

CHAPTER 4

Environmental Education

A Contribution to the Emergence of a Culture of Peace

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Our environments may be understood as socially constructed realities at the interface between Nature and culture. Environmental education seeks to shed light on and provide a critical appraisal of the complex webs of ecological and social relations that do and may emerge at this interface. It also seeks to re-establish the ties that bind people to each other, to the nonhuman world and, from a more global perspective, to our shared "home of life." It involves critical consideration of the close relationships between the three main ruptures that underlie the current socioenvironmental crisis: the rupture between individuals within a society, in the form of social disparity, inequity, abuse of power, and so forth; the rupture between societies, which both reflects and reinforces the first rupture; and the rupture between human beings and Nature, based on the denial of their own belonging to the web of natural life. The third rupture stems from the same set of attitudes and values as the first two, and all three feed back into each other, affecting each other synergistically.

The challenge for environmental education is to educate for profound cultural transformation, especially on the level of the third rupture, which separates human beings and Nature, so that the web of relations that link the individual, society, and the environment may be reestablished. This challenge is especially daunting in contexts of oppression, discrimination, and exploitation, which lead to social crises and direct violence. It is also considerable in situations in which psychosocial problems, such as those of young street workers, itinerants, or delinquents, arise. Can environmental education be justified in circumstances in which psychosocial concerns or social tensions are so grave

that they overshadow environmental issues? How can it be deemed relevant in such conflict situations? What are the possible risks and benefits of promoting a socially critical environmental education in such contexts?

This chapter will present our thoughts on these issues and some elements of a response based on our own experience. First, we will synthesize the essential elements of our conception of environmental education and outline the historical, theoretical, and practical convergence between environmental education and the peace education. Then, we will underline the main social, environmental, and educational issues raised in the environmental education project, EDAMAZ, which challenged us to reconceptualize environmental education as a contribution to the construction of social peace. To this end and given the very conflictual contexts in which EDAMAZ evolved, the *learning community* appeared to be a singularly appropriate educational strategy, providing a crucible in which social and environmental concerns may be integrated; in which people may learn how to learn and to work collaboratively; and in which their capacity for living together may be nurtured. Relatively recent theory on and practical experience with the learning community suggests that it offers rich possibilities and relevant strategies for integrating peace and environmental education. Taking into account this potential, we will, therefore, put forward a reconceptualization of the *learning community* incorporating into the proposal some aspects of J. Dewey's and P. Freire's educational theories.

ENVIRONMENTAL EDUCATION: A PROPOSAL

Our conception of environmental education was developed gradually and discussed constantly over the course of our educational and research projects. It incorporates a number of complementary theoretical elements garnered from our exploration, experimentation, and critical analysis of the various trends of thought and practice that have emerged in the field of environmental education over the past 30 years¹ (Sauvé, 2002a; Sauvé & Orellana, 2001b).

(1) The *object of environmental education* is not the environment itself. Talk of education "about," "in or by," and "for" the environment, following A. M. Lucas's well-known typology, still does not take us to the core of environmental education: our own relationship to the environment. For each of us, this relationship is an idiosyncratic one, built-up over the course of an individual life experience, yet it is essentially mediated by the society one belongs to and is, therefore, culturally determined. What is required of environmental education, then, is that it take both personal and social aspects of human development into account.

(2) The *environment* is so complex a reality that it defies precise, comprehensive, and consensual definition. Rather than try to define it, our interest has

been in exploring the various ways it is perceived. These perceptions include the environment as Nature, to be appreciated and preserved; the environment as a resource, to be managed and shared; the environment as a problem, to be avoided or solved; the environment as a system, to be understood so as to improve decision making; the environment as a place to live, to get to know and improve; the environment as territory, a place one belongs to, a locus of cultural identity; the environment as landscape, to travel through and interpret; the environment as the biosphere, this "spaceship earth" in which we live together over the long term; and the environment as a community project, in which we become involved. It is through the totality of these interlinked and complementary dimensions that the relationship to the environment unfolds. If restricted to just one or another of them, environmental education remains incomplete and provides only a biased image of the relationship to the world (Sauvé, 2002b).

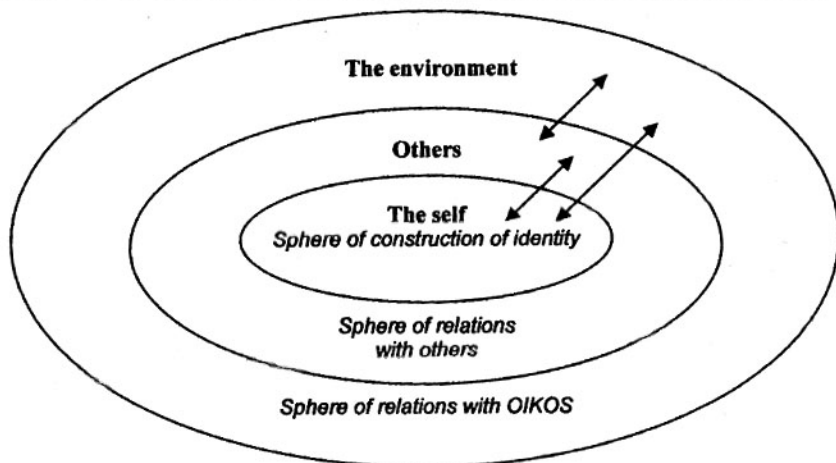
(3) One must bear in mind, furthermore, that *environmental issues*—the focus of many environmental education interventions—include social and biophysical components as well, and can, therefore, be understood only by analyzing the interests, visions, values, and power relations among the actors involved (Robottom & Sauvé, 2003). Consequently, it is most often more appropriate to speak about "socioenvironmental" issues. In *Cultivating Peace*, D. Buckles (1999) thus analyzes cases of social conflict over the use or sharing of natural resources; such conflicts are most often associated with the destruction of resources or with environmental problems. As E. Leff (2000) points out: "Failure to consider the social dimensions of environmental issues will give rise to either an idyllic or a catastrophist vision of the natural world that will prove incapable of engendering a critical understanding of socioenvironmental relations" (p.220).

