Creating Environmental Awareness among the Secondary School Students

Dr Rina Godara & Dr Anjali Khirwadkar
Assistant Professors, Department of Education
Faculty of Education & Psychology
The Maharaja Sayajirao University of Baroda

INTRODUCTION

Since environment is a matter that involves us all, knowledge, skills and attitudinal changes are the need of the hour to realize the value of environment upon which depends the endurance of life. Environmental protection and improvement is a task that no Government or one single group with all their available resources, skills and knowledge, can accomplish it successfully without the involvement of masses at large. Thus, major efforts are required to effectively spread the message of environmental conservation across the length and breadth of the country, so that every citizen is motivated to take active role in conservation efforts. Educating children, who are an integral part of the society and the future citizens as well, therefore may help in this endeavour. Children have no bias and are most receptive to messages and information at this stage. Above all, they are the single most powerful influence on the families and thereby the society. In order to move closer to achieving ecologically sustainable development as a nation, every one of us need to continually refresh the knowledge and skills which can be applied to the environmental challenges we face.

Environmental concern has attracted attention of all countries globally. For sustainable development of any nation, it is necessary that it takes into consideration the environmental issues. In India too, environmental issues are of prime concern and it was felt that education had to respond appropriately to this crying need of the time. The National Policy on Education 1986 (revised in 1992) stated: “There is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of society, beginning with the child. Environmental consciousness should inform teaching in schools and colleges. This aspect will be integrated in the entire educational process.” Accordingly, the framework for school education implemented the measures. The National Curriculum for Elementary and Secondary Education: A Framework (1988) presented the NCERT’s view: “The school curriculum should highlight the measures for protection and care of the environment, prevention of pollution and conservation of energy.” In consonance with these documents, environmental studies was made an independent subject at the primary level and topics related to environment were suitably infused with different science and social science subjects at all school stages.

The National Curriculum Framework for School Education, 2005 also highlighted the importance of preserving the environment through science educational inputs as “Environmental validity requires that science be placed in the wider context of the learner's environment, local and global, enabling him/her to appreciate the issues at the interface of science, technology and society, and equipping him/her with the requisite knowledge and skills to enter the world of work. Ethical validity requires that the curriculum promote the values of honesty, objectivity, cooperation, and freedom from fear and prejudice, and inculcate in the learner a concern for life and preservation of the environment.”

The major concern of Environmental Education (EE) is to develop the proper attitude and concern for environment and resulting into favourable habits. The main purpose of EE is to acquaint and sensitize the young minds to the environmental problems and concerns, to inculcate in them healthy personal and social attitudes and behaviour towards environment. This will enable them to initiate work for its sustainability individually and collectively taking together peers and community.” EE as an interdisciplinary subject has not only to lay emphasis on content but also on the development of awareness, attitudes and skills, leading to action. The content and process including projects and activities are to be geared towards creating a sustainable world. Thus it was realized that giving bookish knowledge will not be sufficient, efforts should be made to involve students in some activities and projects that would give them sufficient experiences to develop certain skills and knowledge needed. This has resulted in a demand for developing a graded, action oriented,
value based course in EE for all the classes/levels of schooling in such a way that it addresses the general environment concerns without adding to the curricular load.

Environmental Education is not a subject of study but it is an approach to impart education regarding environment. The principle of environmental Education is that it makes the learning experiences problem-based for understanding the environment and the hazards of pollution on human health. Environmental education deals with a broader concept of establishing relationship of man with the natural surrounding.

It aims not only in imparting knowledge and understanding of man's total environment but also focuses on inculcating skills, attitudes and values necessary to understand and improve the environment. Environmental education addresses issues of population explosion, exhaustion of natural resources and pollution of the environment and sheds light on methods of solving them.

**CONCEPT OF ENVIRONMENTAL EDUCATION (EE)**

Environmental education has been defined as given below.

- **UNESCO (1970),** “Environmental education is the process of recognising values and classifying concepts in order to develop skills and attitudes necessary to understand and appreciate the interrelatedness among man, his culture and his biophysical surroundings. Environmental education is not a separate branch of science but it is a life-long integral education”.

- **Belgrade Charter (1972):** “Environmental education is a process aimed at 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 solution of current problems and prevention of new ones.”

