affected the various communities in different ways hence, the interesting dimension of intercultural relations was integrated in the study.

The thirteen teacher participants were from two higher education institutions in Cotabato City: Seven were from St. Mary’s University and 6 came from South Plains State College. (In line with research ethical guidelines, the names of the participants and participating institutions were changed). They belonged to various departments and were teaching courses in their own discipline.

Cotabato City is a fast growing urban center where the icons of modernization like commercial complexes, entertainment centres and others have greatly expanded with its increasing population. Its rich natural resources like its forests have been disappearing causing floods and siltation in the area. It is against this ecological backdrop that I found Cotabato City an appropriate setting for the study.

Conversation as a Research Strategy

The major data collection method employed in the study is the use of conversations based on hermeneutic inquiry. Gadamer (1988) asserts that *conversation is a process of coming to an understanding* (p. 185). Those involved in genuine conversation share a common objective which is to bring the topic of conversation to illumination. It is the topic of conversation which holds the participants together and sustains the conversation itself. The search for understanding is carried out through hermeneutic questioning which is reflective of a genuine desire to know. Inquiry begins with an attempt to understand the question which arises from the negativity of experience, hence, the emphasis on the *hermeneutic priority of the question* (Gadamer, 1988, p.325).

Adopting Carson's (1985, p.70) stages of conversational research, I entered into a series of three conversations with each of the thirteen participants in the study. These conversations were audiotaped and transcribed for interpretation and analysis. The conversations were conducted over a four month period from August to November 1996. They were carried out in English with occasional shiftings in Filipino which not only brought a relaxed atmosphere but also made it possible to capture the essence or the nuances or shades of meaning in relation to their particular cultural context. After each conversation, I identified the themes and outlined my interpretation of how the conversation spoke to the meaning of sustainable development and education for sustainable development. Based on the previous conversation, other questions emerged and these were presented before we proceeded to our next conversation. From the transcripts of the conversations, I drew themes that were related to sustainable development and education for sustainable development such as issues of peace, poverty, human rights, integration of values, pedagogical strategies, resource materials, and others. Throughout the conversations, I have attempted to foster a climate that hinged on a process of coming to an understanding of ourselves as collaborators in the activity of critical reflection. This objective was driven by a desire to bring into light the preconceptions that typically surround our way of perceiving our experiences and realities so that we can achieve a kind of emancipation from forces that tend to cloud our own interpretation of issues and our practices as educators. In the quest to understand what SD and ESD mean, something about us is revealed. In the words of Smith (1994), *The aim of interpretation, it could be said is not just another interpretation but human freedom which finds its light, identity and dignity in those few brief moments when one's lived burdens can be shown to have their sources in too limited a view of things* (p. 189)

Reflections and Emerging Themes

Reflecting on the texts of my conversations with the teacher participants on their concept of sustainable development (SD) generated understandings that revealed its multidimensional complexity. These dimensions included the following: ecological, values, futures, economic, social, political, cultural and spiritual. However, understandably, the participants viewed sustainable development from their experiences, knowledge, observations and realities expressing multiple emphases which on occasion overlapped and sometimes diverged. Encased in a holistic framework, the dimensions of sustainable development are integrally linked and transcend one another.

That education is the most important vehicle towards the attainment of sustainability was resonated by all the participants. Since sustainable development had been interpreted as having various dimensions, what was brought into questioning in our search for the meaning of ESD was to find out the kind of education that promotes the attainment of sustainable development as understood by the participants in the study. The following themes emerged from a reflection and analysis of the texts of our conversations:

1. ESD starts with the cry to transform education. Aware that certain structures of the

educational system tend to hinder schools from becoming transformative sites, many of the participants claimed that education can not effectively assume its role as an agency for transformation if it does not go through a process of change.

2. ESD is the process of raising citizen's awareness and sensitivity to environmental and development issues. To most of the participants, understanding ESD issues is to regard the environment as "a complex web of global, social, cultural, economic and political as well as geo- and biophysical components (Fien, 1995, p.22). Environmental problems can not be understood without linking them to the social, economic and political values of the society in which these problems occur.

3. ESD is the development of knowledges, abilities, skills, attitudes and values in the promotion of life and care for the environment. The people and the environment were considered by the participants as the two most important components of ESD. To most of the teacher participants, humanity is at the core of the development process hence, its focus is towards an appreciation of humanity itself by promoting life and preventing its destruction and that of other life forms.

4. ESD involves an understanding of the interdependence of all things. Many of the teacher participants highlighted this important principle in the study of the environment. To them, the human and natural systems are so intertwined that they are regarded as part of the same whole.

