

## A Study of Environmental Awareness of the Students at Higher Secondary Level

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### Nature of Environmental Studies

Nature and human life are closely related. In fact the very existence of human life is on the nature. All living creatures i.e. man, animal, plant have to depend on nature and they grow within their confines by using natural resources. They grow within their limits, without trespassing others jurisdiction and thus keep the natural balance undisturbed. This nature's balance is helpful in the origin, growth and development of life on the planet. Therefore imbalance in nature means imbalance in environment. Animals, Birds, Insects and everything around us are the part and parcel of environment. Excess or deficiencies in any one of them may cause imbalance.

### Meaning of Environment

The environment refers to natural things around us, which sustain human life, such as earth's atmosphere or healthy air or drinkable water. The environment may be defined as that, outer physical and biological system in which man and other organisms live with many interacting components. The identified components of the environment include "its rocks, minerals, soils and waters, its land and their present and potential vegetation, its animal life and potential for livestock husbandry, and its climate". There is said to be a close interaction among these various components which seem to produce some kind of Equilibrium in the scheme of nature, what is usually termed as ecological balance.

By environment we mean not only our immediate surrounding but also a variety of issue connected with human activity, productivity, basic living and its impact on natural resources such as land, water, atmosphere, forest, dams, habitat, energy research, and wild life

### Environmental Education

The chief objectives of environmental education are that;

- Individuals and social groups should acquire awareness and knowledge.
- Developing attitudes skills, abilities and participate in solving real life problems with a practical basis for developing a healthy environment around.

The perspective should be integrated, interdisciplinary in character. Environmental education includes awareness, real life situation, conservation and sustainable development. This should be matched with the needs of primary, secondary, higher and

adult education. Awareness includes making the individual conscious about physical, social and aesthetic aspects of the environment.

UNESCO and UNEP launched an International Environmental Education Programme to promote exchange of information and experience in the field of environmental education. According to this programme, an International Workshop on Environmental Education was held in Belgrade 1975. A Global frame work for environmental education was proposed the following principles.

- Environment should be considered totally, and it should be taught as a continuous life-long process, from primary to higher level.
- The approach should be inter-disciplinary and the emphasis should be on active participation in preventing and solving environmental problems.
- Environmental issues should be examined from the world point of view, with due regard to regional differences.
- Emphasis should be on present and future environmental situations.
- All development and growth should be examined from the environmental perspective.
- The need for promotion of international co-operation in solving environmental problems should be considered and stressed.

In 1979, the first inter-governmental conference on environmental education organized by UNESCO and UNEP was held in Tbilisi, USSR. The Tbilisi conference aims at providing information useful to policy makers and planners of environmental education through co-ordination and research activities.

Environmental education must start at home and its neighbourhood by developing manipulative skills in home activities and play, personal hygiene and problems of food and also water contamination.

Human beings are interlinked with the life support system, which has air, water, land, flora and fauna. These elements have a dynamic continuing and living relationship, and the consciousness that humankind, being the most dominant of the species, has a very major responsibility,

- The main objectives set for the global community at the Stockholm conferences are
- To increase our knowledge of the environment and
  - To safeguard and enhance the environment for present and future generation, spread of environmental education, creation of awareness and dissemination of information are very crucial to protect environment effectively, Environmental education must create an awareness of the economic, political and ecological interdependence of the modern world so as to enhance a spirit of responsibility and

solidarity among nations and peoples. This is an essential prerequisite for resolving serious environmental problems at Global level.

### **Environmental science**

Man has always been an inseparable part of the environment since his very existence on earth. However, his/her desire and greed for more joy and comfort has led him to exploit nature's free goods to the extent of reducing its natural capacities for self-stabilization. The increasing population and industrialization has added fuel to the fire by creating tremendous pressure on the natural resources. This has resulted in environmental crisis due to the erosion of many environmental problems like pollution, climatic changes, ozone layer depletion, global warming, acid rain, loss of biological diversity, deforestation, waste disposal and other environmental hazards. The protection and preservation of the environment has now become a globally challenging issue.

