

# Environmental Education Between Modernity and Postmodernity: Searching for an Integrating Educational Framework

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## Abstract

With the recent debates concerning the UNESCO's proposals of *Education for sustainable development* (1992, 1988) or *Education for a sustainable future* (1997), environmental education is confronted with the necessity of restating its aim and establishing its niche in a global educational project, whose foundations have to be reconstructed in light of the development of responsible societies. This article presents an analysis of the epistemological, ethical and pedagogical basis of the UNESCO's recent proposals, so as to verify their offer of an appropriate integrative framework for environmental education, and other dimensions of contemporary education, that aim at the reconstruction of the person-society-environment web of relationships. This analysis is based on the referential framework of modernity and postmodernity.

## Résumé

Avec les récents débats soulevés autour de la proposition de *l'Éducation pour le développement durable* (UNESCO, 1992, 1988), ou de celle de *l'Éducation pour un avenir viable* (UNESCO, 1997), l'éducation relative à l'environnement se retrouve au coeur d'une problématique fort complexe: celle de la recherche de fondements appropriés pour l'éducation contemporaine. Cet article présente une analyse des fondements épistémologiques, éthiques et pédagogiques des récentes propositions globales de l'UNESCO, dans le but de vérifier si elles offrent un cadre intégrateur adéquat pour l'éducation relative à l'environnement, comme pour l'ensemble des autres dimensions de l'éducation qui visent le développement de sociétés responsables. Cette analyse exploite le cadre de référence des courants de la modernité et de la postmodernité.

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As the century ends and the academic world vacillates between the era of modernity and that of postmodernity, many countries have undertaken, or are in the process of undertaking, reform of their educational systems. Education now generally leaves more room for consideration of present and evolving realities (Delors, 1996). In particular, most reforms propose the curricular introduction of various aspects of education related to contemporary social and environmental concerns: environmental education is often formally legitimized, along with human rights, peace, democracy, intercultural relationships, international solidarity and development education.

In order to avoid a new fragmentation of educational objectives and to integrate these various concerns with one another, a number of comprehensive frameworks have been proposed, including *Citizenship Education, Education in a Planetary Perspective* (Projet des universités francophone de l'est de Canada, 1995), *Education in a World Perspective* (Dionne, 1995), *Global Education* (GPE, 1987), *Education for the Development of Sustainable Societies and Global Responsibility* (Council for the Earth, 1993), *Education for Sustainable Development* (UNESCO, 1992), *Education for a Sustainable Future, Education for Sustainability* (UNESCO, 1997), *Education for World Responsibility and Solidarity* (Fondation Charles Léopold Mayer [FPH], 1997) and some others. Each of these global proposals should be examined so that an integrating framework appropriate to fundamental education can be adopted or restructured such that it will include the consideration, criticism and transformation of our contemporary realities. Such a framework should not be seen as a straight jacket but as a proposal for the search of meaning, consistency, and relevance based on an ethical and epistemological reflection.

In this article, I shall consider the UNESCO proposal concerning *Education for sustainable development* and its offshoot under the more recent title of *Education for a sustainable future* or *Education for sustainability*. According to the proponents of these integrating frameworks, there is an international consensus (or should that be "lobby"?<sup>1</sup>) on the relevance of or need for "reshaping education" for sustainable development. Without further analysis, and at great expense, UNESCO is now placing sustainable development at the heart of the project of planetary education, considering it to be the ultimate "goal" of human development (UNESCO, 1988). Environmental education is here reduced to being an instrumental tool in a long list of other types of "education for . . .," all intended to serve such a finality.

The stakes are substantial. At issue is a matter of laying the foundations of contemporary education. Also at issue is a question of finding an appropriate place for environmental education within a global educational

project, of clarifying and solidifying the links between environmental education and other aspects of education. Unfortunately, starting with critical observations about some of the more limited practices in environmental education, the proponents of the education for sustainable development/sustainability/a sustainable future projects offer a narrow view of environmental education, restricting it to a naturalist approach or to a reactive process that focuses essentially on solving problems of a biophysical nature. They treat environmental education as an instrumental strategy for implementing sustainable development. However, we shall see that environmental education is an essential component, and not a mere accessory, of education. Indeed, it involves nothing less than the reconstruction of systems of relationships among persons, society and the environment. It is important to include environmental education in a comprehensive educational framework that is not reductive, that allows it to take its full place in order to work towards its own goals, and that integrates it in an optimal way with other dimensions of contemporary education. In this regard, I shall stress the limits and pitfalls of the following proposals: *Education for sustainable development*, *Education for a sustainable future* and *Education for sustainability*. I shall also outline some of the highlights of an alternative proposal that deserves to be considered: *Education for the development of responsible societies*.

### **A Framework for Analysis: The Trends of Modernity and Postmodernity**

In the analysis that follows, I shall consider criteria that can be used to distinguish, in a general way, two dominant cultural trends that currently co-exist and overlap in the western world: modernity and postmodernity. The educational choices are not unrelated to these contemporary movements, an analysis of which will enable us to clarify the values, fundamental beliefs and major hopes underlying these choices. Of course, the task of briefly characterizing and distinguishing between two such complex movements as modernism and postmodernism, which are nebulous, diverse, and changing, is extremely hazardous.<sup>2</sup> Realities do not lend themselves to systematic and rigid classification. However, imperfect though this exercise may be, it appears worthwhile because it could provide new avenues for critical thinking about the educational choices that need to be made at this juncture.

Speaking very generally, modernity is characterized by its belief in progress associated with the explosion in scientific knowledge and the

promises of technology. It is a crucible for the development of major unifying theories and the search for major organizing principles (the “-isms,” including communism, liberalism, capitalism and others) which convey universal values. Modernist epistemology is positivist; it is based on a search for objectivity and relies on instrumental rationality to legitimize knowledge and to organize it into separate disciplines. Modernist ethics are anthropocentric and the only limit on freedom of the individual and the enterprise is respect for the freedom of others. Democracy is viewed as the vessel of such freedom.

The major hopes of modernity, like its principal symbols (the Berlin Wall, for example, erected between two “-isms”), are gradually crumbling. These failures do not undermine the legitimacy of the hopes that underlay such great ideals. They depend, rather, on what has become of the initial projects over the course of time, through the various blunders and opportunistic “recoveries” (like the wild liberalism/capitalism or the totalitarian politico-economic regimes) that have finally destroyed them and brought social and environmental destruction. It is possible to identify four responses to this modernist rout:

- conservationism, which attempts to protect and strengthen the values of modernity,
- reformism, which proposes instrumental solutions for concrete targeted problems; this is the progressive form of modernity (a kind of hyper-modernism, following Spretnak, 1997) focusing on a pragmatic concern for effective management, in a technological and economicist approach,
- nihilism, which is nourished by fatalism and derision, which refuses to acknowledge any vision or project for the future and treats the search for universal values and “profound” meaning as pointless,
- transformism, which turns the page in order to contemplate new ways of thinking, being, doing and acting.