5. ESD is best carried out through a participatory approach. Although the teachers claimed they use a variety of pedagogical approaches, most of them expressed a preference for a participatory approach which is, at best, also experiential. This approach also enhances the concept and process of democratic participation.

6. Contextual resource materials facilitate the teaching of ESD. The teachers found their use of textbooks and resource materials that subscribe to local settings and events as facilitating their teaching of ESD concepts.

7. A holistic framework best fits an ESD curricular structure. While the participants integrate ESD in their own subject areas, they expressed the need to develop a curricular framework that encompasses its various aspects and inputs from related disciplines.

8. To make it alive and dynamic, ESD should permeate into the school and the wider community through the institution's community outreach program. The participants shared many of their experiences on how they brought forth a carry-over of ESD activities outside their classrooms. The Health Resources Development Program of the College of Nursing as described by a teacher participant exemplifies this attempt to make ESD functional and reflective of a coordinated school-community endeavor.

9. To teach ESD effectively, teachers need to be empowered. Empowerment for the participants emanate from various sources which include the encouragement and support of administration, further enrichment of one's understanding of ESD through professional development opportunities, cooperation of students and power that comes from a faith in the spiritual.

Education for Sustainable Development: What does it mean?

Conversations about education for sustainable development seemed to make strange that which we thought was familiar. It was familiar in the sense that it seemed to constitute our lived experiences and something just within our grasp. But the more we inquired into its meaning, the

more we came to recognize its complexity as we were drawn face to face with its contradictions, paradoxes and dilemmas. Yet, there was the urge to narrate our experiences for interpretive inquiry “begins (and remains) with the “evocative living familiarity” that these “instances of our lives” evoke (Jardine, 1998, p.40). It is in these instances that something is revealed to us, something that we seem to know but do not fully understand and which addresses us. Gadamer (1998) claims that “understanding begins when something addresses us” which is the “primary hermeneutical condition” (p.266).

As understanding involves application, the teachers’ interpretation of ESD as an educational practice finds its ground in *phronesis* or practical moral knowledge or what Aristotle called self-knowledge. It is different from *techne* or technical knowledge which also belongs to the practical but is more associated with technical know-how. *Phronesis* or practical wisdom relates more to ethics or justice (Gadamer, 1988).

Based on the conversations, what ESD means to the participants lies in the space between practical wisdom or *phronesis* and technical wisdom or *techne* and this is grasped in terms of the contradictions and dilemmas that surfaced from the conversations. The dilemmas were reflected in the participants’ stories and views about their day to day lives and work in the classroom, in the institutions and in the wider community. It opened up possibilities for us for it is in highlighting the dilemmas that we are able to expand our horizons as we come to understand and relate the unfamiliar into the world which defines us. In the process, we transcend this world in the production of possibilities that reveal something about us (Gallagher, 1992). This leads to a better understanding of ourselves as ESD educators for all understanding is self-understanding (Gadamer, 1988).

Contradictions and Dilemmas

From the teachers’ description or narration of their participation and involvement in the practice of ESD not only in their institutions but also in the wider community, some contradictions were experienced by the participants which intrude into many aspects of their lives as ESD educators. The topics of conversation often pointed to the contradictions and dilemmas which helped in identifying or locating those that tend to cloud their understanding of ESD. These contradictions are discussed below:

Personal and Public Responsibility in Caring for the Environment

A contradiction emerged in my conversations with my co-research participants on what is being done and what should be done to solve the environmental problems in the community. As there were many environmental problems affecting the region, we focused on the environmental initiatives, thrusts and projects of government agencies and nongovernmental organizations as well as the participating institutions. There seemed to be a consensus, that in spite of the solutions that have been implemented, the problems persisted which brought a kind of perplexity for them. From the descriptions however of how these solutions were carried out, they alluded to a technical solution which was inclined towards control and demanded conformity and compliance. On the other hand, their explanations of how they regarded their

relationship with the environment suggested a different view of caring for the earth.

