Impact of Environmental Education Regarding duty of Secondary School Level Students in India: A Study

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Abstract

Sustainable Development Goals (SDGs) are the global priorities that have to be achieved within the next 15 years from 2016 to 2030. Education has a central role to play in the realization of SDGs. In this context, the place of Education for Sustainable Development (ESD) has become more important. Environmental Education (EE) is used as a tool for ESD at school level in India. The implementation of EE in the formal school curriculum has been structured by two national policy documents: the National Curriculum Framework 2005 and the directive of the Supreme Court. Following the directive, NCERT has developed a graded syllabus for EE for class 1 to 12 standards. At secondary school level, infusion model has been adopted for imparting EE. The present paper focuses upon the current status of EE at secondary school level in India. It analyses the effectiveness of infusion model for class IX and X. Furthermore, it makes recommendations for making EE more effective. It is hoped that the suggestions mentioned in the paper will bring about desirable changes in the secondary school curriculum to make it relevant for achieving SDGs by 2030.

Keywords: SDGs, ESD, EE, Secondary School, Curriculum and InfusionTechnology

Introduction

Environmental education is a process that aims at the development of environmentally literate citizens who can compete in global economy, who have the skills and knowledge and inclinations to make well informed choices concerning the environment, and who exercise the rights and responsibilities of the members of a community. Environmental knowledge contributes to an understanding and appreciation of the society, technology and productivity and conservation of natural and cultural resources of their own environment.

Ultimately, the objective is to help students develop appropriate competencies for taking steps towards sustainability. Thus the question of effective secondary EE education is really a question of how we teach as educators are affected by our cultural values and that of what do we need to teach to achieve a sustainable lifestyle on this planet.

Sustainable Development Goals and Education For Sustainable Development

Sustainable Development Goals (SDGs) are the global priorities so as to help build a better world for all in the next 15 years from 2016 to 2030. There are 17 SDGs that include a number of significant issues for the globe comprising ending extreme poverty, ensuring all children receive a good education, achieving equal opportunities for all and promoting better practices for consumption and production that will help make the planet cleaner and healthier. They are possibly the most comprehensive list of global goals the world has

ever committed to. The SDGs are global in nature and universally applicable, taking into account different national realities, capacities and levels of development and respecting national policies and priorities. One thing the SDGs make explicit is the promise to *"leave no one behind"*. The SDGs are not independent from each other – they need to be implemented in an integrated manner. The ultimate goal in the SDGs is the most important - that of "Transforming the World". And what else then education can change the world for better. As Nelson Mandela said:

"Education is the most powerful weapon you can use to change of the world".

The benefits of education permeate all walks of life right from the moment of birth. If we are to eradicate poverty and hunger, improve health, protect our planet and build more inclusive, resilient and peaceful societies, then every individual must be empowered with access to quality lifelong learning, with special attention to opportunities for girls and women. The evidence is unequivocal: education saves lives and transforms lives; it is the bedrock of sustainability.

The path to ESD is an important one and countries that use it to their advantage would provide its present populace and bequeath its future generations an environment that would empower them to fulfil their needs and aspirations by striking a balance between economy and ecology. Otherwise, the consequences can be mildly termed disastrous. As the noted Indian Economist and scholar, Amartya Sen points out:

"a fouled environment in which future generations are denied the presence of fresh air. will remain foul even if future generations are so very rich."

Therefore it can be said that SDGs need ESD for their implementation but SDGs could offer a unique opportunity for the development of ESD

ESD in India

Do global commitments such as SDGs even matter to India? The short answer is: "Yes". The sheer size and scale of the country means that, the success of the global goals, to a large extent, depends on progress made by India. India accounts for nearly a third of the world's 1.2 billion poor and continues to struggle to provide access to basic public services – clean air, water, food, healthcare, and education for its population. Further, the SDGs can play an important role in generating greater public debate and forcing Ministries and departments to think about development not just in isolation but as a joint exercise.

Traditionally India has been a sustainable society. A large part of the Indian population still has a lifestyle that is based on the principle of reuse, reduce and recycle. In some cases it is a matter of personal choice but for a large majority, it is necessitated by economic compulsions. In India, our social values and attitudes have, historically and culturally been in harmony with the environment. If one reads our own literature, the writing of our sages, our religious texts, all of these reflect the recognition that all life on the earth-human life included is intimately dependent on the quality of the environment. These also talk of the humbleness of human in this larger system, and the need and responsibility to protect it. The Indian constitution captured much of these deep-rooted values and further strengthened them by giving responsibility to its citizens to protect the environment. The constitution enjoins the state to

***"take measures to protect and improve the environment and to safeguard the forests and wildlife of the country"*(Article 48 -A).**

It also makes it a

"fundamental duty of every citizen to protect and improve the natural environment including forest, lakes, rivers and wildlife and to have ecological compassing for the living creatures" (Article 51 A (g)).