- **The Finnish National Commission (1974)** states “EE is a way of implementing the goal of environmental protection. Environmental education is not a separate branch of science or subject of study. It should be carried out according to the principle of lifelong integral education”.

- **Sharma (1996):** “Environmental education refers to the awareness of physical and cultural environment and perceives its relevance for real life situation. The problems and issues are to be identified. The imbalance of environment is to be improved in view of sustainable development.”

Environmental education deals with imparting knowledge about environmental issues, developing concern towards environment, sensitized students towards effects of human activities on environment by providing them first hand experiences and involving them in different activities related to preservation of Environment.

**OBJECTIVES OF ENVIRONMENTAL EDUCATION**

Following objectives of Environmental Education have been formulated for both formal and non-formal education at all levels at the first inter-governmental Conference of UNESCO (1977) on EE which was held at Tbilisi:

1) **Awareness:** To develop an awareness of environment & sensitivity (feeling & attitudes) to the total environment & it’s allied problems.

2) **Knowledge:** To help individuals and social groups acquire basic understanding of total environment and its associated problems.

3) **Attitude:** To help individuals and social groups acquire values, strong feelings of concerns for the environment and the motivation for actively participation in its protection and improvement.

4) **Skills:** To help acquiring skills for identifying & solving environmental problems.

5) **Participation:** To provide an opportunity for an active participation or practice at all levels in working for solution of environmental problems.

6) **Evaluation Ability:** To develop an ability for evaluating environmental components & educational programmes in terms of economic, social, cultural, aesthetic & educational factors.

For any Nation to achieve objectives of EE, all the above stated objectives should be part of the Curriculum at School and College level. For Success of any type of Education, it is essential to provide it from the basic level from school. The first attempt to make environmental education was based on emphasizing acquisition of knowledge through processes of science using local environment in general Science for class I-VIII (Prarahaj, 1991). To meet these objectives, a number of guiding principles were framed for those involved in developing EE programmes and materials of various kinds.

**GUIDING PRINCIPLES OF ENVIRONMENTAL EDUCATION:**
As per Tbilisi Conference of UNESCO (1977), Environmental Education should:

1) Consider the environment in its totality—natural and built, technological and social (economic, political, cultural, historical, ethical, and aesthetic).
2) Be a continuous lifelong process, beginning at the preschool level and continuing through all formal and non-formal stages.
3) Be interdisciplinary in its approach, drawing on the specific content of each discipline in making possible a holistic and balanced perspective.
4) Examine major environmental issues from local, national, regional and international points of view so that students receive insights into environmental conditions in other geographical areas.
5) Focus on current and potential environmental situations while taking into account the historical perspective.
6) Promote the value and necessity of local, national and international cooperation in the prevention and solution of environmental problems.
7) Explicitly consider environmental aspects in plans for development and growth.
8) Enable learners to have a role in planning their learning experiences and provide an opportunity for making decisions and accepting their consequences.
9) Relate environmental sensitivity, knowledge, problem-solving skills and values clarification to every age, but with special emphasis on environmental sensitivity to the learner’s own community in early years.
10) Help learners discover the symptoms and real causes of environmental problems.
11) Emphasize the complexity of environmental problems and thus the need to develop critical thinking and problem solving skills.
12) Utilize diverse learning environments and a broad array of educational approaches to teaching, learning about and from the environment with due stress on practical activities and first-hand experience.

NEED FOR CREATING ENVIRONMENTAL AWARENESS AMONG SECONDARY SCHOOL STUDENTS

Looking into the degradation of environment the concern for environment has taken a boost. The best way to sensitize and educate people with regard to environment and its related issue is through education. With the advances in Science and technology, human beings have manipulated the physical environment and caused environmental imbalance by creating a number of environmental problems like pollution of air, water and land, deforestation, soil erosion, extinction of species, depletion of natural resources, global warming and many more. To enable students to confront the present challenges and shape a better world for themselves and for future generation it is imperative to integrate environment in school education. It has been already recommended by NCERT that students, especially at upper primary stage, be taught environmental education in an interdisciplinary way to enable the students to understand the changes taking place all round and to make them aware about problems to drinking water, health, nutrition etc. Despite these initiative taken up to impart environmental education to the students of upper primary stage, it is necessary to find out whether the students have actually developed an affective concern and positive attitude for conserving their nature.