Postmodernity weaves itself in a context of changes, including the abolition of earlier forms of order, in a questioning and searching process. There is a not just one conception of postmodernity but a rich diversity of postmodern discourses and practices. Coexisting among these, are various manifestations of nihilism (deconstructive postmodernity) and transformational approaches (reconstructive postmodernity). As far as postmodern education is concerned, it certainly must deal with the challenges presented by the “no future” nihilist generation but it has to be reconstructive (Griffin, 1992).<sup>3</sup> Generally, postmodern education adopts a relativist

epistemological approach, one that takes the subject-object interaction into account. It is inductive, essentially critical and socio-constructivist and recognizes the complex, unique, and contextual nature of the objects of knowledge. Postmodern reconstructive epistemology values dialogue among different forms of knowledge (scientific, experiential, traditional and so on) where discipline are no longer the organizing principles and where criteria of validity are relevant in light of the critical transformation of realities. Rather than an *a priori* justification of theoretical and practical choices, a dialectic between theory and practice, and a continuing evaluation process of situations, is preferred. Postmodern educators adopt an ethical posture that is also relativist (where the context is taken into account) and not *a priori* anthropocentric or individualistic. This involves a critical discussion among the actors within a situation in order to provide a basis for contextually appropriate decision making. Here democracy takes on a completely different meaning: that of a negotiation process while participating in changing and problematic social realities. Postmodern discourses reject broad explanatory theories and general narratives, and they question universal values. However, this does not prevent its detractors from claiming that postmodernity foments new dogmas and develops its own metanarratives.

It is within this cultural macro-context, at the boundaries between various manifestations of modernity and postmodernity, that environmental education has evolved and that education for sustainable development, for a sustainable future or for sustainability have emerged. I shall briefly analyse these educational proposals in light of, among other things, this framework. I recognize that there are limits and traps to such a binary characterization.

### **Environmental Education: A Need to “Reshape”?**

Environmental education, as proposed in the Charter of Belgrade (UNESCO, 1976) and the Tbilisi Declaration (UNESCO, 1978), was born within modernity as a reaction to the impact of “progress” associated with exacerbated capitalism. Against this backdrop, it started out reformist: it was mainly a question of resolving and preventing the problems caused by the impact of human activities on biophysical systems. In this light, a number of educators or authors (including Hungerford, Litherland, Peyton, Ramsey, Tomera, & Volk, 1992; Giordan & Souchon, 1991) proposed environmental education pedagogical models that focused on learning problem-solving and environmental management skills within the framework of

scientific and technological education, open to social realities and aiming to change behaviour of individuals as citizens.

The environmental education of the 1970s offered a new framework for the conservation education of the 1950s and 1960s: the environment as a resource became more the environment as a problem.<sup>4</sup> The magnitude, seriousness, and multidimensional nature of socio-environmental problems were stressed. For many educators, however, environmental education retained the characteristics of naturalistic romanticism:<sup>5</sup> environmental education was often restricted to nature education focusing on the personal experience of the environment as nature.

During the 1980s, environmental education gradually entered the postmodern era. The *socially critical environmental education movement* (see for example, Robottom & Hart, 1993) defines environmental education as a process of critical analysis of interrelated environmental, social, and educational realities (which are the vessels or reflections of ideologies), in order to transform these same realities. The *grass-roots environmental education* movement emphasizes the importance of associating environmental education with a dynamic of community change that takes into account the specific social and cultural characteristics of the people and the particular context in which they live (Ruiz, 1994). Environmental education has become a process in the perspective of bioregional development (Traina & Darley-Hill, 1995) and emphasizes a pedagogy of place or place-based environmental education, as proposed by Orr (1992). A dialogue among various types of knowledge (disciplinary and non-disciplinary) is advocated as a strategy for creating critical knowledge that could be useful in resolving problems or developing local projects (Patiño et al., 1994). Traditional, experiential, and concrete everyday knowledge is emphasized and held up against “scientific” knowledge —to determine how they challenge and complement each other. In the 1980s, the representation of the environment as a place to live, associated with the idea of the environment as a community project, made it possible to broaden and to give a new meaning to the conceptions of the environment as nature, as a resource, or as a problem.

However, the 1990s have seen environmental education take a step backward in the official international discourse. Reduced to a tool for sustainable development, environmental education has been jostled in the paradigm of modernity. The recent change of editorial policy in the UNESCO magazine *Connect* (Colin, 1997), which has hitherto been devoted to environmental education, now limits the educational niche of environmental education to the disciplinary fields of science and technology.

In this changing context, contemporary environmental education is characterized as a conceptual issue, narrowly related to the many problems posed by its practice. I shall discuss this conceptual issue briefly before analyzing the proposals of education for sustainable development/sustainability/a sustainable future.

### **The Conceptual Issue of Environmental Education**

During the past decades, in its diverse fields of application, environmental education has given rise to a wide range of conceptions, from the broadest to the narrowest. Some feel that, since the environment is “everything that surrounds us” and we ourselves are an environment (McInnis, 1972), environmental education is simply a “new education” and the related discourse is typical of a progressive general education. This is often the case with interveners who “discover” education through their new concern with environmental education and confuse the two.<sup>6</sup> Others feel, however, that environmental education is closely linked with the teaching of ecology or environmental sciences. Between these two extremes, we find a broad range of conceptions (Sauvé, 1997a, 1997b), one of which is “ecocivism,” a normative approach focusing on the duties and responsibilities of individuals with respect to, above all, collective resources.

From modernist perspectives, searching for unity and universal values, the multiplicity of these conceptions and practices is problematic. There is a need to define standards that would help to make environmental education more uniform.<sup>7</sup> However, from postmodern perspectives, emphasizing diversity and contextual relevance, these multiple conceptions can be seen as different and possibly complementary approaches to the hyper-complex object of environmental education—the network of relationships among persons, social groups and the environment. Indeed, it would be difficult to encompass the extreme complexity of this object in a single pedagogical proposal. The multiplicity and diversity of views, discourses and practices of environmental education seem useful to consider in its totality, providing that pedagogical choices are coherently designed, contextually adapted, and justified within an explicit reference framework.

The problem here is not the existence of a wide range of conceptions of environmental education. Rather, it is the fact that there is often a wide gap between discourse and practice (rarely clarified), and this leads to confusion and a loss of effectiveness. It is also a lack of recognition of boundaries that define the specific educational niche of environmental education such

that can be grasped, yet not limited to one of its components, prerequisites or attendant concerns, or lost in a diffuse and undifferentiated whole.