Thus while ESD in developed nations may indeed be designed to retool society and lifestyles by kicking several bad habits, in a developing country, ESD needs to focus more on empowering people by making them aware and giving them the ability, knowledge and self-confidence to make sustainable choices.

In order to promote the value of sustainable development in education, the Indian government directed its various education departments to actively work on an Environment Education (EE) component as part of the curriculum. This strategy was adopted post Stockholm conference in 1972 by setting up Centres of Excellence for Environment Education under Ministry of Environment and Forests (MoEF) in the early 1980s. For a very long time, most of these activities were restricted to the MoEF but gradually the government realized that the purview of education is very broad in a developing country like India and cannot be limited to the workings of one single ministry. As a result, the GOI recommended Ministry of Human Resource Development (MHRD) to integrate environmental concerns into all aspects and levels of education.

Although awareness of ESD is quite low, EE is understood in the domain of formal education, both at the secondary and higher levels. The view that ESD is an extension of EE is prevalent among practitioners, educators and government officials. There is an urgent need to educate decision-makers about sustainable development policy formulation and to empower citizens to participate in the decision-making process. A common vision of ESD between the citizens and the government is achievable, but it requires greater citizen mobilization, greater involvement of local communities, and greater integration of ESD into existing policies and programmes. So, basically EE is used as a tool for ESD in India.

EE can be defined as a process of developing a world population that is aware of, and concerned about, the total environment and its associated problems and which has the knowledge, attitudes, commitments and skills to work individually and collectively towards the situation of current problems and prevention of new ones. The main focus of EE should be to expose students to the real-life world, natural and social, in which they live; to enable them to analyse, evaluate, and draw inferences about problems and concerns related to the environment; to add, where possible, to our understanding of environmental issues; and to promote positive environmental actions in order to facilitate the move towards sustainable development. To achieve these goals, the curriculum may be based on: Learning about the environment; Learning through the environment; and Learning for the environment;

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Thus, considering the fast deteriorating environmental condition, it becomes necessary to make Environmental Education (EE) as a tool for life and learning right from one's childhood. We need the school children to share and develop the

motivation from school about various environmental issues, which are the challenges of today and prepare them for the future. It has to be introduced without any delay from class 1 as a subject so that right from their childhood, the right attitudes towards environment will be nurtured in the young minds. It is important that we capture this enthusiasm and that no opportunity is lost to develop knowledge, understanding and concern for the environment through school education.

EE at Secondary School Level in India

Environmental Education in the formal school curriculum has been influenced by two national policy documents: the National Curriculum Framework 2005 of the National Council of Educational Research and Training (NCERT) and the directive of the Supreme Court in response to a 1991 petition filed by Shri M C Mehta. The Supreme Court gave its final pronouncements on the matter of the writ petition in December 2010. The key document illuminating the way forward for EE in the formal school system, as approved by the Supreme Court, is the Affidavit filed by the NCERT and which advocates the infusion approach. This means that an environment perspective is to be added to all subjects, from Standard I to XII. The Supreme Court of India in December 2010 has conveyed its acceptance of the NCERT's Affidavit outlining the method of implementation of EE in India. Following the publication of the National Curriculum Framework 2005 and the Supreme Court ruling on Environment Education, the NCERT suggests the following method of implementation of EE.

Classes	Mode of Transaction
I and II	Through Activities
III to V	Environmental Studies (EVS)
VI to X	Infusion Model
XI to XII	Project based study

The National Council of Educational Training and Research (NCERT) has, in the last two decades, not only developed textbooks and teacher guides incorporating environmental concerns, but also prepared guidelines for preparation of textbooks.

Considering the relevance of Environmental Education, as per National Curriculum Framework 2005 the new syllabi being proposed aim at generating among young learners an awareness of and sensitivity to the total environment in a holistic manner and the problems associated with it. It would also equip the future custodians of the earth with the requisite knowledge of the total environment, natural and social, the problems associated with it and the necessary skills for solving these in a positive and sustainable manner.

Youth can play an important role in meeting the objectives of SDGs. SDGs looked at youth's vital role in the realization of sustainable development, focusing on their right to receive a secondary education that is innovative and aimed at building practical problem solving skills. SDGs also address the need for the increased participation in the environmental decision-making process for youth of both genders. The use of environmental education that focus on fostering ownership, empowerment, and active participation may have the potential to positively influence youth in meeting the goals of sustainability, and be a key contribution to educational reform.