Garbage, pollution and deforestation were serious environmental problems in the city for all the participants. That these problems have persisted in spite of environmental laws was baffling to them. This was expressed with a tone that bordered on frustration and hopelessness. Arlene, who has a legal background invoked respect for human rights in her everyday battle with the garbage problem. She complained that the Philippine Constitution provides for the right of every citizen to a balanced and healthful ecology but this is nothing but a farce to her because the garbage problem has persisted since she set foot in the city. She asked with a tone of frustration, *How can we attain sustainable development when even the simple task of disposing our garbage properly can not be followed?* What Arlene tried to voice out in terms of implementation was equally expressed by some of the participants like Jenny and Teresa who complained about good laws being rendered futile because of problems in their implementation. Jenny claimed that city ordinances to curb the effects of pollution caused by smoke-belching vehicles seemed ignored as there were still a few freely plying the streets. Likewise, some of the participants pointed out that in spite of the presence of a log ban, illegal logging has remained unabated. Furthermore, Jerry of St. Mary's contended that the pursuit of development projects by foreign and local business firms also caused environmental degradation in spite of a Department of Environment and Natural Resources (DENR) Certificate of Environmental Compliance requirement. From the participants' perspective, there was a sense that in spite of the presence of legal structures, environmental problems could not be contained. The issue of good laws rendered futile because of the failure to enforce it faithfully was a recurrent theme for the participants. However, the problem was not only traced to the defect in implementation. Ali and Joyce of South Plains State College believed that the problem does not lie on the law enforcers but on those who need to obey the laws. While government efforts in terms of legislation were perceived by most of the participants with a certain degree of skepticism, the initiative of a nongovernmental organization was also brought into the conversation. Tina recalled that in spite of the intensive cleanliness project of the NGO *Kalinisan*, which hired street sweepers and distributed receptacles, the garbage problem slid back once the program was handed over to the city government due to the NGO's lack of funds. She asserted that the people's attitudes have not also changed in spite of the massive information drive on cleanliness and beautification.

The practice of environmental care in the two institutions was also perceived to be a contradiction for some of the participants. Although signs and posters purporting to environmental care could be seen along St. Mary's campus, the use of plastics in the cafeteria and plastic cups left near garbage cans showed that the signs were being ignored. The barren campus at South Plains constituted a contradiction in the participants' claim with regard to the implementation of the Clean and Green Program in the institution. While most of the participants vigorously stressed that the environment is the major factor in sustainable development, the contradictions seem to suggest that there is a fundamental issue that must be brought into play in order to fully understand the nature of environmental problems and how they can be solved. As ESD educators, teaching the concept of environmental care as understood in relation to its practice constituted a contradiction. It puzzled the participants to realize that the maintenance of cleanliness for instance, is a seemingly simple task, yet, in spite of

all the government and nongovernmental programs and campaigns for a clean and healthful environment, the garbage and pollution problems have remained. The solutions adopted by the government, NGOs and the schools point to a technical approach indicative of a management strategy which relies on compliance with a set of rules and regulations. The focus is deflected from the environmental cause to the necessity of obeying rules.

Recasting a Relationship with the Earth

The participants viewed their relationship with the earth in different ways. Joyce, considered it as God's gift which must be treasured and valued. Teresa calls it Mother Nature which makes all human beings her children. In terms of establishing a relationship with the earth, she presents a symbiotic view: "If we take care of Mother Earth, she will take care of us." The idea of interconnectedness was given another dimension with Jerry presenting his philosophical reflections on the Taoist concept of flowing with nature. In a related vein, Sarah described the beautiful co-existence of human beings and animals in one of the places she had visited, *with monkeys frolicking and lizards crawling at your feet*. Fatima took issue with the case of stray animals as they are *still part of the environment* while Estela anticipated plunging into the same fate as the case of the endangered eagles. A connection and unity with the earth was also articulated by the other participants in quite different terms but these found common ground in the assertion for the need to respect and value life in all its forms.

How the participants viewed their relationship with the earth reflected a different mode of looking at environmental care. The notion of interconnectedness and unity with the environment implies a different perspective which runs counter to the prevailing belief that the earth and its resources stand apart in relation to human beings and are therefore, objects of manipulation and control. Public responsibility in the form of managing the environment through legislation and a program based on technical procedures represents a contradiction with the personal responsibility of caring for the environment as one united and connected with it. Caring for the environment from the participants' view is reflective of a need for a shift in the way people view and live their lives in relation to the environment.

The Environment/Development Dilemma

In the conversations, some of the participants like Alex and Jerry of St. Mary's claimed that environment and development goals could be harmonized. Alex clarified his notion of development as not being equated with the symbols of modernization. Ali, on the other hand, claimed that he does not question industrialization for as long as it is not destructive of the environment. The other participants held similar notions of development as not being equated with economic growth but reflects in more specific terms, a narrowing of the gap between the rich and the poor, respect for human rights and care for the environment. A question that was raised by most of the participants is "Who benefit from this kind of development?"

While most of the participants believed that environmental care and development goals are not conflicting, their stories pointed to a contradiction in such an assertion. Their narratives concerning the roles of transnational corporations (TNCs) and of big local businesses and

politicians brought into questioning aspects of leadership, ethical values and the widening gap between the rich and the poor. Bernie's experience and story about massive logging in their area showed the impact of the operations of TNCs in both the long and short terms. The flashfloods that occurred years later greatly affected the poor. The Mt. Apo Geothermal Plant Project was another case in point. The participants claimed that the project designed to provide cheap electricity in the area undermined the cultural survival of the Lumads or the indigenous people who viewed the project as a desecration of their ancestral domains.