The prerequisite and integral part of the development process is to prevent the degrading environment from further deterioration at local, national and global levels. Pertinent steps need to be taken to prepare environmentally conscious citizens. This is possible through education. Education brings awareness and is essential for action. In this direction, environmental education provides an understanding of the multi-dimensional problems of depleting resources and ever-increasing populations (Nachimuthu & Vijayakumari, 1993). Environmental education is a way of creating knowledge, understanding, values, attitudes, skills, abilities and awareness towards the environment and its protection. The school system provides the largest organized base for environmental education and action. With children in the plastic age, school offers an effective instrument for imbedding in them the desirable environmental ethics. Teacher is one of the important factors, which is bound to affect this programme. They can provide a vital link in the delivery of environmental knowledge, its associated problems and their solutions.

Although research efforts have been undertaken in the context of environmental education awareness among teachers by many researchers in India and abroad, still the subject faces certain limitations about its proper implementation. The loophole seems the lack of attitude of the teacher. The teacher should be aware of the environmental education aspects; only then, s/he can make the future generation aware of the environmental problems and their solutions. However, among teachers the subject of differences between the sexes is one of the perennial interest and research on sex differences since about 1950 has evidenced that personality traits are linked together differently in males and in females and that their differences grow out of differences in developmental process.

Many scientists believe that differences in the ways men and women communicate is a function of sex-specific areas of the brain. They also believe that gender roles

themselves are abstractions of overall differences between men and women, introducing the idea of circularity and the idea of the social reinforcement of natural tendencies leading to a factitious separation between the activities of males and the activities of females. Each sex group plays somewhat different roles and has some relationship with personality variables like intelligence, abilities, interests, emotions, sensitivity, motivation, temperaments, aptitude, attitudes etc. Taking into consideration this situation, the investigator has felt a need to conduct a study to examine whether sex differences have any effect on the environmental education awareness of school teachers along with their level. It is possible that the results of the study can help us to take necessary actions to enhance the efficacy of the content according to the gender differences.

### **Objectives of the Study**

- To study the extend of awareness of students to environmental education
- To study the extend of awareness of students to social issues related to environmental pollution.
- To offer a few suggestions to get over the problems related to environmental pollution.
- To throw light on salient features of environmental education.

### **Definition of key terms**

Environmental awareness, Social issues

### **Limitations of the Study**

The limitations of the study are as follows.

- This study is limited to the pupils studying in standard XII.
- The sample is limited to certain schools in Virudhunagar District.

### **Problem Stated**

The problem of the study pertains to the following area. What is the extent of knowledge attained by the students of standard XII with regards to Awareness of environmental pollution?

### **Sample design**

The sample consists of 100 respondents for pilot study for the purpose of standardization of achievement test in -----The sample for final study consists of 180 students of which 90 students belong to the Government institution and other 90 to Management institutions with due representation to gender.

## Instrumentation

The investigator employed the tool “Environmental awareness questionnaire” for this study.

## Analysis and interpretation

## Hypothesis - 1

**Null hypothesis:** There exists no significant difference in the mean scores in Environmental awareness between the students belonging to science group and arts group

**Table 1** Difference in students due to groups

Table 1 Difference in students due to groups					
Groups	N	Mean	SD	"t" value	significance
Science	60	35.15	8.75	8.02	S
Arts	60	26.50	7.07		
df = 118			$t_{(0.05)} = 1.96$		$t_{(0.01)} = 2.58$

## Report

There exists significant difference in the mean scores in Environmental awareness between the students belonging to science group and arts group

## Hypothesis - 2

**Null hypothesis:** There exists no significant difference in the mean scores in Environmental awareness between the students belonging to science group and vocational group

**Table 2 Difference in students due to Groups**

Table 2 Difference in students due to Groups					
Groups	N	Mean	SD	"t" value	significance
Science	60	35.15	8.75	7.22	S
Vocational	60	24.66	7.07		
df = 118				$t_{(0.05)} = 1.96$	$t_{(0.01)} = 2.58$

