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A Research Study on the Process of Creation of Awareness and Sensitivity to the Total Environment

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ABSTRACT

Environmental Education is therefore the process of creation of awareness and sensitivity to the total environment, acquisition of knowledge, creation of appropriate attitudes and acquisition of skills for solving the environmental problems. The International conference recommended that "A basic aim of Environmental Education is tosucceed in making individual and Communities understand the Complex nature of environment and to acquire the Knowledge values and attitudes which will helpin the management of quality of environment.

Keywords: environmental awareness, environmental Sensitivity, pollution, classroom, religious culture and ethics.

INTRODUCTION

The environment is becoming increasingly contaminated by our imagination. Most human activities Cause the environment to become contaminated. This will affect both the global and regional levels. Thinning of the ozone layer and the increase in greenhouse gas emissions are examples of global losses, while water pollution, Soil erosion is one of the few regional outcomes created by human activities and by them the environment is also affected. Environment education and awareness is comprehensive, continuing process, rooted in broad interdisciplinary base.

Environment education is multifaceted and touches upon every aspect of life. It aims to assist individuals an understanding that people are inseparable parts of an environmental system and that whatever they do alter their surroundings in both harmful and beneficial ways.

Environmental Education is therefore the process of creation of awareness and sensitivity to the total environment acquisition of knowledge, creation of appropriate, attitudes and acquisition of skills for solving the environmental problems. The International Conference on Environ- mental Education was held at Tibilisi, U.S.SR. in 1977. The conference recommended thatA basic aim of Environmental education is to succeed in making individual and communities understand the complex nature of environment and to acquire the knowledge values and attitudes which will help in the management of quality of environment.

The chief objective of environmental education is that individual and social groups should acquire awareness and knowledge, develop attitudes, Skills, abilities and participate in solving real life environmental problems. The most relevant to the subject is a chinese perception about education which says s you plan for one year, plant rice, if you plan for 100years, plant trees, but if you plan for 100 years, educate the people."

Therefore, our voice is essential for environmental education for environmental protection and management. It is a right step to teach people and society the best way to utilize present and future resources. Through environmental education, all people can give Knowledge of correcting the fundamental issues leading to local pollution.

OBJECTIVES OF ENVIRONMENTAL EDUCATION

According to Tibilisi Conference following are the main objectives of EE :-

1. Attitude. To help social groups and inviduals to acquire a set of values for environmental Protection.

2. Awareness- to acquire an awareness of the sensitivity towards total environment and its allied Problems.

3. Participation –to provide an opportunity to be actively involved at all levels in the solution of environmental problems.
working towards

4. Skills - to acquire various skills for identifying and solving environmental problems.

GUIDING PRINCIPLES OF ENVIRONMENTAL EDUCATION

• Environmental education must include effective and long-term strategies and plants to achieve environmental goals and sustainable development.

• According to Tibilisi declaration, environmental education should be

• To consider the environment in its totality (natural, artificial, social etc.)

• To consider it a continuous life long process. from conception to death)

• To emphasise active participation in prevention and solution to environmental problems

• To focus on current, potential environmental issues.
• To consider environmental issues from local, national, regional and international Drew point.

• To promote the value and necessity of local, national and international cooperation in the prevention and solution of environmental problems.

• To utilize diverse learning about environment and different approaches to teaching and learning about environment.

CHARACTERISTICS OF PROGRAMMED LEARNING MATERIALS:

A genuine programmed learning material can be distinguished from other types of learning materials on the basis of following attributes.

1.Guaranteed Comprehensibility: The programmed Learning materials not only promote effective learning but also ensure thorough understanding of the subject matter.

2.Tested Efficiency: The fact that the programme will teach effectively is based upon the tests conducted upon the intended group of learners.

3. Skip-proof Feature: The module material is so designed that learner has to go through each and every frame in order to attain the terminal goal. He cannot afford to skip over some of the frames in order to complete the entire learning sequence.

4. Self-Correcting Feature: The learner is able to get immediate Knowledge of results when he reads a particular programme frame. Is he responds correctly he gets the confirmation, if he responds incorrectly, he gets corrected by the programmer.

5. Automatic Encouragement: when the learner responds correctly, he gets reinforcement, while he is working on programmed learning material.

Diagnostic Feature: The programme helps the teacher to diagnose the learner's difficulties on a particular programme frame and on specific criterion test items. Thus remedial instruction can be provided by the teacher by the construction of more simpler frames on the difficult concepts encountered by the learners while reading the programme or through the organization of remedial teaching sessions for ensuring. mastery learning.