The UNESCO-UNEP (1987) agreed that:
‘Environmental education should simultaneously attempt to create awareness, transmit information, teach knowledge, develop habits and skills, promote values, provide criteria and standards and present guidelines for problem-solving and decision-making. It therefore aims at both cognitive and affective behaviour modification. The later necessitates both classroom and field activities. This is an action-orientated, project-centred and participatory process leading to self-confidence, positive attitudes and personal commitment of environmental protection. Furthermore, the process should be implemented through an interdisciplinary approach’. Also in ‘Millennium Development Goals’ which are given by The United Nations, One of the goal is to Ensure Environmental Sustainability and according to this goal, each nation has to achieve Environmental Sustainability by 2015. Environmental Education is one of the best ways for promoting Sustainable Development. Environmental Education is not only to provide knowledge about Environmental Concepts but also develop awareness, skills, attitude, Values for to solve solutions of problems (UN Millennium Project, Millennium Development Goals, 2006).

In order to provide environmental education there were several initiatives by the government in terms of establishing ECO-CLUBS in schools, so that students are involved in various activities instead of just learning about issues theoretically. As the major objectives of Eco-Clubs in schools is to develop skills and attitude among students with regard to preservation and conservation of environment.

It has also been suggested that school environmental education programmes can
potentially reach a wider audience than the student population through the process of intergenerational influence (Ballantyne et. al., 1998a). Some environmental education activities and approaches, for example, encourage students to discuss environmental issues and actions with their parents and other adults in the community (Ballantyne et. al., n.d.). However, the extent to which involvement in such projects leads to students, their parents, and other adults in the community developing an increased appreciation of the relationships between people and environments and enhanced insights, commitments and skills for acting on behalf of the environment remains unclear. This leads to the need to expand the delivery system of EE at primary and upper primary levels from conventional style to field based “learning-through-experiences” by enhancing extra-curricular activities. However, schools tend to have insufficient expertise, experience and resources for such outdoor education. It has been widely observed that the “limited resources” is a major challenge in expanding formal education, especially at the primary level. The international community declared “no government seriously committed to achieving Education for All will be thwarted in this achievement by lack of resources” (UNESCO, 2001).

In the history of environmental education in India began informally with the concept of the ‘Eco-Club’ arising in 1986, first known as a ‘Scheme’. The aim of the NGC is: ‘To impart environmental education and to encourage and mobilize participation of school children in various environment education activities and approaches, in their localities’ (MoEF Annual Report 2005). It has been observed that although the objective of introducing the Eco-Clubs in schools was a positive note in terms of inculcating values with regard to environment. The study conducted by Khirwdkar and Awasthi (2008) indicates that the Eco-Clubs are established in schools but there is no proper coordination of activities conducted under Eco-Clubs. Teachers and students are overloaded with other curricular work as a result very little time is spent on the activities related to Eco clubs. This objective is not achieved as the activities are just on paper and no effective role is being played by the teacher or the school. A planned and systematic approach needs for the same which is lacking. The teachers are lacking in knowledge regarding the different activities which can be taken up. There is no training being given to them regarding the same. Hence in this study the researchers are making an attempt to design a programme and implement the same in the selected school. The same can be later on used by the school teachers. This will act as a guide for them and will systematize the whole process to be undertaken for making the Eco Club functional.

These activities will provide first hand experiences to the students about their surrounding environment. Students can understand the issues related to environment by activities. So the learning will be effective and long lasting. Outdoor activities in primary schools play an important role in sensitizing and increasing awareness of the students towards environmental issues. Outdoor education, which is the major focus of extra-curricular activities, is considered particularly significant in EE, as it provides children with valuable experience in getting closer to nature, which sensitizes them towards environmental issues. In the context of lifelong learning and EE, emphasis is given to the importance of education “in” the environment for pre-school and school age children.

With these objectives in mind the following study was taken up in the selected schools of Baroda city. Various activities were planned and conducted by the researchers in order to initiate the various activities in school and motivate students to participate.