## Report

There exists significant difference in the mean scores in Environmental awareness between the students belonging to science group and vocational group

### Hypothesis - 3

**Null hypothesis:** There exists no significant difference in the mean scores in Environmental awareness between the students belonging to vocational group and arts group

**Table 3 Difference in students due to Groups**

Table 3 Difference in students due to groups					
Groups	N	Mean	SD	"t" value	significance
Vocational	60	24.66	7.07	1.43	NS
Arts	60	26.50	7.07		
df = 118			$t_{(0.05)} = 1.96$		$t_{(0.01)} = 2.58$

## Report

There exists no significant difference in the mean scores in Environmental awareness between the students belonging to vocational group and arts group

**Hypothesis - 4**

**Null hypothesis:** There exists no significant difference in the mean scores in Environmental awareness between the students in terms of gender

**Table 4 Difference in students due to gender**

Gender	N	Mean	SD	"t" value	significance
Boys	90	30.04	10.59		
Girls	90	30.51	10.27	0.30	NS

df = 178

 $t_{(0.05)} = 1.96$  $t_{(0.01)} = 2.58$ **Report**

There exists no significant difference in the mean scores in Environmental awareness between the students in terms of gender

**Hypothesis 5**

**Null hypothesis:** There exists no significant difference in the mean scores in Environmental awareness between the students in terms of types of institution.

**Table 5 Difference in students due to type of institution**

Institution	N	Mean	SD	"t" value	significance
Government	90	30.37	10.43		
Management	90	30.60	10.80	0.15	NS

df = 178

 $t_{(0.05)} = 1.96$  $t_{(0.01)} = 2.58$ **Report**

There exists no significant difference in the mean scores in Environmental awareness between the students in terms of types of institution.

**Findings of the Study**

- There exists significant difference in the mean scores in Environmental awareness between the students belonging to science group and arts group
- There exists significant difference in the mean scores in Environmental awareness between the students belonging to science group and vocational group
- There exists no significant difference in the mean scores in Environmental awareness between the students belonging to vocational group and arts group
- There exists no significant difference in the mean scores in Environmental awareness between the students in terms of gender
- There exists no significant difference in the mean scores in Environmental awareness between the students in terms of types of institution.

**Implications and Conclusion**

- Environmental awareness plays a vital role in preserving of nature.

- Through Environmental Awareness we can create relationship between man and nature is established.
- Environmental awareness enriches one's knowledge of balance of nature.
- Environmental awareness inculcates skills among students which indirectly help one to become a nature loving scientist.
- Through Environmental awareness whatever that is learnt in environmental awareness is applied in life situation
- The environmental awareness skills of the learners such as manipulation of the environment, arranging things in the nature observation, collection, classification of things in nature and inference of scientific and environmental facts out of it are nourished.
- A higher degree of environmental awareness is essential to save the world from extinction and preserve the ecosystem.
- The issues such as global warming, soil erosion, deforestation and depletion of ozone may cause major damage to the world.

The things highlighted above are the antecedent skills for a blossoming environmental scientist.

#### **Educational implications**

Teacher (independent of gender differences) can play an important role in educating their students about environment, which is possible only when the teacher themselves have the necessary level of environmental education awareness. This suggests the need for introducing and enriching environmental education programmes in both in-service and pre-service elementary teacher education programmes. More effort has to be implemented to encourage female teachers as they get fewer opportunities than their male counterparts for performing and participating in environmental activities and actions. A possible future study would be to compare gender differences along with the area to which they belong as well as their age.

#### **Conclusion**

The students have a higher level of scientific attitude. The achievement of the students in Environmental awareness is not of higher order. The reason may be that they have not been exposed to scientific literature at concrete stage at lower level and suddenly they find it difficult to cope with the scientific literature at the higher level which involves abstract thinking.