CONTENT FOR SELF INSTRUCTIONAL MODULES

Contents for SIMS Consisted of following Chapters –
1. Environmental Pollution and Management
1.1 Water Pollution, 1.2 Air Pollution, 1.3 Noise Pollution,
1.4 Soil or (Land Pollution) and their control.
2. Natural Resources of Energy and Their Conservation

3. Environmental Degradation,
4. Environmental Awareness
5. Sustainable Development,

A. **Content outline of above mentioned topics is given below**

(a) Environmental Pollution and Management

a.1.0	Environmental Pollution
a.1.1	Definition of Environmental pollution
1.1.2	Definition of Pollutants
a.1.2.1	Biodegradable Pollutant
a.1.2.2	Non-Biodegradable pollutant
a.1.3	Types of Pollution
a.2.0.	water Pollution. Introduction
a.2.2.	Sources of water pollution
a.2.3.	Harmful Effects of Wales Pollution on Biota
a.2.4.	Control methods of water Pollution
a.3.0	Air Pollution – Introduction
a.3.1.	Definition of Air Pollution
a.3.2.	Sources of Air Pollution
a.3.3.	Harmful Effects of Air Pollution on Biota
a.3.4.	Control measures of Air Pollution
a.4.0.	Soil Pollution- Introduction
a.4.1.	Definition of Soil Pollution
a.4.2.	Sources of Soil Pollution
a.4.3.	Harmful Effects of soil pollution on plants and animals.
a.4.4.	Control measures of Soil Pollution
a.5.0.	Noise Pollution – Introduction
a.5.1.	Defination of Noise pollution
a.5.2.	Sources of Noise Pollution
a.5.3.	Harmful Effects of Noise pollution on Human Population
a.5.4.	Control Measures of Noise pollution-

NATURAL RESOURCES OF ENERGY AND THEIR CONSERVATION.

b.1.0.	Definition of Resources
b.1.1.	Types of Natural Resources of Energy
b.1.1.1.	Renewable Sources of Energy
b.1.1.2.	Non Renewable Sources of Energy
b.2.0.	Renewable Sources of Energy
b.2.1	Solar Energy
b.2.2.	Hydre Energy
b.2.3.	Wind Energy
b.2.4.	Bio-gas Energy
b.3.0.	Non Renewable Sources of Energy.
b.3.1.	Coal
b.3.2.	Petroleum
b.3.3.	conservation of Natural Sources of Energy.

(C) Environmental Degradation

c.1.0.	Environmental Degradation-Introduction.
c.1.1.	Green House Effect – Definition
c.1.2.	Sources of Green House Effect
c.1.3.	Harmful Effects of Green House Effect on glaciation and water.
c.1.4.	Control measures of Green House Effect
c.2.0.	Acid Rain Definition
c.2.1.	Sources of Acid Rain
c.2.2.	Effect of Acid Rain on Plants and Buildings
c.2.3.	Control Measures of said Rain

c.3.0.	Ozone Layer Depletion – Definition
c.3.1.	Sources of Ozone Layer Depletion
c.3.2.	Harmful Effects of ozone layer depletion on Plants and human Population.
c.3.3.	Control Measures of ozone layer depletion
c.4.0.	Deforestation – Definition
c.4.1.	Sources of Deforestation
c.4.2.	Harmful Effects of deforestation on flora and Fauna Control measures of deforestation.

D) ENVIRONMENTAL AWARENESS

d.1.0.	Environmental Awareness – Introduction
d.1.1.	Laws for Environmental Protection and Control of pollution in India.
d.1.1.1.	Wild Life Protection Act (1972)
d.1.1.2.	The water (Prevention and Control of Pollution) Act, 1974.
d.1.1.3.	The forest (Conservation) Act, 1980
d.1.1.4.	The Air (Prevention and control of pollution) Act, 1981.
d.1.1.5.	The Environmental (Protection) Act, 1986
d.1.2.	Environmental Awareness Programmes.
d.1.2.1.	Paryavaranvahini
d.1.2.2.	clean Ganga Project
d.1.3.	Role of Non-Government organizations (N.GO.S)
d.1.3.1.	Chipko Movement.
d.1.3.2.	Appiko Movement.

e) **SUSTAINABLE DEVELOPMENT**

e.1.0.	Sustainable Development – Definition
e.1.1.	Concept of Sustainable development
e.1.1.1.	Two Key Concepts in Sustainable development
e.1.1.2.	Essential requirements for sustainable development.
E.2.0.	Sustainable Development and population Regulation
e.2.1.	Population and over Exploitation of Resources
e.2.2.	Objectives of Population Regulation.
e.2.3.	control of Population growth rate in India
e.2.4.	Family welfare programmes to Achieve Sustainable Development
e.3.0.	Sustainable Development and Industrialization
e.3.1.	Treatment of Industrial pollutants for Sustainable Development.
e.3.2.	Strategy of shifting from non-renewable to renewable energy resources.
e.4.0.	Sustainable Development and people's participation

Survey of Related literature

In the words of walter R. Borg "The literature in any field forms the foundation upon which all future work will be built without knowing the past we cannot do some- -thing new in the field of research. If we want to do some new work in a Subject, It is very necessary to know past of that Subject.

Survey of related literature is an essential pre-requisite to actual planning and execution of any research project. It helps the researcher in formulating various hypotheses and guides in respect of selection of problem, its statement definition and delimitation. The review of the related literature is of great significance for researcher, as it helps the investigator to Know about amount of work done in the discipline in which the investigator conducts the research. It also directs the researcher to tackle the problem chosen for researcher and avoid the risk of duplicacy in research. It is true that review of related literature saves time, money and energy of the investigator.