The “space” of environmental education corresponds to the third of the following three interpenetrated spheres of interaction where the basic development of a person occurs (Figure 1):

- First, there is the sphere of the self, the zone of identity where a person develops by confronting him or herself (clarifying his or her own characteristics, capacities, limits), where autonomy and responsibility for oneself develop, where a person learns to learn, learns to define him or herself and to relate to the other spheres.
- In the sphere of otherness, people interact with others, either individuals or groups. This is where a sense of belonging to a group develops as well as a sense of responsibility for others. Here we also find for example, cooperation, intercultural relationships, peace, democracy, human rights and international solidarity education.
- The third sphere is the domain of environmental education. It is the sphere of relations with the biophysical environment, conveyed through the sphere of interpersonal and social relations. It includes those elements of the milieu that do not specifically belong to the zone of human otherness. A different sense of otherness is involved here and education for responsibility may expand into an ecocentric ethic. This third sphere concerns relationships with other living beings and the biophysical elements and phenomena of ecosystems, whether their origin is natural, anthropic or a combination of these (which is more common since nature and culture intermingle within environmental realities). It is in this sphere of interaction that a sense of being part of the global pattern of life develops within a person. We also find here the integration of ecological education and economic education, both related to an individual’s and a society’s relationship to the “home”—*oikos*. Ecological education helps to understand our “home” and find an appropriate niche within it. Economic education helps to manage our relationships of consumption, organization, and exploitation of the environment as a “home” (it is not, in fact, a question of managing the environment but of “managing” our own choices and behaviours in relation to it).



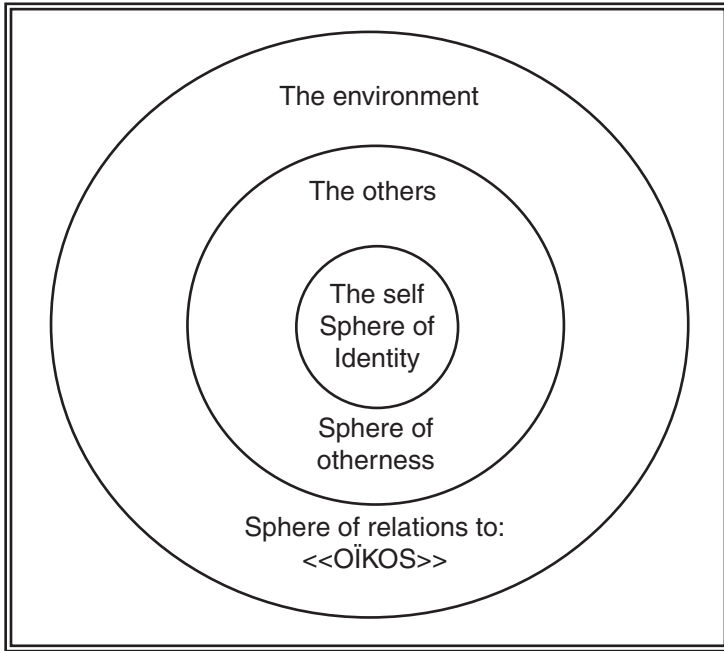


Figure 1. The three interrelated spheres of personal and social development.

For sure, any attempt to model a complex reality will never be perfect. Despite its limits, however, this model of three interpenetrating spheres makes it possible to find a specific and multidimensional educational area for environmental education. The third sphere, the one of environmental relationships, refers to a field of interactions essential for the full development of the person and his/her related social group. In this sense, environmental education is really a fundamental dimension of education. It is not a subsidiary or instrumental aspect or one theme among many others. Furthermore, on a global educational perspective, environmental education is closely linked with the other dimensions of contemporary education which are part of the sphere of alterity (peace, human rights, intercultural relationships . . . educations), with which it shares an ethical framework (responsibility, care, solidarity), similar pedagogical approaches, similar strategies for integration into formal education and the same call for partnership with an educational society.

## The Issue of Environmental Education Practice

The conceptual issue of environmental education is combined with problems raised by its practice. The limits of environmental education already appeared in the Tbilissi Declaration (UNESCO, 1978), which proposed a reactive role in problem solving for environmental education. Some speak of the "Tbilissi affair," which included environmental education in the realm of instrumental rationality (De Potter, 1997). Moreover, in the absence of adequate resources and conditions, environmental education has generally not been satisfactorily implemented in either quantitative or qualitative terms. It has often been reduced to nature education or has been limited to consideration of the topic of waste management as an element of civic education. It has been associated above all with the acquisition of knowledge about the environment, giving very little room to the development of ethical and critical competencies. While the goal of environmental action is increasingly considered by educators, the action taken is usually instrumental in nature and rarely reflective. Of course, reference could be made to many exemplary projects that testify to a rich and global environmental education approach and effective processes; substantial advances may be observed here and there. Nevertheless, the record is not impressive with regard to the importance of the social, environmental and educational challenges at issue (Torres, 1996; Sauvé, 1997b).

A number of critics, including both "naturalists" (for example, Steve Van Matre, 1990) and proponents of sustainable or sustainability education (for example, Sterling, 1996) note that environmental education has not fulfilled its mission and that hopes for change have not been satisfied. The temptation to deny the very relevance of environmental education is, at this point, all too seductive without a distinction being made between its application and the actual essence of this dimension of education. For example, environmental education is criticized for viewing problems from a biophysical environmental perspective and failing to take into account the human aspects of a situation. However, despite its emphasis on present problems more than on a vision of future projects, the Tbilissi Declaration proposed an integrated approach to environmental realities, highlighting the close connection between economic development, environmental conservation, and the need for global solidarity (Flogaitis, 1997). Rather than discrediting environmental education, would it not have been better to acknowledge the obstacles posed by the social and educational context in which environmental education has attempted to implement itself and the lack of resources allocated to its development?

The description of the historic evolution of environmental education, the clarification of its characteristics and the discussion of its current problems allows me to now analyze recent proposals of education for sustainable development and education for a sustainable future. These proposals are usually presented as a reaction to the limits of environmental education, as perceived by proponents, and appeal to the authority of the 1992 Earth Summit in Rio de Janeiro.

### **The Proposal of Education for Sustainable Development**

Like environmental education, and despite its most recent history, education for sustainable development is also a product of modernity. It emerged in reaction to the “progress” of western civilization caused by the exhaustion of resources and the destabilization of social balances of power. The concept of sustainable development (IUCN, 1980; WCED, 1993, 1987) stresses the close links between the economy and the environment (as does environmental education), but it emphasizes the developmental pole of the problematic. The environment becomes a constraint that must be taken into account in order to maintain the trajectory of development. Mastery of nature takes the form of control or management of the environment.

I shall argue that the proposed education for sustainable development does not correspond to a change of epistemological, ethical, or strategic paradigms, but to a progressive form of modernity that aims to preserve values and practices of modernity. This, in turn, promotes an instrumental rationality based on scientific and technological knowledge. The concept of sustainable development has been interpreted in many different ways and has also been the subject of such semantic inflation that it now includes every good intention in the world. However, in this article, I refer to the essential meaning of sustainable development, as specified in the Brundtland Report (WCED, 1987), and related to the conservationist tradition, as a type of development that is concerned about responding to the needs of actual populations without compromising the resources required for future generations.

