

Environment Education Pedagogy/Teaching Methods And Teaching-Learning Materials

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ABSTRACT

The introduction of this paper is about the goal, vision and objectives of the UN Decade of Education for Sustainable Development. It also talks about the balance between theory and practice, if ESD is to be achieved, with the teacher as the focal point for learning. It describes some strategies, and has adopted suggested criteria for creating environmental education materials. There are 6 brief parts as follows: 1. Introduction; 2. Quality Education for Sustainable Development; 3. Strategies for Promoting Quality ESD; 4. Increasing Awareness and Promoting Training; 5. Creating Environmental Education Materials; 6. Conclusion. A short list of references, key words and acronyms are found at the end.

Key words: Balance of theory and practice, Quality education for sustainable development, Environment, Economy, Society and Institutions, Public Awareness and Training, Creating Environment Education Materials

Introduction

The UN Decade on Education for Sustainable Development (DESD) has the following over-all goal: "to integrate the values inherent in sustainable development into all aspects of learning to encourage changes in behavior that allow for a more sustainable future and for positive social transformation."¹ Four objectives have been formulated to translate the basic vision, which is "a world where everyone has the opportunity to benefit from education and learn the values, behavior and lifestyles required for a sustainable future and for positive societal transformation." These objectives are: (1) to facilitate networking, linkages, exchange and interaction among stakeholders in ESD; (2) to foster an increased quality of teaching and learning in education for sustainable development; (3) to help countries make progress towards and attain Millennium Development Goals (MDGs) through ESD efforts; and (4) to provide countries with new opportunities to incorporate ESD into education reform efforts. It is argued that ESD is based on a strong understanding of environmental education. It is in the context of objective no. 2 that this paper is developed.

Quality Education for Sustainable Development

The chief element of ESD is to advance the quality of education at all levels, and which is primarily dependent on the quality of teachers. Teachers are responsible for utilizing the appropriate pedagogy and teaching strategies for the transaction of environmental education for sustainability.

¹ UNESCO, 2006, Highlights on Progress to Date, Education for Sustainable Development, UN Decade 2005-2014.

However, having the process is not enough – there should be a balance of theory and practice. The essentials of EE for sustainability should be known to the teachers, to encompass *Environment, Economy, Society and Institutions*. Details of these essentials could be identified by students with guidance from teachers and experts.

UNESCO has responded to this call by linking the Millennium Development Goals, the United Nations Literacy Decade (UNLD), and Education for All (EFA) and the Decade of Education for Sustainable Development.

Strategies for Promoting Quality ESD

To promote quality ESD, a “multi-level and diverse strategy” could be utilized, involving different actors, technical, financial resources, programs and projects which would lead to concrete actions in reorienting education towards sustainable development; increasing public awareness; promoting training; and re-orienting education towards sustainable development.

The multi-level and diverse strategies would involve the teacher as a catalyst for change. Different scenarios need a unique strategy for taking action. For example, even in formal education, the actions should go beyond the classroom; rather, students need to have a deep understanding, coupled with experience and involvement in solving the challenges of the environment. There are some strategies which may already be known to the teachers. Some of these are:

- development of a logical framework (log frame) for students to follow;
- systematic plans for student exchanges for sharing experiences;
- innovations in curriculum, teaching-learning resources, and utilization of new information technologies/multi media materials;
- internship with institutions and organizations and community groups; and
- Continuing education activities through short-term training and workshops.

Increasing public awareness and Promoting Training

Having mentioned the trickling/ripple effects of ESD, some countries have adopted the devolution of authority, accountability and resources to the most appropriate level with preference given to local responsibility and control over awareness-building activities. There is a need to increase public sensitivity to environment and development problems and involvement in their solutions in order to foster a sense of personal environmental responsibility and greater motivation and commitment towards sustainable development.

To promote broad public awareness as an essential part of a global education effort to strengthen attitudes, values and actions and change behavior is one of the underlying themes that laid the foundation for a set of strategic actions and initiatives outlined in the report, “Education for Sustainability: An Agenda for Action” This report was produced at a meeting held in San Francisco, California, in 1994.