By actively studying their environment, youth are obtaining in-depth experience and knowledge, by using skills to conserve their environment; they are developing a greater sense of empowerment.

As we know that youth has an important role to play in the success of SDGs, it become imperative to know how EE is imparted to them. At secondary school level infusion model is used to impart EE. The important characteristics of

Infusion Model have been discussed below:

I. **Ease of Implementation** Requires that more teachers be trained; greater coordination of the curriculum necessary requires less time/ content in the existing curriculum.

II. **Teacher Competencies** Requires that all teachers from all disciplines be competent to adapt and/or use EE materials although perhaps not to the same depth as in single subject approaches.

III. **Demand on Curriculum load** May be effectively implemented with minimal demands on existing curricular load.

IV. **Ease of Curriculum Development** Components must be effectively identified sequenced and accommodated by the existing curriculum.

V. **Evaluation** Comprehensive evaluation difficult due to the number of variables involved.

VI. **Age level Appropriateness** Appropriate at all age levels with some exceptions at secondary and tertiary levels.

There are many advantages of infusion model, since EE draws from the different subjects of science, social studies, maths, language, art etc. 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 However, experts and practitioners point out a number of constraints of infusion model as well, the main one being the lack of opportunities for synthesis of the learning that may take place in different subjects.

Dr Erach Bharucha, Director, Bharati Vidyapeeth Institute for Environment Education and Research agrees,

"The infusion approach should continue as it is. In addition, there is an absolute need for a separate time and space for EE and ESD as a separate core module with its own curriculum, textbook, and exam system so that it is given the same sanctity and weightage that other major subjects are given today."

How to make EE effective at Secondary School level in India

Environmental Education is not only education to inspire environmental stewardship and responsible citizenship, but also education to protect today's "de-natured" and increasingly unhealthy society. This shift in discourse is also bound to generate broader public interest and perhaps motivate local, state, and national policy makers to advocate for the integration of EE within the school curriculum as well as help more informal EE programs that become more widely accepted. In order to make Environmental Education relevant to a child the following steps need to be taken and the syllabus suitably altered:

I. **Reduce the number of concepts**

Let there be for every unit not more than 3 concepts to be learnt. This means that we consciously ensure the learning of these concepts and evaluate the extent of learning; at the same time not shutting the door to students who may want to learn more. This way the onus of learning is on the child. If the methodology is interesting a child will learn beyond our expectation.

II. **Make a clear distinction between concepts and facts that need to be learnt**

Often these two are used in a mixed manner under the heading 'concepts'. By adding details which is pounced upon by textbook

writers, makes teaching a difficult job for teachers.

III. Avoid repetition of topics and concepts

Class VI and VII EE syllabus has similar concepts on air water and soil that continue to dominate at various other levels too. Similarly class VIII & IX have an overdose of ecosystems which start as forests etc in classes VII & VIII. These are topics that are also learnt in science and geography and taken together would rapidly lead to boredom for students.

IV. Change the format of the presentation and details of the curriculum and make it more explicit in what is expected as learning outcomes

Rather than suggesting activities, suggest clearly the learning outcomes. A list of vocabulary, skills that need to be mastered at each level is what the curriculum should have. The activities, examples should be left to the teacher to decide based on what is available in the students' environment.

Conclusion

There has been an eternal debate on the mode of EE treatment in schools. While a few curriculum planners advocate an infusion model others insist on transaction EE as a separate subject in the schools. There are arguments and counter arguments with regard to both schools of thought. What is of greater importance is how EE is taught? What are the transactional strategies that have to be followed to make it effective so that it sensitises and motivates desirable action by the students. In this direction, orienting teachers, designing suitable, pragmatic activities that are regional and local specific are the urgent need. In this exercise, NCERT has initiated several levels of interaction with various educational functionaries such as administrators, curriculum planners, teacher educators and teachers. A national level core team and regional level teams are conducting orientation programs, preparation of training manuals in EE collaborating with state boards to promote in the respective states. These efforts have to be vastly enhanced in order to ring about a level of awareness and action that will help conserving and improving the quality of our environment. Each country should choose the one which is most compatible with its educational system to be effective. Given the importance of textbooks in Indian schools as the primary teaching aid, there is an enormous scope and need for some very creative textbook writing efforts that meet the challenge of infusion of environment and sustainability perspectives into subjects.

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