DEFINING OBJECTIVES IN BEHAVIOURAL TEAMS

1. Environmental Pollution and Management.
a) Explains the concept of Environmental Pollution.
b) specifies the meaning of Pollutants.
c) writes the definition of water pollution.
d) Mentions the harmful effects of water pollution on the biota.

e) Defines the term Air Pollution.
f) Mentions the harmful effects of Air Pollution on the biota.
g) Defines the term Soil Pollution.
h) Describes the harmful effects of Air Pollution on biota.
i) Defines the term Noise Pollution.
j) Lists the harmful effects of Noise pollution on human population.

2.**NATURAL RESOURCES OF ENERGY AND THEIR CONSERVATION:**
a) Defines the term Natural Resources of Energy.
b) Differentiates between the main types of Sources of energy-renewable and non renewable.
c) Citoes examples of various sources of energy.
d) explains the concept of Solar Energy.
e) Describes the importance of Solar Energy.
f) Lists of the various uses of Solar Energy.
g) Mentions the various uses of Hydro Energy.
h) describes the importance of Bio-gas energy.
i) Mention the various uses of Coal.
j) Enlists the various uses of Petroleum

3. **ENVIRONMENTAL DEGRADATION:**
a) Defines the term Green Home Effect
b) I illustrates with example the concept of Green House Effect
c) Describe the harmful effects of Green House effects on Glaciation.
d) Describes the phenomenon of 'Acid Rain!
e) Narrates the various control measures for Checking Acid Rain
f) Specifies the meaning of Ozone Layer Depletion.

4. ENVIRONMENTAL AWARENESS:
a) States the meaning of environmental awareness.
b) Enlists the various laws for conservation and protection of the environment.
c) Explains the water (Prevention and Control of Pollution) Act, 1974.
d) Describes the Forest (Conservation) Act, 1980
e) States the Environmental (Protection) Act, 1986
f) defines the meaning of Non-Government Organization (NGOS)
g) Narrates the role of various NGOs in the protection of environment.
h) Describe the movements initiated by NGOs for the protection of Forests.

5. SUSTAINABLE DEVELOPMENT:
a) Defines the term 'Sustainable Development'
b) Elaborates the concept of Sustainable Development
c) Defines the term population Regulation.
d) Enlists the various objectives of Population regulation
e) Describe the control of population growth rate.
f) Mentions the role of people in achieving the goal of Sustainable development.

CONSTRUCTION OF ENVIRONMENTAL EDUCATION ACQUISITION TEST (EEAT)

The investigator developed EEAT in order to test the I acquisition of the students on its the topics related to + Environmental Education. Before development of the test, the investigator kept in mind Contents of the test, types of items to be included in the test and the objectives that are to be tested. 120 Multiple Choice questions were Selected from the criterion tests already given to students, after learning through self-learning modules, The test items were arranged keeping in mind the axims of teaching. Easy items were given a place in the eeginning and defficult items were placed towards the end. The test was administered to 30 Students of homogene- -neous sample. The Answer sheets were collected from the students and Scored as per the scoring key. The Scores of all the 30 students were arranged in descending order. The upper & answer sheets with highest scores were Selected and named as Higher Ability Group and lower 8 answer sheets with lowest scores constituted lower Ability group'. These 16 answer sheets were arranged writ. their scores on each question. In this way 20 items were deleted from the test, 10 from each ability group which were more simple and more difficult. Hence the final draft of the EEAT Constituted 100 test items.

METHOD OF MODULE DEVELOPMENT –
The method of module development Consisted of four main stages –
1. Preparation
2. writing

3. Try Out
4 Empirical Validation.

Preparation
The first stage consisted of following six Stops-
i) writing assumption about the learner
ii) Content Analysis.
iii)my writing of Objectives in Behavioral terms.
iv))Writing Pre requisite Knowledge and skills in Behavioural terms.
v) Development/Construction of a criterion Test
vi) writing of the core Materiel.

2.Writing
The second stage of module development consisted of following six steps- -
i) Presenting the material in capsules or paragraphs.
ii) Require Active responding after each paragraph.
iii) Provide for confirmation of responses.
iv)Providing careful sequencing modules.
v)Editing the paragraphs of the module.

3. **Tryout and Revision**
The third stages of Module development
Consisted to following three steps-
1) Writing the Original draft.
ii) Trying out the draft in small group.
iii) Field Try out.

4. **Empirical validation / Evaluation**
This stage of module development Consisted of following steps-
i) Error Rate
ii) Sequence Progression of SIM
iii) Percentage of success on Criterion Test.

Educational Implications

1. Educational Tutorial given through self-learning modules motivates the students sufficiently and Sustains their interest in the environmental education.

2. Self-learning modules needs to be introduced for teaching Environmental education as they significantly enhance the acquisition level of the students regarding the environment.

3. The effectiveness of the self-learning modules has already been proved in odor other disciplines. The self-learning modules helped the students to achieve their learning goals better than the Students taught through Conventional Method.
4. Self-Learning Modules helps the students to move at their own pace thus the gifted students are not bored, slow learners are not rushed and shy students do not feel embarrassed.

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