(4) However, environmental education cannot be looked at only from a pragmatic problem-solving or issue perspective; it must be viewed as an *essential dimension of fundamental education*. It would be simplistic, therefore, to treat it as just one more type of thematic education: the environment is not a mere theme, but a vital reality of daily life. Environmental education is a core component of a human-development project. It involves more specifically one of the three spheres of interaction that are at the root of personal and social development (figure 4.1):

The central sphere is that of the *construction of identity*. This is the sphere of personal development, which is based on the individual's confrontation with him or herself, his or her characteristics, abilities, and limitations. Here one learns how to learn, how to define oneself, and how to relate to the other two spheres. This is the locus of development for self-esteem, autonomy, authenticity, integrity, reflectivity, and for responsibility to oneself—in terms, for example, of one's own rights and duties, health, and sexuality. It is where the search for harmony, serenity, and inner peace takes place.

FIGURE 4.1

The Three Interrelated Spheres of Personal and Social Development



Source: L. Sauvé, (2001), *L'éducation relative à l'environnement. Une dimension essentielle de l'éducation fondamentale*. In C. Goyer & S. Laurin, *Entre culture, compétence et contenu: La formation fondamentale, un espace à redéfinir* (pp. 293-318). Montreal, Canada: Logique.

The second sphere, the *sphere of otherness*, is very closely related to the first. This is the sphere of interaction with other humans, whether with one person or a social group: the "I" is shaped and defined through the "we" and the "you" (Jacquart, 1999). In this sphere, one experiences both the advantages and difficulties of living with the other. Here one develops a sense of belonging to a group, awareness of one's culture of reference, and a sense of responsibility towards others in the immediate surroundings and on a more global scale. This is where peace, cooperation, intercultural, human-rights, and international-solidarity education take place. It is the locus of citizenship education, which involves learning democracy, more specifically a "dialogical democracy," in which language is used for mutual understanding and the other is perceived as being on the same level as oneself and as an end in him or herself rather than as a tool (Migueluez, 1997). It is here that one learns how to deal positively with conflict, to understand and accept difference, to make compromises when possible and seek consensus if need be (Migueluez, 1997). It is where peace is constructed in an ongoing process of interaction and dialog with the other.

It is in the third sphere that environmental education comes into play. This is the *sphere of relations with the living place*, an area to which too little attention has hitherto been paid in education. Here, the point of reference is *Oikos*, the

"home of life" that we share with each other and with other living beings. The *Oikos* (the Greek root of "eco-logy" and "eco-nomy") is formed and transformed at the interface between Nature and culture. It thus comprises the biophysical elements of the environment as they interact closely with the sociocultural aspects of the people living there. While the relationship with the world involves personal and private dimensions stemming from each individual's sensibility and life story, the relationship with the environment is essentially mediated by the sphere of interpersonal and social relations and thus determined by the culture of reference. This sphere involves a sense of otherness that goes beyond human otherness. It similarly involves another dimension of peace: one that concerns our relationship to Nature. The issue here is the extension of our sense of belonging and responsibility to the great network of living beings and the development of an ecocentric ethic: "an ethic centred on respect for life and not exclusively for human life, one that requires that the bounds of social responsibility be extended to include all the components of the web of life" (Leff, 2000, p. 228). It is in this sphere that a cosmology which gives meaning to the world and to our "being in the world" develops. Here, ecological education comes into play, and one learns how to get to know about one's "home of life" in all its diversity, richness, and complexity; how to integrate oneself into it; how to identify and define one's human niche in the global ecosystem; and how to fill it properly and harmoniously. Economic education also takes place here, as one learns to manage one's consumption patterns, to improve and properly use the shared space and common resources. To sum up, people learn to become responsible guardians, users, and builders of *Oikos*, our shared "home of life." The issue is not one of "managing the environment," but of "managing" our own individual and collective relationship with it. Environmental education sheds light both on the impact that individual and collective ways of being and doing have on the environment, and on the environment's influence on people's quality of being and ways of life. It also underlines the fact that the values that govern our relations with the environment are the same ones that govern our relations with each other. Thus, it is important to nurture not just respect for others and other living beings, but also a fundamental sense of responsibility that includes care and solidarity.

(5) Given this comprehensive educational perspective, environmental education should therefore not be considered a mere tool for solving environmental problems by trying "to change civic behavior." Such an instrumental, behaviorist approach to environmental education reduces its educational scope. Similarly, while ecocivism—regarding civil rights, and duties, and responsibilities towards the environment—may be useful for regulating social behavior in the short term, it cannot replace a holistic environmental education, which aims at the optimal development of individuals and social groups in relation to their environment. More

than a civic moral issue, it is a matter of *constructing a fundamental ethic*. Our conduct must be deliberate and based on ethical choices.

