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How to Promote Education for Sustainable Development? Vision of the Educational Situation and Its Contribution to Sustainable Development

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Abstract: During the last decade, the importance of leaving a rational paradigm, debtor of functionalist and utilitarian models, towards another more congruent with the preservation of natural resources, and therefore of life, has been widely discussed. In the same way, different voices have been raised, pointing out the urgency of inserting these precepts into the educational field, hoping to achieve the true cultural transformation that is needed to consolidate the change. Multiple International Entities promote sustainability in Education as an initiative that should be ambitious, complex and reforming character, given the global scope of the social, economic and environmental situation affecting the planet. Through the exploration of the relationship between education, cultural change and sustainability, this work presents an overview of the educational situation in terms of its collaboration towards sustainable development from a critical vision of the objectives, foundations, challenges of environmental education and improvement opportunities; the aspects that positively impact on conceptual development and educational practice are argued, as well as the way in which new approaches of raising environmental problems and working towards a more sustainable future could be generated. Finally, certain proposed solutions are suggested.

Keywords: Education, Sustainability, Development, Environment

Introduction

“If the essence of community life is based on the possibility of elucidating and integrating the best features of the individuals that constitute it, it is necessary that education, as an instrument of socialization and critical attitude, adopt valid answers to the challenges that humanity is raising” (Novo, 2009).

During the last decade, the importance of leaving a rational paradigm, debtor of functionalist and utilitarian models, towards another more congruent with the preservation of natural resources, and therefore of life, has been widely discussed. In the same way, different voices have been raised, pointing out the urgency of inserting these precepts into the educational field, hoping to achieve the true cultural transformation that is needed to consolidate the change.

However, despite the multiple efforts, there is still a truly holistic, integrative educational proposal that assumes the postulates of the so-called sustainable development, which brings to fruition the systemic vision that underlies this perspective, leaving its genesis in a simple and plain ideological transcription, whose operative outline becomes the new pending subject.

Within this framework, countless debates and controversies have taken place on Education for Sustainable Development and its insertion in the dominant logic of the neoliberal current of the economy (González Gaudiano, Edgar J. 2006). Given this scenario, much remains to be done, especially in countries where arbitrary replication of pragmatic models is the common denominator (Villarruel, 2010). *Iberoamerican Journal of Education. Discussion.*

The UNESCO Organization in its conference “the decade of Education for Sustainable Development, 2005-2014” announced the importance of the will to improve the quality of life of all human beings, including that of future generations, reconciling the economic growth, social development and environmental protection.

On the other hand, contemporary education for sustainable development is considered today an educational proposal that aims to contribute to the indispensable but necessary processes of sociocultural change to build a sustainable future (Unesco, 2002).

This arises at both local and regional level, because its conceptual development has been promoted in conferences and international forums by multilateral agencies such as the (IUCN) International Union for Conservation of Nature, and the United Nations Educational, Scientific and Cultural Organization (Hopkin and MacKeown, 2002; Tilbury and Calvo, 2005). UNESCO states that the sustainability education initiative has an ambitious, complex and reforming character, given the global scope of the social, economic and environmental situation affecting the planet.

In essence, the decade of Education for Sustainable Development aims to promote solidarity in education that contributes to a correct perception of the state of the world, that is capable of generating responsible attitudes and commitments, and that prepares citizens to be able to make fundamental decisions aimed to the achievement of a culturally plural, social fairness and ecological and sustainable development, that goes beyond the classic anthropocentric positions and that is oriented to the search for more comprehensive and intelligent models of interaction with ecosystems.

It should be noted that the education movement for sustainable development is not homogeneous; its conceptual expressions and practices vary, and not always without tensions (Huckle and Sterling, 1996). However, there are elements that have been fundamental since its origin, and that are still promoted and developed by its main exponents. One of these elements is the critical practice, understood as a pedagogy that integrates both reflection and action (Tilbury, 2003).

This inspires two questions that put culture at the center of educational practice. Putting ourselves within a critical practice and in a context of globalization that often generates changes towards practices and unsustainable values within communities; What role should education play in the purpose of achieving the sustainable development and sustainability of human-natural systems? What to teach and how to teach for this purpose?

