

Environmental Education and Sustainable Development: A Further Estimation

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Abstract

According to recent UNESCO documents, Sustainable Development is the ultimate goal of Human-Environment Relationships; thus, the entire educational process should be “Committed to Sustainable Development.” From this point of view, the importance of education for sustainable development needs to be discussed and estimated. This is a theoretical research paper that performs a critical analysis of the issue under consideration and construction of the appropriate ideas. Finally, the idea of incorporating the Environment Education for sustainable development will help in creating a responsible society.

Keywords

Sustainable Development, Environment, Constitution, Fundamental Rights, Natural Resources.

Introduction

The principles of environmental education (EE) as outlined in the Tbilisi Declaration (UNESCO-UNEP, 1978, pp. 26-27) already include the fundamental elements of sustainable development: the need to consider social aspects of the environment and take into account the close links between the economy, environment, and development; the adoption of both local and global perspectives; the promotion of international solidarity, etc. Scoullos (1995), a pioneer of EE from the pre-Stockholm generation, notes that “the idea of environmental protection was never cut off from the idea or the need for a particular type of development.” Nevertheless, interest in a “new focus” in environmental education and the need to define the concept of environmental education for sustainable development (EEFSD) has emerged over the past few years. This orientation does not seem to add new objectives or principles to EE, nor to propose a different educational approach. The characteristics of EEFSD as defined by Daniela Tilsbury (1995) are the same as those of EE identified by Hart (1981) and the United Nations Educational, Scientific, and Cultural Organization in UNESCO-PNUE, 1986: holism,

interdisciplinary, value clarification and integration, critical thinking, issue-based and action learning, etc. What, then, is really new?

No doubt, it was necessary to counter a certain conception that EE was focusing too narrowly on the protection of natural environments (for their ecological, economic, or aesthetic values), without taking into account the needs and rights of human populations associated with these same environments, as an integral part of the ecosystem. Likewise, it was also necessary to update the EE discourse by emphasizing aspects related to contemporary economic realities and by placing greater emphasis on concerns for planetary solidarity. The concept of sustainable development has thus been associated with environmental education to promote development models based on the wise use of resources, with concerns for equity and durability. Within the framework of its international environmental education program, the United Nations Educational, Scientific, and Cultural Organization (UNESCO, 1995a) even proposes sustainable development as the ultimate goal of Man's relation with the environment. It is therefore suggested to 'reorient' environmental education (1995b) and to 'reshape' the entire educational process to meet this end (UNESCO, 1992). The concept of sustainable development, promoted by the World Commission on Environment and Development (WCED, 1987) and popularized by the Rio Conference (UNCED, 1992), has been successful in starting a dialogue between the economic and environmental worlds. Yet it is still subject to challenge and contestation (Disinger, 1990, Slocombe and Van Bers, 1991; IDRC, 1992; Orr, 1992; Mead, 1994; Plant, 1995, etc.). Moreover, the adoption of sustainable development 'credo' in education seems to present a major problem. In his article entitled "Why I don't want my children to be educated for sustainable development," Bob Jickling (1992) denounces undertaking educational actions based on such dubious conceptual and ethical foundations. He argues: Education is concerned with enabling people to think for themselves. Education for sustainable development or education for anything else is inconsistent with this criterion (p.8). The goal of education is the optimal development of people, with an emphasis on autonomy and critical thinking. As we shall see, this reaction seems all the more justified considering that until now; certain discourses on EEFSD have been rather inadequate, if not somewhat unenlightened.

ESD implies a shift from viewing education as a delivery mechanism, to the recognition that we are all learners as well as teachers. ESD must happen in villages and cities, schools and universities, corporate offices and assembly lines, and in the offices of ministers and civil servants. All must struggle with how to live and work in a way that protects the environment, advances social justice, and promotes economic fairness for present and future generations. We must learn how to resolve conflicts, create a caring society, and live in peace. ESD must start by examining our lifestyles and our willingness to model and advance sustainability in our communities. We pledge to share our diverse experiences and collective knowledge to refine the vision of sustainability while continually expanding its practice. Through our actions, we will add substance to the UNDES D processes (Education for a Sustainable Future conference held at Centre for Environment Education, Ahmedabad, India 2004).