The concept of sustainable development emerged from a compromise historically negotiated among various social partners on the World Commission on Environment and Development. Sociologist Jean-Guy Vaillancourt (1992) notes that the concept of eco-development was first proposed by Ignacy Sachs and Maurice Strong, among others. This concept leaves less room for ambiguity: it combines development with

consideration of the basic ecological principles and with an ecological ethic based on the values of autonomy, solidarity and responsibility for the socio-environmental realities. As Vaillancourt points out, however, any explicit reference to ecology or environment appeared very irritating to many actors in the political and economic spheres. The concept of sustainable development was adopted specifically because of its very vagueness in terms of the actual type of development involved, other than that it could be sustained. As a result, many people felt comfortable with the term; they could interpret it as they wished. This is one of the features of modern communications as noted by Sfez (1992), since it is deliberately confusing and says everything and nothing at the same time.

Thus, “sustainable development” was a shrewd slogan that made it possible to start an initial dialogue (superficial though it might have been) between the worlds of business and politics and the world of the environment. Realistically speaking, given the prevailing emphasis on economics, assumptions can be made that it was one of the few keys available for change. Moreover, the strategy proved fruitful: environmental aspects of projects were henceforth recognized as an obligatory concern (constraint) in economic development and increasingly taken into account by decision-makers.

In some current situations, and for certain specific objectives, the concept of sustainable development may prove to be a judicious choice (given the initial culture of the protagonists) and deserves use by political decision makers, or by those in business, as an incentive for environmental action. It may be considered as a first step towards the development of a deeper social and environmental ethic.

However, the situation is completely different in the field of education, which involves the development of ethical and critical competencies in children and in the public in general—competencies concerning meaning of realities in their living milieu and meaning in their personal and collective journeys. The analysis below shows that sustainable development cannot be proposed and even less imposed as a goal of education. First, it poses many problems of conceptual, ethical and cultural natures.<sup>8</sup> Second, it does not, in any way, refer to an educational foundation but rather to a contextual choice made by some social actors at a specific historical moment.

### Conceptual Issues

The expression “development” implies the idea of a trajectory. The expression “sustainable development” does not indicate the object or the direction

of this trajectory. Usually, a brief analysis of discourses will show that it means “economic development” (solely or primarily). In this regard, the expression “sustainable development” quickly becomes an oxymoron (Disinger, 1990) and leads to absurd notions such as sustainable economies based on mining, as proposed by the mining industry in western Canada (Jickling, 1997).

Paradoxically, and as noted earlier, it is precisely the conceptual vagueness, so characteristic of this expression, which gives the sustainable development strategy all its strength (or weakness, depending on the viewpoint), since it can lead anywhere. The statement by McPeck (1981) concerning critical thinking could very well be applied to sustainable development: “For very often with such matters approval diminishes in inverse proportion to the clarity with which they are perceived” (p. 1).

It is well known that there are many different definitions of sustainable development (Sauvé, 1996). Wolfgang Sachs (1996) suggests three ways of looking at sustainable development. Observe how his perspectives (in italics) are related to a security crisis:

- *From the fortress perspective, the people of the North fear the dangers of the boomerang effect of the misery in the South and view sustainable development as the viability of their own type of development, sheltered from global threats. The North is the savior and the fortress can resist only if it propagates its own development model.* It will be seen that a number of sustainable development training programs are geared to this instrumental approach (transmission of scientific knowledge, technical expertise and management skills), which proposes a means of achieving a goal that has not been clarified or discussed.
- *From the astronaut's perspective, the entire Earth becomes an object of management: only a new world order can save the Earth and provide the yardsticks that will ensure that development is sustainable.* The planetary, global or international perspectives that are proposed for education today often adopt an ethic of the astronaut.
- *The endogenous perspective proposes an alternative form of development. The growth economy threatens subsistence economies and threatens the very basis of human existence and, in the longer term, those of the biosphere. In this context, for many communities, “sustainability” means nothing more than resistance to development. The endogenous perspective involves a search for something beyond development (Esteva, 1996), sheltered from cultural disintegration and the disintegration of small economies.*

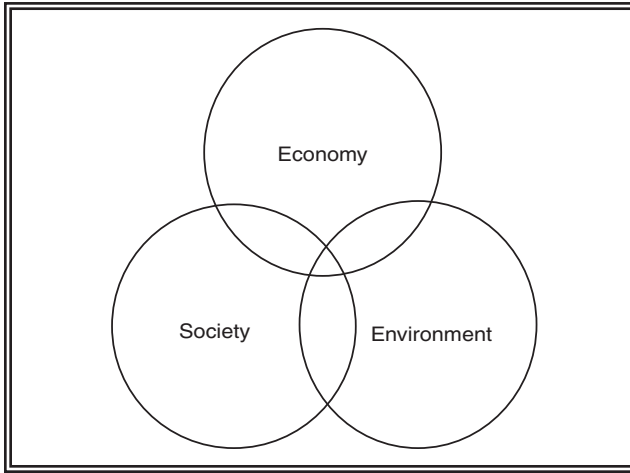


Figure 2. The conceptual structure of sustainable development.

Certainly, many educators who advocate education for sustainable development have dissociated themselves from the first of these perspectives. However, it remains the key to explaining many of today's political and economic decisions.

For example, the President's Council on Sustainable Development (1997, p. 98) advocates sustainable development as a means of maintaining the "American dream" and points out that one of the objectives of education for sustainable development is to increase national competitiveness in a global economy. Here, in highly explicit form, we have the logic of modernity.

Otherwise, the conceptual scheme of sustainable development (Figure 2) represented by three interconnected circles (or by a triangle) is extremely problematic. This scheme presents the sphere of the economy as outside society and not as an integral component of social choices: it is a supra-entity that governs the relationship between society and the environment, and it is in the economic sphere that development takes place. Of course, this represents the actual domination of the global economy which is supremely alienating for societies and an obstacle to endogenous development (which is also called autonomous development or alternative development). However, as Jickling (1993) has noted, if it is important to educate about this reality called sustainable development since it is a phenomenon of contemporary society, it seems otherwise clearly unacceptable to educate *for* it.

## Ethical Issues

The conceptual issue of education for sustainable development is also associated with an ethical issue. Indeed, sustainable development proposes the sustainability of the development itself as a “goal of humanity” (UNESCO, 1988). Moreover, sustainability is viewed as a supreme value on which all other values must converge such as respect, solidarity, responsibility and so on. The relationship with the environment is subordinate to economic development: the only issue is not to exceed the carrying capacity of the environment while meeting the needs (which are not discussed) of current and future western-style societies. Sustainability becomes the basis of the ethical system of the proposed educational reform.

Of course, it is quite legitimate and necessary to be concerned about the fate of one’s children and grandchildren. The concept of a transgenerational community put forward by Shalit (1995) seems promising in this regard. It can also be assumed, as Jonas (1984) does, that it is the indeterminate future, much more than actual time-space for action, that constitutes the relevant horizon of responsibility. It is another thing, however, to elevate sustainability to the status of a supreme value. Is it for some social actors no more than a book-keeping value that underlies the concern to ensure the sustainability of resources in the interest of sustainability of supplies and profits? From this perspective, solidarity is viewed as a tool of sustainability: as markets are globalized and the world’s resources are pooled (for the benefit of the multinationals in particular), the “tragedy of the commons” (after Hardin, 1968) must be avoided as well as the conflicts that could emerge from the forgetfulness or the abusive exploitation of certain populations. The narrowly anthropocentric ethic of the modern “fortress” becomes all too evident here.