Parameters of an Educational Environment

It is important to note that the design of an environmental or sustainable education model is a paradigmatic activity that involves choosing certain fundamental appropriations with respect to the various basic concepts: what is nature and sustainability? How can this reality be known and how can it be taught and learned within education?

What can be found is that, within environmental education, the concept of sustainability according to Orr (1992) is unclear and presents contradictions, it also has several approaches and conceptual frameworks, often inconsistent. It is undeniable that Education for Sustainable Development (ESD) suffers from complicated issues that need to be addressed, but reflecting on its proposals can also drive progress in the various areas and on different insights.

This reflection is considered as a critical exercise that aims to contribute to the change towards a more sustainable future. It is worth mentioning that the proposal of the ESD has raised controversies and criticisms by some sectors related to the field of environmental education (Berryman, 1998; González-Gaudiano, 2003b; Jickling, 2000; Sauvé, 1998), controversies that have been reactivated after the entry into force of the United Nations Decade of Education for Sustainable Development (2005-2014) (ANEA, 2005).

Within this framework, the criticisms related to ESD are of a varied nature, from the process through which it was developed (González-Gaudiano, 2003b), its conceptual basis (Sauve, 1998; Jickling, 2000), to the lack of relevance in the introduction of a new concept in certain contexts (Arias, 1998; González-Gaudiano, 2003^a, 2003b, 2004; Sauvé, 1998), or even to the consideration of the lack of contributions of this approach to environmental education (Arias, 1998).

It is ambitious because it aims to prepare all people, regardless of their professions and social conditions, to plan, confront and resolve the threats that weigh on the sustainability of our planet (National Academy of Environmental Education, 2005).

Action plan for Sustainable Development in Educational Institutions

The initiative is reforming, because it states that education for sustainability focuses on underlying principles and values, instilled through education. It is concerned with the content and purpose of education and in more general terms, for all kinds of learning; it also about all the ways in which education is taught.

Consequently, education for sustainability also addresses pedagogical methods, validation of knowledge and the functioning of educational institutions (UNESCO 2005). This change of model requires diverse actions and instruments that transform our attitudes, our lifestyles, our patterns of social participation, and our conceptions of social instruments and ways of doing politics. These actions can be listed as follows:

- 1- Promote collaboration between educational institutions and government districts, as well as with productive entities, through the establishment of incentives and stimuli that promote this cooperation.
- 2- Establish mechanisms for technical and financial support to educational institutions.
- 3- Establish policies and instruments to promote the expansion and diversification of the educational offer that considers local, regional and national environmental priorities.
- 4- Establish policies and support instruments for the curricular restructuring processes of the existing academic programs with a view to incorporating sustainability content and approaches with a transversal perspective.
- 5- Involve educational institutions in programs of action, evaluation and dissemination that seek to improve the environment and the management of natural resources in works related to communities at the local level. In this sense, promote the linking of social service programs in the care of the solution and prevention of environmental problems.
- 6- Establish programs, in public organizations, to provide greater support to progress in research and technological programs on issues related to sustainable development, which favor the environmental reconversion of the productive plant (at public, private and social levels).

The challenge would then be to give priority to pedagogical and participatory aspects and to use other tools such as school environmental conferences, dynamics of motivation, awareness activities, pedagogical workshops, etc. At the local level, it would be:

- 1) Build sustainability from the educational centers knowing that it is a process in constant change and learning, which seeks the eco-social balance between human beings and nature, that leads to integrate sustainability habits in the daily life of the educational center;
- 2) Democratic participation of the entire educational community as an open structure in which all its members, especially students, have a place, and is linked to all aspects of the organization's life: planning, decision-making, action and evaluation;
- 3) Responsibility as a value that must be administered proportionally; it is not only about detecting where is the issue, but creating collective solutions and alternatives to the environmental problems of the Educational Institution and equity as a value that each member carries, whether student, teacher or institution to contribute according to their capacities and circumstances;
- 4) Interdisciplinary and holistic approach where aspects of the human being are contemplated: Physical, cognitive, social, emotional ..., in line with multiple intelligences and the work of basic competences;
- 5) Action-oriented learning, that is, creating the appropriate channels to develop opportunities for action in and from the educational establishment, understood as an attitude that is part of the reflection; and
- 6) Finally, Collaborative Learning and networking that aims to be a process in which members feel mutually committed to the learning of others, generating a positive interdependence.