Creating Environment Education Materials

There are instances when multi-media packages have to be prepared for up-to-date delivery of educational innovations. Adequately trained teachers with partners prepare the teaching-learning packages integrating messages relevant to the learner. The design of the materials is guided by some criteria which students could respond and think about. Some of these are:

1. Identification of the Target Audience: who are the intended audience? How are they identified? Who identifies them?
2. The Message: what is the issue? How is it presented? How appropriate/useful is it to the target audience?
3. The Medium used: is it print? non-print/electronic? On-line and off-line?
4. The Resources: what financial and technical resources are required? How are the resources mobilized?
5. The Actions: when should it take place? What strategy will ensure that the messages are received? Are they relevant? Contextual? Needs-based?
6. Monitoring and Evaluation: what are the criteria for monitoring? Who are involved? Is there a built-in monitoring and evaluation component in the training materials developed? In the actions proposed?

The US Environmental Protection Agency has some guidelines and core themes to ensure excellence in the development of EE materials. I am including these guidelines in the body of this paper, acknowledging the contribution of the agency in promoting ESD, and in giving a concrete contribution to the Decade.

*Environmental Education Materials: Guidelines for Excellence*²

1. *Fairness and Accuracy*: EE materials should be fair and accurate in describing environmental problems, issues, and conditions, and in reflecting the diversity of perspectives on them.

- 1.1 Factual accuracy
- 1.2 Balanced presentations of differing viewpoints and theories.
- 1.3 Openness to inquiry
- 1.4 Reflection of diversity

2. *Depth*: EE materials should foster awareness of the natural and build environment, an understanding of environmental concepts, conditions, and issues, and an awareness of the feelings, values, attitudes, and perceptions at the heart of environmental issues, as appropriate for different developmental levels.

- 2.1 Awareness
- 2.2 Focus on concepts
- 2.3 Concepts in context
- 2.4 Attention to different scales

3. *Emphasis on skills building*: EE materials should build lifelong skills that enable learners to prevent and address environmental issues.

- 3.1 Critical and creative thinking
- 3.2 Applying skills to issues
- 3.3 Action skills

4. *Action orientation*: EE materials should promote civic responsibility, encouraging learners to use their knowledge, personal skills, and assessments of environmental issues as a basis for environmental problem solving and action.

² The US Environmental Protection Agency

- 4.1 Sense of personal stake and responsibility
- 4.2 Self-efficacy

5. *Instructional soundness:* EE materials should rely on instructional techniques that create an effective learning environment.

- 5.1 Learner-centered instruction
- 5.2 Different ways of learning
- 5.3 Connection to learners' everyday lives
- 5.4 Expanded learning environment
- 5.5 Interdisciplinary
- 5.6 Goals and objectives
- 5.7 Appropriateness for specific learning settings
- 5.8 Assessment

6. *Usability:* EE materials should be well designed and easy to use.

- 6.1 Clarity and logic
- 6.2 Easy to use
- 6.3 Long-lived
- 6.4 Adaptable
- 6.5 Accompanied by instruction and support
- 6.6 Make substantiated claims
- 6.7 Fit with national, state or local requirements

Core Themes of EE

1. *Lifelong learning:* The potential for learning about sustainability throughout one's life exists both within formal and non formal educational settings.
2. *Interdisciplinary approaches:* Education for sustainability provides a unique theme to integrate content and issues across disciplines and curricula.
3. *Systems thinking:* Learning about sustainability offers an opportunity to develop and exercise integrated systems approaches.
4. *Partnerships:* Partnerships forged between educational institutions and the broader community is key to advancing education for sustainability.
5. *Multicultural perspectives:* Achieving sustainability is dependent upon an understanding of diverse cultural perspectives and approaches to problem solving.
6. *Empowerment:* Lifelong learning, interdisciplinary approaches, systems thinking, partnerships, and multicultural perspectives empower individuals and institutions to contribute to sustainability.

Conclusion

The most important results of the environmental actions are the change in behavior, especially at the local level. What the students learn in school would trickle down to the families and have a ripple effect on societies and their community. This way people are empowered and sustainable

development is achieved.

References

UNESCO. 2006. Highlights on Progress to Date. Education for Sustainable Development. UN Decade 2005-2014.

Acronyms

EE	Environment Education
EFA	Education for All
ESD	Education for Sustainable Development
UNDESD	United Nations Decade of Education for Sustainable Development
UNLD	United Nations Literacy Decade