Otherwise, is it ethically acceptable to “educate” by inculcating pre-determined choices (Jickling, 1993), especially if they impose on us a global economicist project that is out of our control? Is it ethically acceptable to restructure education around a concern for (economic) development and to hope that it will be sustained, particularly in our societies where people have not yet learned to be and to live here and now. Is it ethically acceptable to export, and impose, the concept of sustainable development on current and future populations or groups who might wish to propose other frames of reference?

Certainly, those educators who advocate education for sustainable development or sustainability will not agree with such criticisms. They will argue that the “true meaning” of sustainable development is not understood.

The term “sustainable development” will be replaced by “sustainable future” or “sustainable world” or simply by “sustainability.” A distinction will be made between weak sustainability and strong sustainability (see, for example, Huckle, 1996). If it is to satisfy a more fundamental educational ethic, the framework of sustainable development must be reinterpreted or reformulated. Why then do we simply not change the framework since it is obviously problematic?

### *Cultural issue*

In addition to posing conceptual and ethical problems, the concept of sustainable development is also associated with a cultural issue.

The meaninglessness of such universal statements (*found in education for sustainability*) and the arrogance of the white, upper middle-class, educated, professional men who develop such statements, shines through. We need to be encouraging people to deconstruct these statements for the value they embody and the perspectives they contain . . . . (Gough, 1998, p. 168, emphasis added)

Survival insurance (*which is the concern of sustainable development*) can become a dominant imperative only in a society that cannot prevent itself from testing the limits of nature. For any other it has no importance. (Sachs, 1996, p. 80, translation, emphasis added)

The opening to Amerindian, Oriental or African cultures, in particular, suggests other ways to relate to time. Such ways are not projected solely into the future, but have roots in the past and focus on the present, and seek ways to achieve a unity of “beings and things” and harmony here and now (Zeromski, 1997). The concept of “development,” as adopted in the West, does not exist in these cultures where balance with the environment does not have to be interpreted as a special kind of (sustainable) predation, or taking. Rather, this balance is related to a cosmology completely different from ours, a cosmology that has nothing to do with the modern paradigm of sustainable development or with the romantic explanatory theories we could be tempted to elaborate. These cultural realities also remain beyond the reach of the modern/postmodern analytic framework.

Since it is a question of determining the “goal of humanity” and finding a global educational project, it is important not to mark such a proposal with cultural references that will not be recognized by the most populous half of our planet. Concerning education for sustainable development, Batchily Ba (1997) of West Africa hopes that the same educational objectives as are adopted in the Americas would not be foisted onto African peoples



experiencing other realities and problems: "It is not sustainable development that we need to manage at this time but day-to-day survival." Moreover, Batchily Ba regrets that the appearance of new names (sustainable development and sustainable future) harms efforts to legitimize and stabilize environmental education. These efforts have proved too costly for the poor countries and for the international community. It is regrettable that the international authorities change the fundamental orientation of education along with short-lived (non-sustainable) and hegemonic proposals.

### **Pedagogical Observations**

Two observations on the pedagogical aspects of education for sustainable development need to be made here. On the one hand, we often find, as is true of environmental education, the same enthusiasm as is felt by someone who discovers education, or gains new insights into education, through his or her involvement with education for sustainable development/sustainability/a sustainable future (which seems to be a valuable and positive spin-off). These proposals become synonymous with pedagogical renewal. The specific nature of education for sustainable development is confused with the pedagogical approaches adopted, which are otherwise presented as being specific to education for sustainable development or education for a sustainable future or education for sustainability. Thus, we find in some discourses (for example Tilbury, 1995) a list of pedagogical characteristics attributed to education for sustainable development that in fact repeat the same elements that were associated with environmental education 20 years ago and which are, for the most part, characteristics of the general progressive movement in education.

However, despite the innovative pedagogical strategies and approaches proposed, the official discourse of education for sustainable development (especially that in UNESCO, 1992, p. 14) follows the rational-technological paradigm of education described by Bertrand and Valois (1992). It involves a typical modernist position which associates education for sustainable development with a transfer of scientific and technological knowledge and considers education to be a means for placing human potential, as other forms of potential, in the service of economic growth. This idea has a resonance in certain national policies (following the international education for sustainable development program) calling for the creation of "educational brigades to promote sustainable development." Obviously, there is not much place here for the development of critical thinking.

It is important, however, not to confuse the concept of sustainable development, the relevance of which as a basis for education is eminently questionable, with the concrete pedagogical proposals made by the designers of materials and with the teaching-learning projects of educators. If the problem arises at the level of the ideological foundation and the policies underlying the education for sustainable development movement, many of the current practices covered by this label are genuinely relevant to the changes in pedagogical practices that are necessary to ensure that education help us cope with the challenge of making the necessary social changes. Many educators take only the hope for socio-environmental transformations from sustainable development and, in their view, discourses and concepts are not very important.

Finally, it must be recognized that the proponents of education for sustainable development are generally well intentioned. It will be seen, however, that they are often people who are appointed to participate on committees or commissions because of their social and professional position but who unfortunately have never had a chance to think about education itself on the basis of specific philosophical and ethical insights; therefore, they improvise in this area from the perspective of other concerns of a political or organizational nature. Let us consider also those people who confirm the urgent need “for educational action” and strategically agree to use a “sales-pitch” to promote the development of a more substantial education project. Different social actors use the same words but they use them to mean anything they wish. While such a situation may be justified in some cases, given the constraints or cultural context in which decisions take place, it remains that in education, where the aim is to develop critical and ethical competencies, a strategic concession of this kind can only be provisional.

### **The Proposal of Education for a Sustainable Future**

Because of the conceptual, ethical, and cultural problems associated with sustainable development, many criticisms have been made, specifically by those involved in the world of education. In reaction to these criticisms, a new expression has come into being: Education for a sustainable future, also referred to as Education for a sustainable world or Education for sustainability.

The idea of sustainable future appears less problematic (less economicist) than the one of sustainable development. It refers to a type of development which provides food and health, so as to sustain human life

(as in the Spanish expression “sostentarse”). It has a halo of positive connotations, including the image of an evolutionary trajectory, especially promising for “developing” countries. Moreover, the proponents of education for a sustainable future and education for sustainability challenge certain narrow conceptions of sustainable development and insist on the necessity of a contextually relevant re-definition of sustainability (Trélez Solis, Wilches-Chaux, & Torres, 1998). The sustainable future proposal includes a large number of interesting elements that could indeed promote the development of education and societies. It would already be a major change of direction if these recommendations were implemented! But too many discourses on sustainable future (including the official international discourse) are still centered on the concept of sustainable development “that feeds on both the warnings of the defenders of the environment and the arguments of economists in favour of development” (UNESCO, 1997, p. 17). The concept of a sustainable future seems in many respects to be a new label for one and the same educational project.