(6) Environmental education advocates a *critical approach* to social, environmental, and educational realities. While seeking to identify the positive aspects of a situation, such an approach also focuses on its possible limits, deficiencies, ruptures, inconsistencies, interplay of power, and the like, in order to bring about the transformation of realities that pose problems.

(7) This critical approach involves *adopting a praxis* that integrates action with reflection; critical examination must be directed from within and be at the heart of the process of experimentation of environmental and pedagogical situations. Such reflection can then yield the elements of a theory of personal and social relations with the environment and a pedagogical theory for environmental education.

(8) Given that the environment is something that is shared and that the relationship to it is socially constructed, environmental education calls for a *cooperative approach* both to learning and to taking action. The object is to learn to live together in a shared space and to build a healthy and congenial environment that is based on a common vision of what constitutes an optimal living place.

(9) Environmental education seeks to contribute to *ecodevelopment* in order to improve both people's quality of life and the quality of the environment, two integrally related poles of an *endogenous alternative development*. The issue is one of re-establishing the close bonds between the community and its living place and enhancing the bioregion's distinctive characteristics and possibilities, that is, the talents and culture of its inhabitants and its natural resources. The local population is encouraged to get involved in its environment and to live in harmony with it, making the most of its potentialities, while respecting not only its limits but its integrity as well. The object is not to hasten the advent of a "global village" governed by the rules of globalization and contributing to the expansion of monoculture but rather to stimulate development of a "globe of interlinked villages" (Morris cited in Nozick, 1999), each of which becomes self-sufficient in some ways and contributes to "biocultural" diversity.

(10) Finally, if we are to understand "development" in this way, environmental education clearly cannot be circumscribed by the proposition of sustainable development, in which it has little more than instrumental value, promoting an ideology that, though sharply disputed, remains hegemonic. The concern for sustainability may seem justifiable in the present context of the crisis of security that characterises our "risk societies" (Beck, 1992); it cannot, however, become the basis of a fundamental ethic for guiding human experience. The notion of sustainable development reduces the environment to the status of a resource reservoir for satisfying human needs and supports a con-

ception of development centred on economic growth and thus on competitiveness and inequity (Rist, 1996). Even when redefined in terms of a type of alternative development, the value of sustainability, in the sense of "tolerable" and "long lasting," does not stand up to ethical analysis. The alternative proposal of an ethic of responsibility seems richer and more profound, involving, as it does, not only civic responsibility but also a fundamental responsibility based on critical awareness, lucidity, care, and solidarity that binds beings to acting (Sauvé, 2001). Rather than sustainable development, we prefer to think and act in terms of the *development of responsible societies*.

Michèle Sato, a Brazilian environmental educator and researcher, puts forward a definition of EE that includes a number of these elements (Sauvé, Berryman, & Villmagne, 2002):

The conception of environmental education is deeply rooted in a field of values that are more or less objectified; it is part of historic processes and specific contexts that give it a "polychromatic" character. Environmental education is part of a reflective, political, and critical vision that influences educational choices and determines human development, which is intrinsically linked to the environment. (p. 95)

ENVIRONMENTAL AND PEACE EDUCATION: AN INTERFACE

On the basis of the foregoing presentation of the main elements of the theory of environmental education, which we adopt in our research projects and upon which we base our educational interventions, we are able to identify the many points where environmental education coincides with peace education. Indeed, they appear as two essential, complementary, and closely interlinked dimensions of contemporary education. The environment is a highly political object, that is, one "having to do with public affairs." It is a shared territory and a common resource for life, a locus for the construction of group identity that calls for involvement by communities or social groups in problem solving and in conceiving and carrying out collective projects aimed at improving conditions of the living place. It is, therefore, important to learn how to share, discuss, negotiate, live together, build together, and develop the attitudes and skills linked to the practice of a "dialogical democracy." These same issues are of major importance in the field of peace education.

It is, furthermore, important to recognize and analyze the close relationships between environmental problems and social conflicts, which often give rise to each other:

Conflicts based on natural resources, particularly land, water and forests, are of a universal nature. In every country, people have competed to gain access to the natural resources they need or that they want to appropriate for subsistence or to improve their way of life (Buckles & Rusnak, 1999, p. 2).

D. Buckles and R. Rusnak (1999) point out that such conflicts bring into opposition people of different social classes, such as landowners and peasants, political leaders and populations, men and women, people of different cultures, and so on. The causes may vary. People may suffer when a local resource is damaged by human activity elsewhere in the region, for example, by upstream pollution of a river. Common resources may be the subject of internal social tensions stemming from divergent interests, involving policy issues, economic opportunism, and abuse of power. Resources may be damaged or may diminish, or they may become harder to get to, and the resultant scarcity may give rise to conflict. Finally, the cultural dimension of resource use may give rise to ideological, interethnic, and ultimately political struggles. Awareness of the close connections between environmental issues and social-conflict situations leads us to consider it relevant and even necessary to combine the objectives and integrate the processes of environmental education with those of peace education. The significant points of convergence between these dimensions of contemporary education make their integration even more relevant.

Historic Convergence

Both movements in peace education and environmental education gained momentum in the early 1970s mainly in relation to the formal institutional involvement of UNESCO (1974, 1976). The object was, on the one hand, to avoid a third world war and, on the other, to counter the depletion of natural resources and solve the serious environmental problems that had recently come to light. Though given impetus by a situation of insecurity and crisis, peace education and environmental education have, however, outgrown their initial instrumental purposes. Over the past few decades, they have given rise to significant ethical and educational reflection that has led to recognition of peace and environment as essential dimensions of education and core elements of a fundamental educational project aimed at the emergence of a "culture of peace" and the development of responsible societies. P. Weil (1994) thus speaks of "an art of living in peace with oneself, with others, and with the environment."