The Evolution of Environmental Education- Global perspectives

The concept of environmental education (EE) was first formalized by the International Union for the Conservation of Nature (IUCN), in 1970 at a meeting in Nevada, USA, as a process of recognizing values and classifying concepts to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among man, his culture and his biophysical surroundings. Environmental Education also entails practice in decision-making and self-formulating of a code of behavior about the issues concerning environmental quality (IUCN, 1970). Subsequently, Environmental Education was recognized and its development was recommended by the World Community as a measure for the

understanding, protection, and improvement of the environment and its quality (United Nations, 1972; UNESCO-UNEP, 1976).

The 4th International Conference on Environmental Education, 2007

The 4th International Conference on Environmental Education was held at Centre for Environment Education, Ahmadabad from 24th to 28th November 2007. The five-day conference was attended by over 1500 participants from 97 countries. The Conference was hosted by the Centre for Environment Education on behalf of the Government of India. Two ministries of Government of India, namely the Ministry of Human Resource Development and the Ministry of Environment and Forests were co-organizers of the event. The event was co-sponsored by UNESCO and UNEP. This Conference aimed to understand what has emerged out of the discipline of Environment Education (EE) since the Tbilisi declaration and the role of EE within Education for Sustainable Development (ESD). The conference provided an opportunity to consider how EE and ESD can partner and strengthen each other towards building a sustainable future.

The outcomes of Tbilisi, Belgrade, and Ahmadabad conferences have, in many ways, provided the basis for many environmental education programs. Certainly, having both a commonly accepted goal statement and associated set of objectives has allowed many educators to better address the desired outcomes through the programs. Equal to the need to identify both a common goal and set of objectives requires consideration of the characteristics of environmental education.

The Hon'ble Supreme Court of India in 1991 made environment education compulsory at all levels of education. A curriculum framework prepared by the NCERT has been accepted by the Court as the guideline for State Education Departments to develop textbooks for schools from 2004-2005 onward. While efforts at integrating environmental concepts into curricula have been going on for over 15 years, the judicial interest in the issue has given it impetus. NGO networks, including the Centre for Environment Education (CEE), in partnership with the Departments of Education and academic institutions, carry out teacher training in EE. In-service and pre-service opportunities for incorporating EE are offered through EE courses and project work.

However, rigid and overloaded curricula, time constraints, and a conventional approach to teaching still pose a challenge to the integration of EE in formal education. Systemic changes and ongoing capacity-building will be required to address the issue. Distance education may be explored as an option for ESD. The State's responsibility concerning environmental protection has been laid down under Article 48-A of our Constitution, which reads as follows: "The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country." Environmental protection is a fundamental duty of every citizen of this country under Article 51-A (g) of our Constitution which reads as follows: "It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers, and wildlife and to have compassion for living creatures."

Article 21 of the Constitution is a fundamental right which reads as follows: "No person shall be deprived of his life or personal liberty except according to procedure established by law." The State's

responsibility with regard to raising the level of nutrition and the standard of living and to improve public health has been laid down under Article 47 of the Constitution which reads as follows: “The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and, in particular, the State shall endeavour to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health.”

The 42nd amendment to the Constitution was brought about in the year 1974 makes it the responsibility of the State Government to protect and improve the environment and to safeguard the forests and wildlife of the country. The latter, under Fundamental Duties, makes it the fundamental duty of every citizen to protect and improve the natural environment including forests, lakes, rivers, and wildlife, and to have compassion for living creatures.

In India, the protection and conservation of the environment have always integrated social, economic, and ecological factors. This unified approach to the protection of the environment is perhaps inherent in India’s cultural and religious ethos which emphasizes the interconnectedness between the natural environment and the human community. Human beings are not considered as separate from the environment but as a part of it. Each life form must therefore learn to enjoy its benefit by forming a part of the system in close relation with other species. No one species has the right to encroach over the rights and privileges of other species, unlike many western moral philosophies since the Enlightenment which attach sole or greater value to humanity’s moral value.