The significance of these development scenarios towards an understanding of education for sustainable development hinged on the contradictions emerging from the tension between environment and development goals. Most of the participants claimed they could co-exist harmoniously yet their observations and experiences proved otherwise. This presents a dilemma in trying to understand ESD as environmental and development harmony. The participants have indicated that ESD needs to be focused on a critical understanding of environmental and development issues. They alluded to the idea that local issues concerning the environment and development could be made the ground for the development of critical understanding. But how to reconcile environment and development goals seemed to remain a perplexity for ESD educators as a result of these contradictions. How to attain development and sustain it demands a transformation in the conventional way of looking at development.

A Local/ Global Dilemma

Another dilemma which was identified in my conversations with the participants involved the notion of valuing the local amidst the strong waves of the global. This was viewed as the impact of the powerful sweep of globalization while clinging to vanishing traditional practices which are hailed as more dependable alternatives in the light of reported adverse effects of some modernization strategies and technological advances.

The participants like Teresa who teaches Livelihood Education and Joyce who teaches Food Preservation stressed the need to live sustainably through the adoption of simple lifestyles. Advocating the idea of self-reliance, Teresa teaches her Education students to grow vegetables and herbal gardens for their food and medicinal needs. Joyce was concerned with ways to prevent wastage like fruits in season through the various processes of food preservation. In a related light, with their community-based nursing program, Fatima also pointed to the use of community resources like herbs for medicinal purposes. Jerry alluded to the significance of indigenous wisdom in terms of farming practices and environmental care. The participants suggested living a lifestyle that could be described as focused on the local, simple, economical and consistent with one's means.

On a different note, Estela, aware of the strong impact of globalization and the tide of consumerism sweeping the country brought out the notion of the "good life" and "success." This was triggered by a news report regarding the awarding of outstanding alumni and she pondered on what the criteria would be. She speculated that as in past events, the search will demonstrate how material wealth, power and position spell success in much the same way as the general expectations from the public would turn out. Fatima also echoed similar concerns

over the growing obsession of people to join the race to the top. She and Jerry related their ideas on the use of cell phones which have become more of a status symbol rather than a job-related necessity. They were apprehensive of the growing globalization and materialistic culture as demonstrated in the marked changes in people's attitudes and values and modes of thinking and living. As well, some did not deny being also carried by the tide as the temptation becomes harder to resist. As ESD needs to be practised and lived, this dilemma of determining sustainable lifestyles amidst the constraints of a growing materialistic culture had been expressed by most of the participants in the study.

Integrating ESD vs. Curricular Transformation

A dilemma that emerged from the conversations centered on the implementation of ESD in the formal education structure. On the one hand, the participants claimed they implemented ESD by integrating environmental education in their own subject areas. However, while they adhered to the process of integration, several constraining factors led them to assert the need to transform the curricular structure to enable them to adopt a framework which would put ESD at the core of the educational process. There was a sense that, although it was not very explicit, to most of the teacher participants, ESD represents a fundamental change in the structure and process of education. This perspective is reflective of Bonnet's (1999) assertion that ESD calls for a new frame of mind and Jardine's (1997) view of the need of curricular disciplines for constant renewal and transformation. Orr (1993) likewise suggested that the transition towards sustainability can not be made through the same kind of education that caused the problems in the first place.

The curricular structure in both institutions indicated a modernist orientation with its compartmentalized disciplines independent of one another. Many of the participants claimed that they integrate environmental education in their subject areas while some have also integrated them in their syllabi. With recent developments stressing the need to include development issues, environmental education has been expanded to include various dimensions of development. The community-based Nursing program in which Fatima was very much involved with has been structured to encompass environment and development issues in relation to health care. The integration of ESD as described by the participants did not involve a major change in the curricular structure. Although a link was established between ESD and the subject field with which it is integrated, the manner of integration within a compartmentalized framework cannot generate a holistic impact that could really highlight interrelationships and transcend the boundaries of curricular disciplines if it is not well-planned and carefully designed.