It should be realized that the concept of a sustainable future is based on an essentially anthropocentric ethic that must at least be questioned: “It is necessary to imagine a new and sustainable relationship, over time, between humanity and its habitat; a relationship that places humanity at centre stage without forgetting however what is happening in the sides . . .” (UNESCO, 1997, p. 17). This ethic of the future, which is designed to be a planetary ethic (p. 42), feeds on the “heuristics of fear” (Hans Jonas, 1984). The goal that everyone seeks to attain is a condition of “human security” (UNESCO, 1997, p. 16). This concern is certainly quite legitimate, but it is insufficient to provide the basis of an ethical system for integral human development. Moreover, the distancing between subject and object, between human and nature, can be found quite explicitly in the proposal of education for a sustainable future. Thus, faith in technology is central to this approach in order to maintain “the dynamic equilibrium” of sustainable development (p. 16). Obviously, the official discourse of education for a sustainable future, as the one of education for sustainable development, is bathed in the paradigm of modernity which appears inadequate for a reconstructive educational project.

Moreover, the value of sustainability associated with the future seems to be quite minimal. Is not sustainability the smallest (and vaguest) goal that can be proposed? Is it possible to mobilize generations for such a small and distant promise, especially the younger generation, whose significant future prospects are limited to short or medium terms? Finally, is not the idea of acting now on the basis of the future essentially a Judaeo-Christian

approach: suffering on earth so that “we” (who?) might go to heaven later?

Certainly, as is true of sustainable development, it is important not to confuse the concept of a sustainable future, whose relevance as a basis of education is questionable, with the concrete pedagogical proposals that the designers of teaching materials and educators subsume under this term. We could refer, for example, to the work by Fien (1996) which opens the door to a relevant contemporary education that takes into account the central social and environmental challenges of today.

### **Education for the Development of Responsible Societies**

In our search for an integrating framework for the various contemporary dimensions of education in which environmental education could find an adequate niche, we have analysed the proposals of education for sustainable development and education for a sustainable future or for sustainability. The analysis has shown that these suggestions are problematical and are ill equipped to provide an appropriate base for education.

Among the other comprehensive educational frameworks currently considered for contemporary education, education for the development of responsible societies is of particular interest. It is based on two sources, the first being the Non-Governmental Organization Treaty (Council of the Earth, 1993) which was produced in parallel to Chapter 36 of the Agenda 21 during the Earth Summit in Rio: *Environmental Education for the Development of Sustainable Societies and Global Responsibility*. The second source is the platform proposed by the Fondation pour le Progrès de l’Homme (FPH, 1997) entitled *Pour un monde responsable et solidaire* (for a world of responsibility and solidarity). What these proposals have in common is that they adopt an ethic of responsibility. They take into account one of the fundamental issues in the current crisis, namely the rupture between human being and nature. They include all three interrelated aspects of this crisis: the relationships of humans with one another, the relationships within societies and between societies, and finally the relationships between humans and nature. Thus solutions to perceived problems can be considered only in light of the retroactive dynamic between these three types of relationships (see also Bookchin, 1990). Environmental education here forms part of education for global responsibility:

There is no need . . . to debate the relative claims of nature and man when it comes to the survival of either . . . in fact, the two cannot be separated without making a caricature of the human likeness—since, rather, in the matter of preservation or destruction the interest of man coincides,

beyond all material needs, with that of life as his worldly home in the most sublime sense of the world—we can assume both duties as under the heading “responsibility toward man” without falling into a narrow anthropocentric view. Such narrowness in the name of man, which is ready to sacrifice the rest of nature to support his needs, can only result in the dehumanization of man, the atrophy of his essence even in the lucky case of biological survival. (Jonas, 1984, p. 136)

In the proposal of education for the development of responsible societies, we need to define the term development, as applied to the realization of the potential of persons and social groups to achieve a higher quality of “being.” The value of responsibility must also be explored so that its scope and relevance as a pillar of the proposed ethical system can be determined (see also Sauv , 1998a). According to Jacques Henriot (1995), “the field of ethics coincides with that of responsibility” and it is ethics itself which is involved in each decision that is made.

We should first distinguish between two conceptions of responsibility. There is the narrow one, associated with caution, respect, and the application of rules in a legalist framework; this is a shallow responsibility, which is instrumental and can be seen as having the characteristics of modernity with its individualist and anthropocentric focus. However, there is also a deeper responsibility or integral responsibility which shares some of the characteristics of reconstructive postmodernity: a union of subject and object, of humans and nature (fundamental solidarity), between being and doing (authenticity), as well as consideration of the context of places and cultures where this responsibility is exercised. This second conception leads us to clarify the close connections between responsibility, consciousness, lucidity, reflectivity, freedom, autonomy, authenticity, commitment, courage, solidarity and care (Sauv , 1998a). From this perspective, the ethic of responsibility seems to be clearly more capable of providing a basis for a global educational project than the ethics of sustainability or viability. In the end, it is to this ethic of integral responsibility that the proponents of the “strong sustainability” movement refer. But, obviously, the conceptual framework of sustainability has to be inflated or distorted to correspond to such a deep ethic. Responsibility is not easy and has no demagogic appeal. If sustainability is an optimistic goal, responsibility is a demanding process.

The proposal of education for the development of responsible societies must still be clarified and debated and passed through the crucible of critical discussion among those involved in education. A priori, however, it would seem that it provides an integrating ethical framework that is more

appropriate than those of education for sustainable development/sustainability/a sustainable future for including and developing environmental education. Environmental education needs to find an adequate niche in a comprehensive educational project so as to contribute to a real “ecodevelopment,” meaning an integral social development of an endogenous nature based on responsible participation by all the members of the social group. In this case, the prospects for economic development are subjected to a global social project that is relevant in light of the cultural and bioregional context, and that is aimed at a harmonious reconstruction of the network of relations among persons, society and the environment.

### **In Conclusion**

At the end of this brief analysis, in order to ensure that the current debate avoids any crucial misunderstanding, we must stress that what is at stake is not the disappearance of environmental education or its replacement by something else (a fear expressed by Knapp, 1998). Certainly, environmental education is disturbing, especially if it is associated with social and educational criticism that questions common ideas and practices, and if it requires an effort of deep commitment and transformation. However, the specific nature, the legitimacy and the importance of environmental education cannot be questioned. Through the debates concerning the determination of its educational niche and theoretical basis, environmental education remains a fundamental and unavoidable dimension of contemporary education. It is not a mere fashion, a slogan or a label.

What is at issue is the search for a comprehensive educational framework in which we could integrate, in an optimal manner, different dimensions of contemporary education that contribute to the resolution of the main social and environmental problems of our world and construction of transformative projects. The challenge is to find the basis of an education capable of promoting an integral human development, to which environmental education offers an essential contribution. Finally, from a reconstructive perspective, it is a search for meaning, for significance in a worthwhile human journey. Unfortunately, it would seem that following the Thessaloniki Conference, UNESCO (1997) opted too soon for a reductionist proposal. However, the “affair” is not over, the debate is not closed.