The Effectiveness of Active EESD program

There was a statistically significant difference between the pre and post-test assessments on student’s environmental knowledge, behavior, attitude, and skills. Students who have been exposed to active EESD teaching strategies have gained more knowledge, behaviour, attitude, and skills in the environment with a special focus on air, water, biodiversity conservation, and solid waste management. The results of this study are consistent with the other studies that showed a significant increase in learning gains as well as concern for the environment after a biodiversity education and environmental science courses (Leeming, 1993; Zelezny, 1999; Humston and Orti, 2007; Anderson et al., 2007; Hagenbuch et al., 2009). Despite the small sample size in this experimental study, knowledge, skills, attitudes, and behavior gains were recorded, across different types of schools-such as government, residential and private schools, and with different amounts of time devoted to the materials. This indicates that the activity-based environmental education module (EESD) is an effective tool in a wide range of settings and situations. The results of this study support the concept that environmental attitudes may be based on different sources of information (Julie and Pooley, 2000; Moira and Connor, 2000) that could lead to specific environmental information cognition, emotions, and feelings. Studies related to attitudes assessment on students that are made through direct experiences are also seen as better predictors of behavior (Millar and Millar, 1996). This suggests that understanding the basis of an attitude is important for behavioral changes. The ultimate objective of environmental education is to change behavior; it is essential first to understand the basis of environmental attitudes to assist in changing environmental behaviour.

The multiple teaching-learning approaches had an effect on the student's attitudes towards conserving and protecting the local precious natural resources. The results of the present study are consistent with the findings of Pooley and Connor (2007) that support the concept that environmental attitudes may be based on different sources of information. The improved environmental behavior on specific issues reported in this study such as increased levels of protection and conservation of local air quality and water quality studies, biodiversity conservation, and solid waste management is in agreement with reported research (Hungerford and Volk, 1990). The active EESD teaching strategy was used in this research showed significant differences in students' overall changes in knowledge, attitudes, behavior, and skills was in agreement with the findings recorded by Al-Balhan (2006). According to his report, the students whose multiple intelligences were applied to learning performed better and would achieve overall academic success. In the present study, the active EESD teaching approach has significantly enhanced the conceptual understanding and attitudes of students, when compared with traditional methods of instruction (Kaya, 2002). Students solving in local environmental problems through the active EESD teaching strategy with the middle school students enhanced their interest and motivation (Tsevreni, 2011).

Environment and Natural Resources

This component explains physical and biological components of environmental literacy such as water a precious resource; essential for life and life activities, a habitat of plants and animals (fresh and marine), sources of water (fresh and marine) rain, snow, ponds, wells, lakes, rivers, and seas; the soil a medium for growth of plants, types of soil, habitat for organisms, facilitator for percolation and retention of water; forests a habitat for plants and animals, an agent for percolation and retention of water; maintaining groundwater level; prevention of soil erosion; maintaining air humidity; a source of firewood, timber, fruits, resins, and medicinal plants. In the field of biological resources, the components presented included- our environment; biosphere, living and nonliving components of the biosphere, levels of the organization; different types of plant and animal cells, organization of tissues in plant and animal, different organs and its functions, functions of blood, population ecology; population density.

Man and Environment

This component was subdivided into five components; the response of living beings to changes in environment adaptation in plants and animals; modification of the environment by human beings to protect themselves against changes and meet their needs; impacts of human activities and population growth on agriculture, harnessing of energy, housing, industrial development and other areas of consumption and social activities; consequences of human activities stress on land use, water sources, energy and mineral resources; forests, ocean life; environmental degradation and the role of individuals in maintaining peace, harmony, and equity in nature; good neighborly behavior; use and misuse of common property resources.

Conclusion

The international community is serious about achieving even a modest degree of global environmental sustainability and sustainable development. Effective policies must be implemented to curb consumption by the affluent. We need moral education to instill a genuine environment respecting moral values in the young budding engineers and other specialized area students who, in their professional careers as planners, designers, builders, and decision-makers, will bear considerable responsibility for mankind's impact on nature and the natural environment. Conventional engineering education is no longer adequate for the real needs of tomorrow. Future engineers must acquire knowledge and skills in engineering and keep pace with rapid advances in practically all branches of engineering and other areas too. Following interventions based on observations, discussion, research, writing, reflection, and idea comparison, young children seem to be able to construct the conception that pollution can be hazardous to their health, starting from the idea that pollution only constitutes visible waste. We believe experiential learning and the socio-constructivist approach, as experienced, contribute to significant learning and encourage learning. Indeed, Novak explains that at the point where significant learning occurs, new concepts are integrated into the previous cognitive structure as long as sufficient effort is made to favour that integration. This significant learning is opposed to learning 'by heart' (memorization), an approach often used in schools. Perhaps the effort required of these last interventions that sustain the cognitive conflict between peers' and adults' ideas favours learning better than traditional methods of information-explanation and learning by heart. As Hassard would say, hands-on experience is not enough; we also need minds-on experiences. The communication perspective opens the door to another kind of tools that environmental educators can use to improve educational practice.

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