

# DEVELOPMENT OF ENVIRONMENTAL EDUCATION PROGRAMME FOR THE ADOLESCENTS

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## ABSTRACT

*Increasing air, water, and soil pollution owing to rice shellers, falling water levels, excessive use of fertilizers and pesticides, and crop burning are just a few of the concerns that rank high on the list of environmental challenges. The term "environmental crisis" refers to a period of maladaptive behaviour. All of this led to the realization that people's existing environmental behaviour must change, indicating that people must learn how to behave in an environmentally responsible manner. Behaviour change strategies include types of information to provide: ways of involving others in solving environmental problems, and methods for providing skill and commitment. Thus it is a need of the hour to motivate the people to change their behaviour, and lifestyles to live more sustainably or within the carrying capacity of the earth. No nation can afford to ignore such environmental problems. Thus Investigator developed the Environmental Education Programme to change their behaviour and well-being.*

*Keywords: Environmental Education, Adolescents*

## INTRODUCTION

Environmental education programme aims to ensure the active participation of the adolescents in solving environmental problems in immediate surroundings through conceptual and activity based learning. It also aims to develop the responsible environmental behaviour among Adolescents, for the maintenance and improvement of the environment. It will focus on developing key concepts and essential skills through simple and specific content. It will create awareness, critical thinking, collaboration, creativity and inter relationship among various elements of environment. Because it involves individual engagement and activities can be carried out either individually or in groups with little or no supervision, environmental education programmes are excellent for both formal and non-formal education. Environmental activities, such as group projects, are excellent ways to prepare young individuals to comprehend and practise responsibility, as well as to participate in a collective understanding of living situations that directly affect their quality of life. Because environmental challenges transcend political, geographical, and racial barriers, this could be a good opportunity to strengthen national unity and racial integration. It helps one to:

1. Understand the complex nature of the environment and how crucial it is to maintain it,
2. Be aware of the physical, biological and social interactions, and

Acknowledge it as a life science since life depends on the environment.

Environmental Education programmes that are well-designed can lead to the intended results outlined in the Belgrade Charter and the Tbilisi Declaration (Venkataraman, 2008). Environmental education programmes, on the other hand, must focus on inspiring learners to engage in environmentally responsible behaviours in order to achieve the Tbilisi Declaration's aims. Environmental Education Program is defined by Dr. N. Radhakrishnan (2017) as a curriculum that tries to teach individuals about the natural world, specifically on how ecosystems work. It frequently seeks to alter people's perceptions of natural values and to teach people how to improve their environmental behaviour. **It's an integrated learning programme that encourages young people to think about the world they live in and demonstrates how everything works together in a complex and delicate way, and how animals, plants, and humans are all interconnected. There is little hope for a sustainable future if the kids do not comprehend this. Through basic and specific text, it focuses on teaching important concepts and essential skills. It fosters environmental awareness, critical thinking, collaboration, creativity, and interdependence among many parts.**

## REVIEW OF RELATED LITERATURE

The review of related literature implies locating, studying and evaluating relevant research studies of published articles, going through related portions of encyclopedia and research abstracts. Thus the review of literature becomes a link between the research proposed and the studies already done.

Shahanawaj (1990) worked on environmental awareness and attitude of secondary and higher secondary school teachers and students at Udaipur district. He found a very high level of awareness on the part of teachers and this was more in the urban than rural groups.

Newhouse (1990) conducted a study on Environmental Responsible Behaviour of the college students in relation to locus of control and found that individuals with a stronger internal locus of control were more likely to participate in activities related to environmentally responsible behaviour because they believed their actions could help in behavior change.

Sherlock (1995) conducted a study on environmental attitude and behavior of 8<sup>th</sup> grade students. In this, five case studies were presented which portrayed the live experience of the adolescence. Information was collected through the use of personal journals. This thesis concluded need for qualitative research in Environmental Education and gave recommendations for improving the commitment to environmental action within adolescents.

Prajapat (1996) conducted a study on the effect of programme developing awareness towards environment among the pupils of standard IV and concluded that the pre acquired initial environmental awareness played important role in enhancement of environmental awareness of the students of IV standard. Students of experimental group were found more enthusiastic than the Students of controlled group, and the most remarkable effect of the programme was that the students of both the groups were more enthusiastic and zeal towards receiving the education through programme instead of textbooks.

Davis (2003) in their study of environmental education and environmental management in Bangladesh revealed that: (i) Environmental education and development of local expertise is needed for massive changes in behaviour with respect to the environment. (ii) Graduates from the environmental disciplines should have a significant role in the environmentally sustainable of Bangladesh.