## Notes

<sup>1</sup>The reports and testimony of various participants in international workshops and meetings on the questions of education for sustainable development (e.g. UNESCO, 1997, 1995) show that no such consensus exists. Should we perhaps speak of lobbies rather than of a consensus?

<sup>2</sup>For a critical exploration of the concepts of modernity and postmodernity, the reader may refer, among others, to the following authors: Charlene Spretnak (1997), Michel Freitag (1996), Philippe Englehart (1996), Thierry Hentsh (1996), Anthony Giddens (1990) and Jean-François Lyotard (1984). John Huckle (1996) in particular, provides an interesting analysis of these trends in light of the different conceptions of sustainable development.

<sup>3</sup>Among the authors who have considered postmodernity in education are David Orr (1992), Stanley Aronowitz and Henry A. Giroux (1991), Cathleen C. Loving (1997) and Mark A. Constat (1998a, b).

<sup>4</sup>A typology of representations of the environment is provided by Sauvé (1997a and 1996).

<sup>5</sup>Following Spretnak (1997, p. 135), romanticism has developed in reaction against the erection of the "pillars" of the modern ideology.

<sup>6</sup>It is interesting to note that some discourses about interdisciplinarity reflect the same enthusiasm and beliefs, criticize the same limits and share the same hopes as many discourses in environmental education. In an article by Ivani Fazenda (1998), for example, if the word "interdisciplinarity" were replaced by environmental education, we would have a typical plea for environmental education in this broad sense.

<sup>7</sup>See the *Canadian Journal of Environmental Education*, 2, for a debate on this subject.

<sup>8</sup>Many authors have criticized the problems relating to the concept of sustainable development, including Disinger, 1990; Slocombe and Van Bers, 1991; IDRC, 1992; Orr, 1992; Jickling, 1992, 1993; Mead, 1994; Plant, 1995; Esteva, 1996; Sachs, 1996; Huckle, 1996; etc.

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## References

- Aronowitz, S. & Giroux, A. (1991). *Postmodern education: Politics, culture and social criticism*. Minneapolis: University of Minnesota Press.
- Batchily Ba, M. (1997). Presentation to the Conference / debate at the Forum international francophone de l'éducation relative à l'environnement Planet'ERE. Montreal. November 6-11. 1997.
- Bertrand, Y. & Valois, P. (1992). *École et sociétés*. Montreal: Éditions Agence d'Arc.
- Bookchin, M. (1990). *The philosophy of social ecology*. Montreal: Black Rose Books.
- Colin N. P. (1997). A happy union: The INISTE connection. *Connect: UNESCO International Bulletin on Scientific and Technical Education and Environmental Education*, 23(1), 2.
- Constas, M.A. (1998a). The changing nature of educational research. *Educational Researcher*, 27(2), 26-33.
- Constas, M.A. (1998b). Deciphering postmodern educational research. *Educational Researcher*, 27(9), 36-42.
- Council of the Earth (1993). *Environmental education for sustainable societies and global responsibility*. NGO Treaty as part of the Global Forum. Rio de Janeiro, June 1992.
- Delors, J. (1996). *L'éducation, un trésor est caché dedans*. Report to UNESCO by the International Commission on Education for the 21st century. Paris: UNESCO.
- Dionne, L. (1995). *Globalisciences - Recueil d'activités en éducation dans une perspective mondiale*. Montreal: International Development Research Center (CRDI/IDRC) and Association des professeurs de sciences du Québec.
- DePotter, G. (1997). *Enjeux de la recherche en éducation relative à l'environnement*. Presentation to the International Colloquium on Research in Environmental Education. Université du Québec à Montréal. November 5-6, 1997.
- Disinger, J. (1990). Environmental education for sustainable development. *Journal of Environmental Education*, 21(4), 3-6.
- Engelhart, P. (1996). *L'Homme mondial - Les sociétés humaines peuvent-elles survivre?* Paris: Arléa.



- Esteva, G. (1996). Au-delà du développement. In W. Sachs & G. Esteva (Eds.), *Des ruines du développement* (pp. 87-138). Montreal: Écosociété.
- Fazenda, I. (1998). La formation des enseignants pour l'interdisciplinarité: une synthèse de recherches effectuées au Brésil. In Y. Lenoir & L. Sauvé (Eds.), *Interdisciplinarité et formation à l'enseignement primaire et secondaire. Revue des sciences de l'éducation*, 24(1), 95-115.
- Fien, J. (1996). *Learning for a sustainable future*. Paris: UNESCO.
- Flogaïtis, E. (1997). *The contribution of environmental education in sustainability*. Presentation to the Conference on Environment and Society: Education and Public Awareness for Sustainability. Thessaloniki, Greece. December 8-11, 1997.
- Fondation Charles Léopold Mayer pour le progrès de l'Homme (FPH). (1997). *Alliance pour un monde responsable et solidaire*.
- Freitag, M. (1996). Le dilemme des sciences sociales dans la postmodernité: étudier et orienter la société ou produire le social. In M. Rafie (Ed.), *Les sciences humaines: Etat des lieux* (pp. 129-141). Québec: Les Presses de l'Université Laval.
- Global Perspectives in Education Inc. (1987). *Report on the Study Commission on Global Education*. New York.
- Giddens, A. (1990). *The consequences of modernity*. Stanford: Stanford University Press.
- Giordan, A. & C. Souchon (1991). *Une éducation pour l'environnement*. Nice: Les Z'éditions.
- Gough, A. (1998). *Education and the environment: Policy, trends and the problems of marginalization*. Melbourne: The Australian Council for Educational Research.
- Griffin, D.R. (1992). Introduction to SUNY Series in Constructive Postmodern Thought. In D. Orr (Ed.), *Ecological literacy, education and the transition to a postmodern world*. New York: State University of New York Press.
- Hardin, G. (1968). The tragedy of the commons. *Science*, 162, 1243-1248.
- Henriot, J. (1995). *Responsabilité*. Encyclopaedia Universalis 19. Paris: Encyclopaedia Universalis.
- Hentsch, T. (1996). Sciences humaines et (post)modernité: postérité d'un non-lieu. In M. Rafie (Ed.), *Les sciences humaines: état des lieux* (pp.3-13). Québec: Presses de l'Université Laval.
- Huckle, J. (1996). Realising sustainability in changing times. In J. Huckle, J. & S. Sterling (Eds.), *Education for sustainability* (pp. 3-17). London: Earthscan Publications Ltd.
- Hungerford, H., Litherland, R.A., Peyton, R.B., Ramsey, J.M., Tomera, A.M., & Volk, T.L. (1992). *Investigating and evaluating environmental issues and actions: Skill development modules*. Champlain: Stipes Publishing Company.
- International Union for the Conservation of Nature and Natural Resources (IUCN). (1980). *World conservation strategy*. World Conservation Union.
- Jickling, B. (1997). *Environmental thought, the language of sustainability and digital watches*. Paper prepared for the 6th International TOUCH Conference, Centre for Environmental Education and Ethics, Horni Marsov, Krkonose, Czech Republic, April 26 to May 2, 1997.
- Jickling, B. (1993). Studying sustainable development: Problems and possibilities. *Canadian Journal of Education*, 19(3), 231-240.
- Jickling, B. (1992). Why I don't want my children to be educated for sustainable development. *Journal of Environmental Education*, 23(4), 5-8.