On the other hand, environmental literacy actions do not have to be strictly individual or limited to school intervention, because sustainability frameworks require intervention from the society of knowledge, and from the multiplicity of professional contexts, socio-political, business, associative and non-governmental of each territory.

This intervention is related to the educational system that currently plays an important role in sustainable development, which is reflected, for example, in the process of its constitution; in the way it facilitates the meeting of educators from different disciplines and from different latitudes; in its way of promoting the global

vision of the problems, and the centrality of the concept of sustainability that allows us to understand the search for solutions in new terms.

Principles of Basic Education

Leff (2004) classifies education into two basic principles:

1. A new ethic that guides values and behaviors towards the objectives of sustainability and social equity; and,
2. A new conception of the world as complex systems, the reconstitution of knowledge and the discussion of experiences lived.

With a broader approach, which exceeds what is strictly school, Sterling (1996) - on his side - addresses the following points as ESD objectives:

- 1) Help understand the interdependence of all life forms on the planet, and the repercussions of actions and human decisions in the present and in the future on resources in local and global communities;
- 2) Become aware of the narrow influence that exists between economy, politics, culture, society, technology and environment, and their role in sustainable development;
- 3) Develop capacities, competencies, attitudes and positive values to be actively involved in sustainable development at the local, national, regional or international levels, and guide efforts towards greater future equity and sustainability, emphasizing the integration of citizens into decisions related to the environment and the economy;
- 4) Therefore, show interest in all the proposals that contribute to promoting Environmental Education and Education for Sustainable Development, being necessary to deepen models that integrate the different concepts of sustainability, both in cross-cutting matters and in traditional areas of curriculum

However, it is important to point out that the practice of Environmental Education has generally focused on the study of nature, leaving behind few cases in which they manifest themselves with the “critical” perspectives and the integrative vision necessary to contribute to the changes that the current world situation requires (Huckle, 1988; Fien and Tilbury, 2002).

Regarding the teaching process, education for sustainable development teaches children, adolescents and adults how to think and act sustainably, since our way of acting today influences the living conditions and the margins of action of generations and people who live in other regions of the world. Answering the question: what to teach and how? The importance of:

- 1) Teaching the potential of the natural environment for human use, including knowledge of the main ecosystems and the processes that sustain them, as well as their conservation and vulnerability to human modification;
- 2) Teaching that the appendix has an interest for participation in decision-making on environmental problems, as well as management and political-environmental literacy strategies;
- 3) Teaching how to critically analyze the modes of consumption, as well as the role of the media and the ideological models behind them, and the alternative utopian options; and,
- 4) Actively involve the entire educational staff in themes and in real environmental conflicts, which allow selecting those practices that are most effective for the search for solutions.

These teachings can be done starting with a theoretical-practical review of the advantages of technological development in different societies, and their impact on nature and the environment; through an analysis of the historical evolution of class conflicts and social movements, as well as their impact on the interaction's society-nature; and finally, the design of an alternative proposal of social life organizations, without leaving behind the actions of the future in community contexts.

Following Dieleman and Juárez (2008), The concept of sustainability is considered as a community project, where it is important to focus attention on the principles and methods to promote the construction of contextual meaning, integral research in action, the promotion of values, critical thinking and the use of multiples strategies.