Hsu (2004) conducted a study on the Effect of Environmental Education on responsible environmental behaviour and associated environmental literacy variables in Taiwanese college students. The results indicated that the environment education course did significantly promote the students', responsible environmental behaviour, locus of control, environmental responsibility, intention to act, perceived knowledge of environmental issues, and perceived knowledge and skills in using environmental action strategies.

Kalantari (2007) studied on the investigating factor affecting environmental behaviour of urban residents and found that: (i) There was no significant difference between men and women in terms of environmental attitudes, preparedness to act and feeling of stress. (ii) Women and men opinion were different in respect of environmental legislation. (iii) Women emphasized that current environmental legislations are sufficient for environmental protection; environmental problems could be solved if the laws were enforced completely. (iv) Most of the men believed that these legislations were not adequate and government should pass more laws to make ordinary people and business to protect the environment. (v) The study also showed that there was significant difference between men and women in respect of environmental behavior. Women were generally more concerned than men.

Kaur and Mehra (2009) conducted a study on the Effectiveness of outdoor education programme for enhancing critical thinking social skills and responsible Environmental behaviour among fifth grade students and found that students taught environmental education by the outdoor environmental education programme exhibited better mean gains on critical thinking, social skills and responsible Environmental behavior as compared to students of control group who were taught environmental education by traditional method.

Prakash (2014) revealed that 36.38 % of environment awareness may be attributed to the environment responsible behaviour and environment protecting attitude. It may be concluded that parent's occupation and income environmental responsible behaviour are potent factors for developing environmental awareness among senior secondary students.

Adya (2016) conducted a study on the effect of Computer Mediated and Activity based interventions on environmentally responsible behaviour of elementary level students in relation to socio demographic factors

and found that there were significant improvements on environmentally responsible behaviour scores from pre-test to post-test of elementary level students exposed to different interventions i.e. computer mediated and activity based interventions.

Rosa & Collado, (2019) found positive link between direct experiences in nature and people's environmental attitudes and behavior. This has led researchers to encourage more frequent contact with nature, especially during childhood, as a way of increasing pro-environmentalism. However, the association between experiences in nature and EA/EB is complex, and specific guidelines for people's everyday contact with nature cannot be provided.

## **STATEMENT OF THE PROBLEM**

### **DEVELOPMENT OF ENVIRONMENTAL EDUCATION PROGRAMME FOR THE ADOLESCENTS**

#### **OBJECTIVES**

To developed Environmental Education Programme

#### **DELIMITATIONS**

The study was delimited to 9<sup>th</sup> grade students from Secondary Schools of Punjab affiliated to C.B.S.E.

#### **SAMPLE**

In the present research, investigator selected district Muktsar from Punjab. From this district, investigator randomly selected secondary school of Punjab affiliated to C.B.S.E. 9<sup>TH</sup> grade adolescents were selected for the present study.

#### **METHODOLOGY**

Despite of the fact that India is a rural country; its air, water, and land are polluted by the endless streams of effluents and poisonous gases which are discharged by industries, power generators, transportation systems, and other human activities. Even today, agriculture has aggravated the problems of pollution by supplying nitrogen, fertilizers, insecticides, pesticides and herbicides which are washed off by rains into rivers and the sea. More seriously, many heavy metals, such as mercury, lead are found in the waters of the River Ganga and the Arabian Ocean near Bombay. Also stubble burning is creating lot of pollution. Increasing urban migration and a high density of population will make waste management a difficult issue to handle or take care of in the near future. These are some of the main problems; we are facing everywhere in India particularly North West Punjab. Environmental problems and the accelerating changes occurring in living conditions have become a fundamental part of the world in general and metropolises in particular. Earlier, environmental problems have been considered like technical and economic problems; while in the recent decades the social dimensions of environmental problems such as public attention and people's attitudes and behaviour towards environment have become one of the areas of environmental sociology and environmental psychology (Kalantari, 2006). Because Environmental problems - global climate change,

regional air pollution, water pollution and others are results of human behaviour. Only a change in human behaviour can reduce these environmental problems. Environmental organizations and natural resource agencies often seek education and communication strategies to encourage effective conservation behaviour, green consumer behaviour and waste management behaviour. Behaviour change strategies include types of information to provide: ways of involving others in solving environmental problems, and methods for providing skill and commitment.

Education being a powerful instrument brings awareness among the people about all such burning issues like decreasing water table, use of pesticides in Agriculture, increasing air, water and soil pollution due to increasing industries, stubble burning etc. Thus, Environmental Education Programme was developed by the investigator. For that some steps were followed by the investigator.