Axiological Convergence

A comparison of S. Rasseck's (1996) observations and UNESCO's (1976) proposals shows that the movements in both peace and environmental education

stress value education, for example, responsibility, respect, solidarity, care . . . , and have adopted the same five categories of general objectives: awareness, knowledge acquisition, attitude and value development, the development of skills and abilities, especially skills related to critical thinking and information and communication processes, and taking individual and collective action.

Convergence with Regard to Strategic Issues and Limiting Factors

S. Rasseck (1996) and L. Sauvé (1997) observe the same problems related to peace education and environmental education. Both face difficulty in being incorporated in formal curricula and teacher training, with particular regard to interdisciplinarity, values education, and the issue of evaluation. They both have to deal with the limited availability of resources and the need to create partnerships with other actors in the "educational society."

Convergence of the Main Trends of Educational Interventions

Over the course of their development, the movements in peace and environmental education have given rise to different educational intervention and research trends. Comparing I. Robottom and P. Hart's (1993) analysis of the trends in environmental education with X. Jares's (1999) analysis of trends in peace education (figure 4.2), one notes the similarities between the categories they identify and describe. These categories echo N. Carr and S. Kemmis's (1986) analysis (inspired by Habermas) of educational trends in general.

The socially critical trend in environmental education, which corresponds to our theoretical choices presented earlier in this chapter, is consistent with the socio-critical trend in peace education, and, indeed, in dealing with crucial contemporary environmental and peace issues, it seems highly relevant to adopt a critical posture and pursue transformation. However, a research or intervention project that assumes this posture is hard to implement; it has to confront traditional education, and to question established social power and privilege. Moreover, as indicated by the experience of the EDAMAZ project, which we shall deal with below, a socially critical environmental education becomes all the more challenging in situations of major social conflict.

THE EDAMAZ PROJECT: A CHALLENGING EDUCATIONAL CONTEXT

The EDAMAZ project (*Educación ambiental en Amazonia*-Environmental Education in Amazonia) brings together in a partnership the University of

FIGURE 4.2

Major Trends in Environmental Education and Peace Education: A Convergence

Trends	Environmental Education (Robottom and Hart, 1993)	Peace Education (Jares, 1999)
<i>Technical- positivist</i>	• Acquisition of knowledge <i>about</i> the environment • Behaviourist approach • Goals are predetermined, prescribed, not discussed. • Knowledge is objective and exogenous. • Educators, books or experts are the keepers of knowledge. • Learners are passive. • Pre-existing solutions to predefined problems	• Centred on objective and measurable phenomena concerning peace • Negative conception of peace as the absence of war • Cognitive approach; education must be neutral • No critical questioning of structures • Educators are experts transmitting information. • Learners are passive receivers.
<i>Hermeneutico- interpretative</i>	• Activities in the environment • Constructivist approach • Goals are predetermined but often negotiated. • Knowledge is intuitive, subjective, experiential. • Educators organize guided activities in the environment. • Learners are active; they learn through environmental experiences. • Exogenous interpretation of the environment	• Centred on subjective interdependence • Peace is the absence of war and of violence. • Intersubjective learning processes • Affective and cognitive approaches • No critical questioning of structures • Educators co-ordinate interactions and learning. • Learners participate actively in learning.
<i>Socio-critical</i>	• Action <i>for</i> the environment • Socially critical, reconstructivist approach • Goals are critiqued, negotiated. • Collaborative emergent knowledge derived from inquiry • Educators participate in inquiry process. • Learners participate in a collective problem-solving process.	• Centred on a positive, comprehensive and systemic conception of peace • Conflict may be creative. • Cognitive, affective, moral, and political approaches • Questioning of structures from an emancipatory perspective • Educators are researchers, agents of social criticism and agents of social change. • Interaction between educational institutions and society • Learners are active and involved participants.

Québec at Montréal and three Latin-American institutions—the University Gabriel-René-Moreno (Bolivia), the Federal University of Mato Grosso (Brazil), and the University of Amazonia (Colombia). The purpose of the project is to promote environmental education as a contribution to the ecodevelopment of communities and social groups. The main phase (1996–2001)² was devoted to the conception, implementation, and evaluation of contextually relevant professional development programs in this field, particularly in rural and disadvantaged urban areas (Sauvé and Orellana, 2001a). Each program was designed by the members of the regional participating university team and adapted to the local context. All the programs, however, adopted the same experiential, critical, reflective, and collaborative approach to professional development.

Supported throughout by colleagues and professors from the university EDAMAZ team, the students of these programs, mainly teachers and community leaders, are asked to develop environmental education competencies by conceiving and experimenting with projects in their own school, village, or neighborhood. In an initial phase, the participants conduct an analysis of their milieu leading to a critical diagnosis which becomes the basis for developing a contextually relevant environmental education proposal. The teachers and community leaders develop intervention projects centred on community action, joining together children, parents, and other members of the community in a participatory dynamic to improve socioenvironmental conditions in their milieu. The projects are discussed with colleagues and undergo improvement and change after further discussion, reflection on selected readings, and experimentation. Throughout the process, participants are invited to adopt a socially critical and reflective stance so as to gradually develop a theory of environmental education that is transformative and meaningful for the specific context in which they practise.