**OBJECTIVES OF THE STUDY**

- To develop activities for environmental awareness among secondary school students Vadodara city
- To implement activities for environmental awareness among secondary school students Vadodara city
- To study the opinion of school students on the implemented activities

**METHODODOLOGY:**

This study was descriptive in nature.

**POPULATION**

All the upper primary and secondary schools of Baroda city following the syllabus prescribed by Gujarat Secondary and Higher Secondary Education Board(GSHSEB) were taken as population for the study. There are 225 upper primary and secondary schools in Baroda city following the syllabus of GSEB.

**SAMPLE**

Six schools were selected purposively for conducting the study irrespective of the medium of instruction. The schools which agreed to co-operate for the study were considered as sample. Six schools were selected to implement the developed programme.
PLAN AND PROCEDURE OF THE STUDY

The study was carried out in three phases. In the first phase the activities were designed to create environmental awareness among the students. In the second phase these activities were implemented in the selected schools. In the third phase the opinions of the students were collected through focused group interview to know their views on the implemented activities.

DATA ANALYSIS

Data was analyzed qualitatively. Data collected through focused group discussion was analyzed quantitatively. Content analysis was employed for the collected information from the student and student teachers on the implemented program.

Activities:

The following activities were conducted in the schools:

1. Workshop on Developing Best out of Waste: Under this activity the school students were oriented in advance by group of four student teachers to collect and bring the waste material from their house.

2. Film show on Environmental Awareness Program: for this one day was selected with consultation of school principals for showing the film on Environmental awareness.

The students were shown the film on the specified day in the Audi-visual room of school. Then it was followed by discussion on the issues related to environment and discussed their role to save and conserve the environment.

3. Poster and slogan competition was organized for the school students on the theme of save environment. School students were motivated to participate and were reinforced by giving the certificate of appreciation. The best slogan and best poster was selected from each school and certificates were given to them and even to other participants.

Field Trip: The student were made to visit the botanical garden in the University.

Skit Making: The student were asked to write skit on the environmental problems and even were to enact the same. This was an attempt to make them consciously think about the different environmental problems and represent their views on the same in the form of skit.

Activity 1: Best out of Waste

This activity was based on the waste management, in which students used different waste materials like old News Papers, Plastic bottles, Empty match boxes, paper cups, thermocol etc. for making useful things. For this activity, the students were informed in advance to bring different waste items from their home. Later on the work of the students was evaluated by the school teachers along with the researchers based on the criteria of creativity, use of minimum resources, innovativeness in presentation, use of materials. First three students were selected for their best work. The selected students were motivated by distribution of certificates to each of them.

Activity 2: Video Presentation

Animated cartoon film show on types of pollution was projected to the students. The videos were shown in six different selected school by the researchers on two different days. This was followed by discussion based on the video shown. The students were made aware about importance of healthy and safe environment. The students in discussion session opined that the video sensitized them and from now onwards they promised to save water, listen music on less volume and also plant trees. Students agreed to take care of their environment and preserve it. They took an oath to educate their family and neighbourhood for judiciously using the resources and helping in sustainable development. One more video explaining concept of environment, ecology and different types of pollution. Each type of pollution was focused in detail that is air pollution, water pollution, noise pollution and soil pollution. This video was in hindi.

Activity 3: Poster and Slogan Making competition:

The students were given certain themes related to environmental problems such as save water, save electricity etc and they were asked to prepare a poster to create awareness related to these environmental problems. The slogan competition was also conducted under which the students were to given slogan for any environmental problem so that it helps in creating environmental awareness.

Students opinion on the implemented activities

The effectiveness of the developed programme was studied in terms of opinions given by the school students and the student teachers.

Discussion was conducted with the school students by asking following questions:
1. How far these activities were useful for them?
2. Which activities they found more interesting?
3. How far eco club activities helped them in developing environmental awareness?
4. What is the importance of resources and how to conserve and use resources?
5. What are eco friendly habits and how it will help in developing eco friendly environment?