### 3.1.1 SELECTION OF THE CONTENT AND ITS LEARNING OBJECTIVES

The first step followed by the investigator to develop the Environmental Education Programme Module was to select the content. Taking into account the problems we are facing in our areas, the content includes the following units:

#### UNIT I: CONSERVATION OF WATER

This unit includes subtopics:

- Issues related to water
- Saving water
- Reusing water
- Recharging water
- Natural Recharge
- Artificial Recharge
- Different methods for conservation of water

#### Learning Objectives

After the instructions are over, the learner will be able to:

- Discuss the importance of water
- List the different ways of saving and recharging water.
- To develop the habits or skills of saving water.
- To enumerate the ways of reusing the water at School, home and Society

#### UNIT II: CONSERVATION OF FLORA AND FAUNA

This unit includes subtopics:

- Importance of Bio- Diversity
- Concept of Food Chain
- Loss of Bio- Diversity (Endangered Species)
- Conservation of Bio –Diversity

**Learning Objectives**

After the instructions are over, the learner will be able to:

- Explain why all members of an Ecosystem are important.
- List the reasons, why Bio- Diversity should be preserved.
- Describe the causes of depletion or extinction of species.
- To initiate some action on his/her part to conserve Bio- Diversity.

**UNIT III: DEVELOPING GREEN CONSUMER BEHAVIOUR**

This unit includes sub topics:

- Pollution
- Use of environmentally and ozone friendly products
- Improving agricultural practices
- Organic farming
- Less use of pesticides

**Learning Objectives**

After the instructions are over, the learner will be able to:

- Distinguish between different types of wastes.
- To understand the need of waste management.
- List the different ways of managing the waste.
- To develop the habits or skills of reusing or reducing waste.
- To enumerate the ways of reusing, recycling and reducing the waste at School, home and Society.

**UNIT IV: WASTE MANAGEMENT**

This unit includes sub topics:

- Types of Wastes and Sources
- Need of effective waste management
- Principle of 7 R's
- Reduce
- Recycle
- Reuse

**Learning Objectives**

After the instructions are over, the learner will be able to:

- Discuss the effects of pollution
- List the different ways of using the environmentally friendly products.
- To develop the habits or skills of improving the agricultural practices.



## CONTENT ANALYSIS

The entire content of environmental education programme was divided into 20 sub units of related concepts. Investigator decided the content and sequence of topics. For the convenience of the students the activities were prepared to take the basic things first and then gradually the difficult ones.

### DEVELOPING ENVIRONMENTAL EDUCATION PROGRAMME

It consist of four units which aim to inculcate Responsible environmental behaviour among adolescents and to enhance the well being of adolescents. It includes

Unit 1: CONSERVATION OF WATER

Unit 2: CONSERVATION OF FLORA AND FAUNA

Unit 3: WASTE MANAGEMENT

Unit 4 : DEVELOPING GREEN CONSUMER BEHAVIOUR

Environmental Education Programme supported by activities, PPT's, survey sheets, checklists, observations, small films based on environmental activities and follow up is performed by the adolescents for conserving water at school, home and Society. Water Conservation includes leak hunt activity, RO filter activity, rain water harvesting activity, water saving campaigns, repair activity, completing assignments individually and socially etc. Conservation of flora and fauna includes print material, video links, PPT's, images, survey sheets and small kit of equipments required for conserving biodiversity in daily life through various activities. Third unit includes print material, video links, PPT's, images, survey sheets, art craft material and small kit of equipments required for developing green consumer behaviour in daily life. Fourth unit includes print material, video links, PPT's, images and small kit of equipments required for managing wastes in daily life through activities. Keeping in mind the interests, aptitude, attitudes, abilities and needs of student's, environmental education programme module was developed for class 9th students. Appropriate learning conditions were utilized. Various sub heading were covered under this programme:

- Topic
- Sub topic
- Learning objectives
- Material and equipments
- Methodology
- Skills developed
- App used
- Resources
- Schedule assignments
- Follow up and self evaluation
- Learning Outcome

## TRY OUT

Environmental education programme was tried out on 60 students of class 9<sup>th</sup>. After try out, investigator came to know the weak points and the problems facing while conducting the environmental education programme. Based upon that, investigator revised and modify the programme.

## VALIDATION

The above instructional material for environmental education programme is subjected to two type of evaluation i.e self evaluation and expert appraisal. In the self evaluation, the content portion of the instructional material is checked about its relevancy to objectives of the study. In the expert appraisal, comments and suggestions are taken from school teachers, faculty members from teacher education colleges and education departments of the universities. All the experts have a close agreement that the content of the environmental education programme is according to the objectives of the study.

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