Implementation of such an approach to professional development, which clashes with traditional school practices and calls for innovation, courage, and commitment, would be difficult in any context. But the EDAMAZ project was particularly challenging specifically because of the unstable and uncertain socioenvironmental context in which it evolved, a context in which environmental issues can easily be understood as causes or consequences of diverse situations of violence and social tension. For a majority of people there, survival is an everyday concern. Lack of resources, low socioeconomic status of teachers, inequity, political tensions, and crisis associated with insecurity—all come into play. As a result, halfway through the project, very serious manifestations of latent social conflicts arose in the different regions where the EDAMAZ project was underway.

In Bolivia, bids by multinationals to privatize and control water gave rise to major protests. At issue were the social and ecological consequences of integrating

local economies into a "unified market," which implies not only orienting production towards export but also the intensified exploitation of natural resources and people. In addition, Bolivian *cocaleros* (small coca farmers) found their crops destroyed by aerial spraying with a range of toxic chemicals. Citing demographic pressure, the complexity of the ecosystem, and the wish to protect biodiversity, the Bolivian government's "Dignity Plan" "relocated" 15,000 families from the coca-producing Chapare region. Ecological arguments are forgotten, however, when the question is one of exploiting the region's rich hydrocarbon resources with major investments by transnational oil companies. As a result, groups opposing the use of political and economic power to abuse people and land are being organized among the *cocaleros*, raising the spectre of guerrilla warfare.

In Brazil, there were long lasting national strikes involving public universities and a movement among the dispossessed rural populations to regain land and improve their working and living conditions (the *Movimento sem terra*). They mobilized to occupy and take possession of land; they also set up camps and laid siege to public agencies and multinationals to exert pressure on the government to alleviate their extremely insecure economic situation and undertook action to protest against the destruction of the environment, creating havoc in fields of genetically modified crops, for example.

In Colombia, where 80% of the world's cocaine is produced, the EDAMAZ team found itself in the middle of a civil war and of conflicts over the traffic in drugs. Aerial spraying of so-called illegal crops with a whole range of extremely toxic chemicals, including Monsanto's product RoundUp³ among others, polluted bodies of water and endangered the health of peasant communities. Clashes between guerrillas, the armed forces, paramilitaries, and drug traffickers led to the forced displacement of people to the outskirts of cities into makeshift settlements that lacked basic health-care facilities.

In such a conflictive context where any critical posture is liable to annoy one or another of the factions on the ground, we learned that education itself may be seen as an object of suspicion; critical intellectuals may be seen as enemies of the formal leaders, or of the army, or of the "revolution"; and more specifically, environmental education, which calls for a critical analysis of social practices and power structures, may come to be seen as a subversive activity. In 1995, for example, Colombian university professor Alberto Alzate Patiño was assassinated. He was a regional leader in environmental education who advocated a critical approach to social and environmental discourses and proposals. He encouraged the involvement of teachers, students and members of the community in bioregional development projects aimed at enhancing local governance and the autonomy of social groups (Alzate Patiño, 1993). In our environmental education project, the call for socially critical and transformative action corresponded closely to Alzate

Patiño's thinking and practice. We were thus led to question the point of pursuing the EDAMAZ activities in situations in which people's main focus of attention was to stop violence and to regain their dignity and security. How was environmental education to be conceived in circumstances in which survival is a daily concern? We held intense discussions with our Latin American partners about the relevance and role of environmental education in such contexts, the ethical implications of pursuing the project, and the consequent conception and practice of environmental education we should adopt.

In fact, at the time that these issues became so acute, our Latin-American partners were already deeply engaged in the EDAMAZ Project, which they saw as a crucible for socioenvironmental and educational change. Therefore, they ultimately decided to continue with these activities and reorient environmental education towards the recovery of hope, in a context in which the lack of hope, though often unfortunately justified, is a major part of the problem. They decided to proceed carefully, however, and to concentrate on collective action projects aimed at solving concrete and immediate local problems. The focus of such projects would not be explicitly or *a priori* a critical appraisal of the political situation, although it appears to be at the root of most current socioenvironmental problems, nor, in principle, an attempt to penetrate the extremely complex psychosocial problematics of the situation. Rather, in an essentially pragmatic approach, the focus would be on concrete and realistic projects to restore and preserve aspects of local socioenvironmental conditions.

It was assumed that learning to work together and to pool skills and resources so as to find concrete solutions to crucial common problems (water quality, sanitary conditions, gardens of medicinal plants, etc.), people with different viewpoints and political allegiances might gradually come to know and understand each other better, and in this way, recognize and clarify the divergences in their visions of the world, values, and priorities, and identify the possibilities for sharing concerns about common problems and the search for solutions. The hypothesis was that this pragmatic approach might create the conditions for the parties to learn how to initiate a real dialogue, to adopt a critical stance towards inherent conflicts and to build on their experience to progressively achieve social transformation. The success by some pressure groups in bringing about the withdrawal or change of political decisions, such as the one in Bolivia regarding water privatization, was an encouragement to pursuing local action and helped to recover hope. What was ultimately intended by the EDAMAZ project was to empower local groups so that they could take action to improve the socioenvironmental conditions of their own milieu, while progressively constructing social peace.