Usefulness of Activities:

On being asked on usefulness of activities, most of the students reported that the activities conducted were quite useful to them. It helped them in their day to day life activities. They now became more conscious towards many of the environmental problems such as wastage of resources like water, electricity, excessive use of fuel etc. Some of them even reported that they have now started questioning their family members and made them also conscious towards environmental problems and preservation of energies. They narrated some of the instances which prove the usefulness of these activities, which are as follows:

Some students reported that they now keep watch on leaking taps, while brushing teeth and taking bath they consciously take care that they do not keep the tap open throughout.

Many students also reported that they now always switch off the lights and fans when not in use. They also see that they use power saving tube lights.

Majority of the students also reported that they suggested their parents to share the vehicles while going to office wherever possible. They also suggested them to switch off the vehicles while waiting on traffic signal.

Students also reported that now they have stopped using the vehicles for short distance. Wherever possible they go by walking or by their own bicycles.

Activities they found interesting:

Majority of the students reported that they liked the BEST OUT OF WASTE and POSTER MAKING the most compared to WATCHING FILM on Pollution, types of pollution and Natural Resources. They reported that they liked poster making and best out of waste as they had a scope of displaying their creativity. Also they got to learn making many of the new art items from their friends and used the idea to make lot many items and decorated their home. They reported that as the poster making competition was held in group it helped them to share their idea and also helped them to socialise and also used the expertise of the group members to make their poster the best. They also opined that such type of group activities should be conducted on and off in the school.

Activities which helped them in developing environmental awareness

Majority of the students now became aware that there are various factors contributing to pollution and one among them is human activities. One of the students also recalled the advertisement by Amir khan on television and reported that every body should own the public property and should take outmost care to preserve it. Most of the students now were aware of importance of using dustbins and not throwing waste material on the road and thus keeping their surroundings clean. Now the students were also aware that rather than throwing the vegetable pills in garbage, the same can be utilised to prepare manure which can be used in the kitchen garden at their home as well as in their school. The students also got awareness that there is a need to have separate dustbins for biological waste and recycled waste.

Importance of resources and their conservation

Students informed that they learnt the importance of natural resources in their life after watching animated movies on the theme of types of pollution and causes for pollution. They could understand the ways to minimize the wastage of resources in day to day activities. The film show had a great impact on them as they started watching their habits while doing various activities. Students said that such film shows helped them in understanding the concept of man made pollution and its hazardous effects on humans. They realised that different diseases are spread as a result of effects of pollution.

The films on effects of pollution made them understand the effect of pollution on global warming and changes in the seasons which are seen these days.

As per students such film shows should be organized on different themes of environmental awareness every year. These shows can also be linked with the subjects they are learning which will help them in better understanding and develop interest in subjects.

Developing Eco friendly habits and Eco friendly environment
The students were given themes for poster and slogan competitions held in schools. The different themes like save water, conservation of energy, save environment and extinction of species were given to the students. The posters were made by the student and appropriate slogans were written by the students. This activity gave them idea to conserve natural resources and their related importance. The students opined that now they developed eco friendly habit of using paper bags, cloth bags and made eco friendly ganeshji. The students opined that now they never used to put the flowers, coconut and other pooja stuff in the river or sursagar. The students also are now taking paper bags or cloth bags while going for shopping.

**Major Findings of the study are:**

1. The students liked the different activities organised for environmental awareness.
2. The students reported that these activities created Eco friendly habits in them.
3. The students realised from BEST OUT OF WASTE activity that many of the waste materials can be effectively utilised.
4. The students reported that they have consciously started saving the environment and energy in their day to day life activities.
5. The students realised the importance of saving water, electricity and other resources.
6. The students learned to prepare manure from kitchen waste.
7. The students could understand the importance of preserving environment in their life.
8. The students understood the importance of developing Eco-Friendly habits.

**CONCLUSION**

The programme that was implemented for creating environmental awareness among the secondary school students was found to be effective. Although schools are having Eco-Clubs but they don’t have planned programme and even do not have seriousness of implementing them. If a serious attempt is made and many such activities are carried out than the purpose of Eco-Club can be served. The students really found it interesting and meaningful. The school teachers also became aware about the different activities to be organised for environmental awareness. It was felt that many such activities can be planned and organised in schools. These activities will be very helpful in sensitising students towards environmental problems and generating Eco-Friendly habits.

**BIBLIOGRAPHY**