- Jonas, H. (1984). *The imperative of responsibility: The search of an ethics for the technological age*. Chicago: The University of Chicago Press.
- Knapp, D. (1998). The Thessaloniki Declaration: The beginning of the end of environmental education? *Environmental Communicator*, 8(2), 12-14.
- Loving, C.C. (1997). From the summit of truth to its slippery slopes: science education's journey through positivist-postmodern territory. *American Educational Research Journal*, 34(3), 421-452.
- Lytard, J.-F. (1984). *The postmodern condition*. Manchester: Manchester University Press.
- McInnis, M. (1972). *You are an environment*. The Center of Curriculum Design. Reprinted by the North American Association for Environmental Education. Troy, Ohio: NAAEE.
- McPeck, J. (1981). *Critical thinking in education*. Oxford: Martin Robertson.
- Mead, H. (1994). Quelques failles dans le Rapport Brundtland - L'évolution du concept de développement durable. In D. Messier, D. DeKoninck et C. Delisle (Eds.), *Acte du 18e Colloque de l'Association des Biologistes du Québec, 1993, Collection Environnement*, 17, 21-31. Montréal: Université de Montréal.
- Orr, D. (1992). *Ecological literacy, education and the transition to a postmodern world*. New York: State University of New York Press.
- Patiño, A.A. et al. (1994). Propuesta pedagógica para el desarrollo local ambiental - Una estrategia en construcción. Convenio Unicórdova - Municipio Planeta Rica.
- Plant, M. (1995). The riddle of sustainable development and the role of environmental education. *Environmental Education Research*, 3, 263-266.
- President's Council on Sustainable Development. (1997). *From classroom to community and beyond: Educating for a sustainable future*. Washington, DC: P.C.S.D.
- Projet des universités francophones de l'Est du Canada. (1995). *L'éducation dans une perspective planétaire: une passerelle vers l'avenir*. Mémoire présenté à la Commission des États généraux sur l'éducation. Montreal: Université de Montréal.
- Robottom, I. & Hart, P. (1993). *Research in environmental education*. Geelong: Deakin University Press.
- Ruiz, J.R. (1994). Grass-roots education and the environmental dimension of development. Environmental Training. Newsletter of the *Environmental Training Network for Latin America and the Caribbean*, 5(11), 10-13.
- Sachs, W. & Esteva G. (1996). *Des ruines du développement*. Montreal: Écosociété.
- Sauvé, L. (1998a). *Some clarification on the notions of education, responsibility and democracy*. In *The future of environmental education in a postmodern world?* Available: <http://www.ec.gc.ca/eco/education/splash.htm> [1998, Oct. 19]
- Sauvé, L. (1998b). *L'éthique de la responsabilité en éducation relative à l'environnement*. Forthcoming.
- Sauvé, L. (1997a). *Pour une éducation relative à l'environnement*. Montreal: Guérin, 2nd edition.
- Sauvé, L. (1997b). *Théories et pratiques de l'éducation relative à l'environnement à l'école secondaire québécoise*. Rapport de recherche. Montreal: CIRADE.
- Sauvé, L. (1996). Environmental education and sustainable development. *Canadian Journal of Environmental Education*, 1, 7-35.
- Sfez, M. (1992). *Critique de la communication*. Paris: Seuil.
- Shalit, A. de (1995). *Why posterity matters*. New York: Routledge.

- Slocombe, D.S. & Van Bers, C. (1991). Seeking substance in sustainable development. *Journal of Environmental Education*, 23(1), 11-18.
- Spretnak, C. (1997). *The resurgence of the real: Body, nature and place in a hypermodern world*. New York: Addison-Wesley Publishing Company, Inc.
- Sterling S. (1996). Education in change. In J. Huckle & S. Sterling (Eds.), *Education for sustainability* (pp. 19-39). London: Earthscan Publications Ltd.
- Tilbury, D. (1995). Environmental education for sustainability: Defining the new focus of environmental education in the 1990s. *Environmental Education Research*, 1(2), 195-212.
- Torres, Carrasco, M. (1996). *La dimensión ambiental: Un reto para la educación de la nueva sociedad* [The environmental dimension: A challenge for education in new society]. Bogotá: Ministerio de Educación Nacional.
- Traina, F. & Darley-Hill, S. (1995). *Perspectives in bioregional education*. Troy: NAAEE.
- Tréllez Solís E., Wilches-Chaux, G., & Torres, M. (1998). *Educación ambiental para un futuro sostenible en America Latina y el Caribe*. Documento. Lima, Popayan, Santafé de Bogotá.
- UNESCO. (1997). *Eduquer pour un avenir viable: Une vision transdisciplinaire pour l'action concertée*. International Conference on Environment and Society, Thessaloniki (Greece), December 8-12, 1997.
- UNESCO. (1995). *Interregional workshop on re-orienting environmental education for sustainable development*, June 26-30. Athens (Greece): UNESCO.
- UNESCO. (1992). *Reshaping education for sustainable development. Environment and development issues*. Paris: UNESCO.
- UNESCO-UNEP. (1988). Sustainable development via environmental education. *Connect*, 13(2), June 1988, 1-3.
- UNESCO-UNEP. (1978). *Final Report, Intergovernmental Conference on Environmental Education*, Tilissi (USSR), October 14-26, 1977. Paris: UNESCO-UNEP.
- UNESCO-UNEP. (1976). La Charte de Belgrade. *Connexion*, 1, 1-3.
- Vaillancourt, J.-G. (1992). Le développement durable ou le "compromis" de la Commission Brundtland. In Collectif. *L'avenir d'un monde fini. Cahiers de la Recherche Éthique* (pp. 17-44). Montréal: Fides.
- Van Matre, S. (1990). *Earth education: A new beginning*. Warrenville, Illinois: The Institute for Earth Education.
- World Conservation Union and Learning for a Sustainable Future. (1997). *Education and communication framework for a sustainable future in the Americas*, October 22, 1997. Draft - For discussion only.
- World Commission on the Environment and Development (WCED). (1993). *Agenda 21 - Sustainable development action program: Rio declaration on the environment and development*. United Nations Conference on the Environment and Development, June 1992, Rio de Janeiro, Brazil. New York: United Nations.
- WCED. (1988). *A future for all (Brundtland Report)*. London: Oxford University Press.
- Zeromski, A. (1997). *El campo de la ambientología* [The Field of Ambientology]. Presentation made as part of the 4<sup>th</sup> Congreso Iberoamericano sobre el Medio Ambiente. Contribución de la ciencia y la tecnología al desarrollo sostenible. Universidad Simón Bolívar, Caracas, December 8-11, 1997.