Taking these considerations into account, we chose to center the dynamics of EDAMAZ on the strategy of the learning community, which lays emphasis on

processes of social construction of knowledge, the development of a critical vision of realities, and involvement in projects for improving interpersonal and social relationships as well as the quality of the environment, as a shared living place.

THE LEARNING COMMUNITY: A PEDAGOGICAL STRATEGY⁴

The Concept of the Learning Community

The idea of the learning community draws on social and educational practices that have a long history⁵ and are, as H. Reeves (1990) states, related to the construction of "spaces of freedom" (Orellana, 2002b). These spaces are shared in order to better apprehend the reality of the living place, learn to transform that which poses a problem, and conceive collective projects aimed at enhancing the conditions of the shared milieu and at living better together. It essentially involves structuring a working group and creating conditions for learning together around a common project that has significance for the participants and relevance for the context and which is aimed at change: changes among the participants and/or in the living place (Orellana, 2001, 2002a, b). The learning community involves implementing meaningful and stimulating processes that take into account the individual and collective needs and interests of the participants and that are adapted to the characteristics of each specific context. It promotes the development of a capacity for critical reflection and leads to a new reading of reality in all its complexity in order to rethink ways of being and acting. The shared experience within such a community may foster individual and collective maturity and increases what J. Rappaport (1981) calls the "empowerment" of the participants. Finally, the learning community is an appropriate strategy in any situation in which people want to learn together in order to carry out a common project that aims at transforming realities they want to change. Because it leads to dialog and involvement among various parties who are attempting to address socioenvironmental issues in their living place, the learning community provides a context within which to educate towards a culture of peace and environmental responsibility.

Learning communities consist of three main dimensions: a structural dimension, a pedagogical-process dimension (Gregoire, 1997) and a learning-dynamics dimension (Orellana, 2002a, b). The *structural dimension* refers to a structure or unit formed by a group of people who choose to join their forces in order to learn together. The point here is to recreate a community in which a sense of identity and belonging may develop and within which a common culture may gradually emerge regarding the proposed project. The *pedagogical-process dimension* is characterized by the integrated implementation of complementary approaches: cooperative,

interdisciplinary, praxis-based, experiential, problem-solving oriented, holistic, systemic, and critical. The aim is to learn with and from each other complementarily within a praxis rooted in a concrete reality, taking into account its specific cultural, social and environmental aspects (Orellana, 2002a, b). Learning is here viewed as a dialogical and dialectical process of continuous construction, deconstruction and reconstruction of the understanding and meaning of realities (Freire, 1998). Such a process occurs *in, with, and for* the milieu in which the learning community is implemented, that is, the local community, community of interest, community of professional practice . . . (Orellana, 2002b).

The third dimension, the *dynamics* of the learning community, fosters the development of a web of interpersonal relations based on cooperation, mutual aid and sharing, collaboration, synergy, complementarity, reciprocity, respect, solidarity, closeness, mutual commitment, and a commitment to the living place (Orellana, 2002b). The emphasis is on developing a network of social, affective, cognitive, emotional, and moral relations based on dialog between the members in order to produce changes among the participants and in the living place where the learning community operates. Thus, the learning community, where one learns to live *in, with, and for* this shared world, becomes the crucible in which identity grows and a culture of exchange, confrontation, negotiation, and democratic life takes shape (Orellana, 2002b).

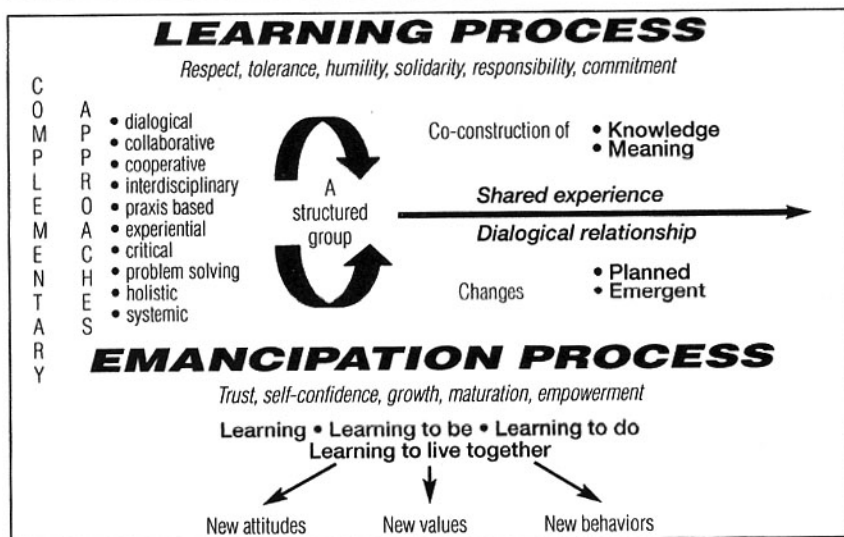
The Learning Community as a Pedagogical Strategy

The three dimensions described above are integrated in the learning community, which can be considered a *pedagogical strategy* (Orellana, 2001, 2002a, b) as shown in figure 4.3. It redefines the role of the actors, that is, of teachers and students, for example; gives comprehensive meaning to the learning process, and guides its different phases, that is, the emergence of a project, organization of work structure, establishment of strategies of cooperation, management, appropriation, maturation, consolidation, and development of partnerships.