The question then would be how the ideas presented can serve as a complete set to explore specific goals and teaching's processes, knowledge, skills and attitudes? A template table as below would reflect the links between the environment as a community project, experiential learning and different teaching's dimensions (Dieleman and Juárez, 2008)

<i>Concepts and Dimensions of Teaching process.</i>	<i>The environment as a community project</i>	<i>Experiential Learning</i>	<i>Practice process</i>
<i>Teaching's Objectives</i>	Being able to understand the relationship between the local, the regional and the global, as well as between nature, the environment and the sustainable.	Being able to work with the practical, analytical, ethical and political aspects of the problem, joining apprehension and understanding.	Being able to use a complete background of images, ideas, examples and practices accumulated through life.
<i>Teaching's methods</i>	Teaching in a set of community-based projects and life projects of the participants themselves.	Teaching through case studies and stays in communities, and building experiences within communities.	Create spaces for sharing background expertise, stimulating the use of all life experiences.
<i>Knowledge</i>	Knowledge of contextual meaning, associated with the territory itself and induced from a different cosmology.	A combination of different types of knowledge: assimilative, accommodative, convergent and divergent.	Environmental knowledge realized through the use of a language of forms, pictures and metaphors.
<i>Skills</i>	Critical thinking, reflexive observation, self-reflection, collaboration and communication skills.	Having the skill to learn and practice.	Skills to experience surprise, perplexity or confusion, to allow feeling (excitement, inconformity, etc.)
<i>Behaviors</i>	Having the will to see oneself as involved in the problem and in the transformations.	Being able to contribute to the awareness and participation process.	Trust one's himself. Stay curious and open-mind to new challenges.

The conception of the Teaching-Learning process, then, aims to achieve an educational quality that rests according to Latapí (2007) in two cases: “[...] *in order to transmit quality, it is necessary to recognize it, and to be able to recognize it, it is necessary to have it. There are no vicious circles or tautologies in this, but the recognition that education is essentially a process of interaction between people, and the quality of the educator depends decisively*”.

From this vision, the education system, without any doubt, will be able to generate and apply knowledge, extend and preserve the culture, considering the set of skills, values and attitudes necessary and relevant for the prevention, protection, conservation of the environment and better distribution of resources, contributing significantly to the sustainable development of the country, tasks that will be carried out with the highest quality and in concert at different levels of government, including the productive sector and the civil society organizations. In particular, there will be national policies and programs that will facilitate the realization of activities in favor of integral actions recognizing regional and local differences and needs (Anuies and Semarnat, 2002).

Final Comments

Experience in recent years has shown that environmental and sustainability education has faced various obstacles, weaknesses and challenges in its path of transformation towards a participatory education that can contribute to social and cultural changes (Dieleman, Hans and Margarita Juárez Nájera, 2008). Environmental educators have emphasized that a strategy of education for sustainability is necessary to:

- a) draw a common direction and social articulations, product of consensus, from the federal to the municipal order;
- b) offer a national reference to state plans;
- c) have an updated overview;
- d) overcome immediate actions; gather social and political strength to offer sustenance and coverage to the actions carried out;
- e) make efficient financial management capacity for projects; make commitments in the framework of agreements and understandings;

f) and, above all, to guide a public policy that allows positioning education as a central element of national development.

Sustainability is a concept that seeks holistic thinking. It is not a scientific or technical conceptualization; hence it is convenient to explore other ways of knowing the problem; it is different from what the method of approaching reality in contemporary societies dictates (Dieleman 2000 and 2006).

Conclusion

It is important to be aware that in any educational design, teaching goals and methods, as well as knowledge, skills and attitudes are interrelated within a different paradigm. Following a reflexive procedure avoids working within an education program with poorly related or contradictory concepts and approaches. As a second conclusion, the analysis of existing education programs, using various class elements to develop a complete evaluation scheme, adding the key elements that allow to present the current designs in a more open and transparent sense. That may be important in a world where students have more choice, where transparency is sacred, and where education is seen as learning for sustainability (Hesselink et al., 2000).

The discussion should take place within our countries, in our communities, asking what we propose to walk in the direction of sustainability. It is about recovering and evaluating initiatives to learn and to continue building on them. It is important to dialogue with the proposal of education for sustainable development from the approaches that help the environmental education to be built. Various actions and instruments are required to transform our attitudes, our lifestyles, our patterns of social participation, and our conceptions of social instruments and ways of doing politics. The challenge of Environmental Education for Sustainable Development and for educational research on these issues consist in addressing broad diagnoses that allow us to objectify the progress and assess the results of the actions in the short, medium and long term.

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