Some of the participants like Jerry asserted the need to transform education to make it more responsive to the goals of sustainable development. Finding the present system in need of change, Jerry declared that ESD starts with the cry to transform education. He brought forth the relationship between the economic situation of teachers and the need to take extra teaching loads as affecting students' learning. Although the extra loads is a happy compromise between the university administration and the teachers, he felt concerned that students suffer in the process. He also described some teaching practices, teaching strategies and even attitudes which have not changed over the years and are no longer relevant to the times. He proposed

making changes in their traditional conception of teaching and learning which he identified as the “banking” type and highlighted the need for change in teachers’ pedagogical strategies and for sharing and collaboration in students’ activities. Most of the participants felt that the implementation of ESD necessitates some corresponding changes in the process of teaching and learning. There was common agreement about the advantage of using participatory approaches which they characterized as participatory, experiential and collaborative.

A dilemma surfaced in most of the participants’ experiences of the implementation of ESD in the formal education structure. The teachers indicated that they felt the need to abide by a legislative mandate on the integration of environmental education in the subjects they teach. But most of them believed that education for sustainable development is actually a call for change not only in the structure and process of formal education but within a broader and deeper frame of reference encompassing the way we live our lives. Likewise they alluded to a change in their conception of education based on their views of teaching and learning. The dilemma finds its traces between their technical understanding of education expressed in terms of efficiency, mastery and control and their practical understanding of what education for sustainable development should be which resounded in their clamor for change.

Empowering ESD Educators

The teachers considered their participation in the research process as having empowered them as ESD educators since it afforded them the opportunity to engage in critical reflection on their practice of ESD. The sharing of ideas and experiences deepened their insights into their role as ESD educators. They claimed that a sense of belonging and a sense of community fostered by engaging in conversations with their fellow educators helped them understand their role and reflect on their own selves. The establishment of this link could be an initial step towards their emancipation from the fetters of bureaucratic practices as it allows their voices to come out and bring legitimacy to their practical knowledge.

Likewise, as ESD educators, the participants reflected on their relationship with the earth. Some identified themselves as one or united with their environment. Locating themselves in relation to the environment brought clarity to who they are and how they relate to others and to other creatures. Likewise, they felt a sense of a greater awareness of their responsibility towards the earth, the resources and the future generations.

The participants pointed out that empowerment for them emanates from the support and encouragement of administrators, the enrichment of knowledge and skills through professional development opportunities, the cooperation of students and one’s faith in the spiritual.

From Contradictions to Possibilities

Contradictions and dilemmas emerged from my conversations with my co-participants in their interpretation of the theory and practice of education for sustainable development. However, the presence of these contradictions and dilemmas does not imply a halt to understanding. Rather, it became a way of opening up possibilities for an enlarged understanding of our world

and ourselves as ESD educators. Gallagher (1992) claims that interpretation carries the aporias of ambiguity and the finitude of understanding. He explains that the moderate theory of hermeneutics recognizes that ambiguity can not be avoided hence, it must not be denied. It does not mean however, that transformation can no longer be instituted. It proposes *phronesis* or practical knowledge to deal with ambiguity.

The hermeneutic encounter enabled my co-participants and I to interpret ESD in the light of our own contexts. But this understanding is never complete. We have left the conversation open in order that new interpretations could emerge. Some came to realize that it is through their participation in the conversations that they found themselves empowered as ESD educators. Following Foucault, Gallagher (1992) states: *Interpretation never completely escapes the power structures that define them but they constantly transform these structures* (p.350) Interpretations which come about through conversations could be the source of power for transformation. Jerry, one of the participants captured the productive power of conversations when he claimed that *by sharing ideas, discussing issues we can build human bridges and if we do not destroy one another, there is also the corresponding effect that we do not destroy our environment.*

Our own understanding of ESD has opened many possibilities for us as educators. Likewise, they opened possibilities for institutions to play a major role in stimulating teachers to explore issues of personal and social responsibility to care for the earth. As ESD educators, my co-research participants saw the possibility of assuming an initiator role and being mindful of people's interconnecteness, felt the possibility of infusing into their pedagogical practices, the many principles and aspects of ESD. They also articulated possibilities of enhancing their creativity to collaboratively designing ESD activities that would not only be confined to the classrooms but would establish linkages with the wider community. In this vision, as teachers and collaborators in the research, we bring ESD as an alive and dynamic experience, not as abstract and fragmented knowledges so characteristic of our compartmentalized curricular frameworks.

There are also possibilities in partnerships with my co-participants in this research journey to network with environmental groups and organizations even with the geographical distance that separates us, in influencing local, national and international policies and relationships with and outside Canada. We may also find our experience of dilemmas and contradictions in understanding ESD, in various sites and linking with them may help us to reflect and deal with our own situations, our own lifestyles, and our experience of contradictions.

Finally, my co-participants and I extend an invitation to others to join us in this ongoing quest of interpretation and dialogue. We leave the conversation open for further engagement with new ideas and further questions.

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