The following projects, which took place in the course of EDAMAZ, are examples of community-based projects centred on the pedagogical strategy of the learning community. Brazil's Santo Antonio bioregion was the scene of a re-discovery and development project that focused on medicinal flora and involved primary school pupils in partnership with their parents and other members of the community. In Bolivia, the My Clean Street project was also carried out by primary school pupils in cooperation with the neighborhood. In Colombia's Caquetá region, an ecological trail designed as a context and resource for community environmental education activities was developed by a protection and re-education center for troubled youth in partnership with the

FIGURE 4.3

A Conceptual Schema for the Learning Community Strategy (Orellana, 2002)



Source: Orellana, I. (2002b). *La coimmunidad de aprendizaje en educación relative à l'environnement: signification, dynamique, enjeux*. Thèse de doctorat. Université du Québec à Montréal.

university. Also in Colombia, a project for municipal refuse management was piloted by a nongovernmental organization in partnership with members of the community and the university.

The educational vision that is foundational to the learning community as pedagogical strategy is one in which educational responsibility is to be shared by the various actors in an "educational society." Education is no longer to be perceived as the sole responsibility of educational institutions but also to involve the society's other organizations and institutions (Antikainen, Houtsonen, Huotelin, & Kauppala, 1996; Ranson, 1994; Faure, 1972; Schön, 1971), including, among others, government agencies, businesses, associations, museums, non governmental organizations and medias, all putting together their complementary resources in a coherent global educational project aiming at social development. From such a perspective, the educational institution opens up to the living place so as to involve as partners the various actors from the "educational community," the one of proximity, and, more broadly, from the whole "educational society" (Orellana, 2002b). This openness leads various actors with shared interests to join together around concrete common projects and to pool their talents and resources. The educational

institution thus comes to stand at the center of a community dynamic for the development of socioenvironmental or ecodevelopmental projects.

As noted above, social dynamics is a key factor in the process by which knowledge emerges in the learning community. P. Freire (1970) points out that the process stems from the complex reciprocal relations that human beings develop with the world, that is, their relations with others and with the living place, in which social practice is a crucial factor. Dialog, an essential component of the learning community, is seen as a creative act that, according to P. McLaren (1997), fosters the pursuit of change. Creativity within the learning community is stimulated by a process of integrating different types of knowledge—scientific knowledge, traditional knowledge, common-sense knowledge, experiential knowledge—that confront and fertilise each other (Orellana, 1997). It may also be stimulated by the challenge posed by the need to resolve conflicts within the learning community or in the surrounding milieu: such challenges are seen as a motor for problem resolution.⁶

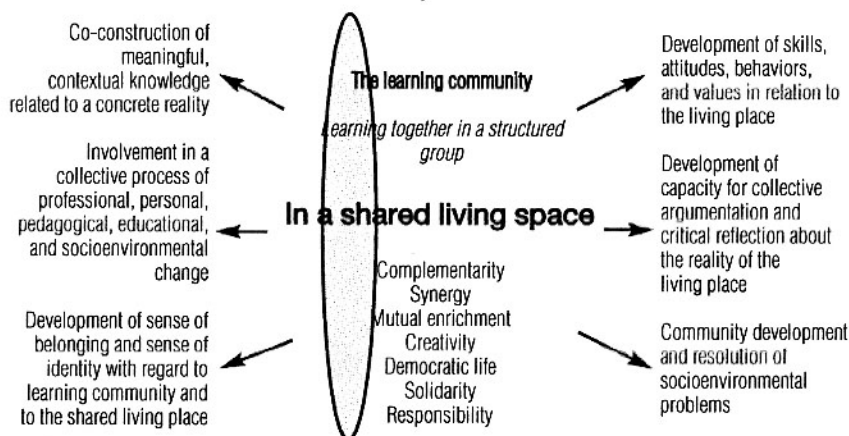
The learning community as pedagogical strategy is also characterized by the importance attributed to the connection between educational and social concerns: the quality of being is closely related to the quality of being together in a shared living place (Orellana, 2001; Schnüttgen, 1997; MacCaleb, 1994; Clark, 1996). Indeed, as various authors (including Wenger, 1999; Schnüttgen, 1997; Clark, 1996; Potapchuk & Polk, 1994; Sergiovanni, 1994) point out, the development of people is related to the development of their community. It is at the heart of this development process that peace is built, linked intimately to the construction of a harmonious relationship with the environment.

Finally, the learning community invites people to learn "in," "about," and "for" the living place (Orellana, 2002b). It creates the conditions for collectively developing attitudes, values, and conduct that help counter degradation of the environment and deterioration of the quality of life of people and social groups. It can also help re-establish the sense of belonging to Nature and repair the ruptures between humans and between humans and Nature. It fosters bonds of belonging and identity (Wenger, 1999) and promotes respect, solidarity, responsibility, and commitment to help attain a lucid perception of reality so as to better apprehend, understand, objectify, and transform it responsibly (Orellana, 2002; Wenger, 1999). Figure 4.4 presents a synthesis of the various elements and characteristics of the learning community which contribute to environmental education, as these have emerged from our reflections and experiments, specifically in the framework of the EDAMAZ project.

Establishing a learning community is certainly not easy. The collaborative work that is required is a very complex one, littered with traps and obstacles and often leading to moments of chaos and wandering. It nonetheless remains a very

FIGURE 4.4

Environmental-Education Perspectives in the Learning-Community Context



Source: Orellana, I. (2002a). Buscando enfrentar los desafíos educativos contemporáneos: la estrategia pedagógica de la comunidad de aprendizaje en educación ambiental. In L. Sauvé, Orellana, I., & Sato, M. (Eds.), *Sujets choisis en éducation relative à l'environnement. D'une Amérique à autre. Textos escogidos en educación ambiental. De una América a otra. Textos escolhidos em educação ambiental. De uma América à outra* (pp. 221–231). Montréal: Les Publications de la Chaire de recherche du Canada en éducation relative à l'environnement.

Orellana, I. (2002b). *La communauté d'apprentissage en éducation relative à l'environnement: Signification dynamique, enjeux*. Thèse de doctorat. Université du Québec à Montréal.

promising strategy for encouraging educational processes that will lead to the questioning of traditional conditions of teaching and learning, and contribute to the improvement of education itself, to make it more meaningful, relevant and responsible.

ENVIRONMENTAL EDUCATION FOR PEACE: REFLECTING ON DEVELOPMENT

In this chapter, we have presented the elements of the theory of environmental education underlying our research and educational interventions. Specifically, our projects are undertaken from a critical perspective with a view to transforming realities and improving conditions in the living place. Such a perspective leads us to consider the close links between social and ecological realities, including the relationship between conflict situations and environmental problems. The EDAMAZ Project was particularly significant in this regard: it raised

questions and led us to identify elements of a response. Among these elements, the learning community appears as an appropriate strategy: it fosters the development of projects for improving socioenvironmental conditions in the living place, and for constructing or re-constructing harmonious social relations.

The reflections that emerge from our work include considerations about the close relationship between the ways our contemporary societies develop and the interrelated issues of the environment, human rights, and peace. Societal choices nowadays actually lead to inequity and conflict; they usurp human rights, damage the environment and are detrimental not only to other living beings, but to the fabric of life itself. It is, therefore, important to promote and support the exploration of alternative modes of development founded on a culture of peace and the ethics of environmental responsibility. It might be tempting to adopt the proposal for "sustainable development" that has received so much promotional publicity and media attention as a way of dealing with social and environmental issues. In fact, this notion is becoming the predominant framework for thought and action concerning the relations between people, between societies, and between humans and the environment. We must, however, remain vigilant in the face of such a proposition based on a so-called international consensus⁷ and recognize its economicist tendencies. It regards the environment as a resource reservoir for human consumption and legitimates an economy that is exogenous to the social sphere and that determines relations between society and the environment. Sustainable development has become not merely a "buzzword" but a "watchword" (Traoré, 2002) for our societies, as evidenced by the recent Johannesburg Summit, where heads of state found a new context for their essentially economically driven debates. However, critical appraisal of the sustainable development prescription, which is put forward as the all-purpose solution to the problems of society and the environment, is far from over (Jickling, 1999; Sauvé, 1999).

Education stands at the forefront in the search for new "modes of development," for new directions and meanings for the human experience. We must develop an emancipatory education focused on the human being as a living and social being who questions the commonplace as well as society's hegemonic propositions and who can envisage creative and courageous new ways of living together with other humans and with the rest of Nature and of realizing our human potential in a responsible way. The complementary and synergistic fields of environmental education and peace education can contribute to this finality.

NOTES

1. The main trends may be identified as naturalist, conservationist, problem-solving, systemic, holistic, socially critical, bioregional, and feminist (Sauvé, 2002a). Each of these approaches provides a different perspective on the multidimensional object of environmental education. Each of them gives rise to integrated and contextually relevant educational choices.

2. The EDAMAZ project was developed as part of the Association of Universities and Colleges of Canada's (AUCC) Program for University Partnership for Cooperation and Development, funded by the Canadian International Development Agency (CIDA). This project has won two awards for excellence: from the AUCC and Scotia Bank and from CIDA <http://www.unites.uqam.ca/EDAMAZ/>

3. This information comes from *Le Monde diplomatique*, January 2001.

4. The learning community is the object of the doctoral thesis of Isabel Orellana (2002b), who devised an original theoretical framework which she used to study the dynamics of learning communities in the EDAMAZ Project.

5. We may cite, among others, John Dewey's *School as a social center* project, initiated in 1896 in Chicago, Meiklejohn's *Experimental College* at the University of Wisconsin in 1927 (Wenger, 1999), the "academies" put forward by Gramsci that drew on the basic structures of nonformal education, and the popular-education and community-education movements (Orellana, 2002b).

6. EDAMAZ gave us a unique opportunity to explore the notion of conflict and envisage the development of a "pedagogy of conflict." According to such a pedagogy, there is a need not to obscure tensions but to recognize and if necessary legitimize them and exploit their transformative potential. It is also important to discuss the different possible avenues for solving problems: dialogical solutions, strategic solutions, and, in some cases, violent solutions, when the exacerbation of conflict becomes the only way to combat injustice. We must recognize the potential pitfall posed by "pacifism" when "favoring peace at the expense of justice, real improvements in livelihoods, and the conservation of nature" (Chevalier & Buckles, 1999).

7. Seeking consensus at any price, sometimes constructing false consensus, is essentially problematic. N. Rescher (1993) develops a rigorous argument to this effect to demonstrate that "consensus is not a criterion of truth, is not a standard of value, is not an index of moral or ethical appropriateness, is not a requisite for cooperation, is not a communal imperative for just social order, is not, in itself, an appropriate ideal" (p. 199). Moreover dogmatic adherence to consensus does not take into account the diversity of visions, desires, meanings, and potentialities. The search for consensus should not overshadow pluralism and dissension which can become significant creative forces in society.

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