

An Analysis of the UG Course Content “Environmental Studies”

Daisy Caroline Mary .A¹, Dr. S. Kalavathy²

¹Assistant Professor, Department of Environmental Sciences, Bishop Heber College, Tiruchirappalli

²Associate Professor, Department of Botany, Bishop Heber College, Tiruchirappalli

Abstract: Since 1986, Environmental Education became an integral part of education in India. It becomes significant to review the status and efficacy of the course “Environmental Studies” so as to comprehend the progress and help resolve the problems in the system and facilitate the policy makers, authorities and curriculum designers in shaping the course better so as to produce eco literates of standard quality. Hence the current study aims to find if the course content of the UG Environmental studies course meets the goal of the environmental education as recommended by environmental experts. The course content was analyzed by the author and experts from the field of Environmental Sciences by interview and discussion. Each unit was analysed for completeness and relevance. Whether the units accomplish the objectives or not were analysed. The overall comprehensiveness was also analysed. An in-depth analysis of the course content revealed that it is extensive with certain topics missing; some topics are repeated and some other unrelated topics are included which ought to be reframed and concise under the guidance of environmental education experts who are in the current field of education. A model of the course content has been framed and suggested to be implemented.

Keywords: course content, analysis, environmental education, environmental studies

1. Introduction

In India Environmental Education became an integral part of education since 1986. It was introduced in phases to school education by integrating into various subjects. From 2004 at the directions issued by the Supreme Court, the UGC laid guidelines for the course and introduced it to all undergraduates. It becomes pertinent to review the status and efficacy of the course “Environmental Studies” so as to comprehend the progress and help resolve the problems in the system and facilitate the policy makers, authorities and curriculum designers in shaping the course better so as to produce ecoliterates for sustainable living. To begin with, the present study analyzes the course content so as to upgrade the course to international standards on environmentalists’ perspective.

Researchers proposed several models on environmental education curricula; however all emphasized on understanding, appreciating and valuing the environment and analyzing and developing skills to solve environmental problems. (Hungerford et al., 1980, Daisy and Relton, 2007). Hence the analysis focuses on these aspects.

2. Aim and objectives

2.1 Aim

To find if the course content of the UG Environmental studies course meets the goal of the environmental education as recommended by environmental experts.

2.2 Objectives

- To analyse the course content unitwise by referring to the syllabus recommended by the UGC.

- To analyse the comprehensiveness and coherence of all the units of the syllabus.

3. Methodology

The course content was analyzed by the author and experts from the field of Environmental Sciences by interview and discussion. Each unit was analysed for completeness and relevance. Whether the units accomplish the objectives or not were analysed. The overall comprehensiveness was also analysed.

3.1 Analysis on the Course Content

UNESCO-UNEP International Environmental Education Programme, (1994) emphasizes the need for comprehensive evaluation plan for Environmental Education curriculum including evaluation of goals, objectives, concomitant variables, and instructional effectiveness. Hence the evaluation of the course content becomes imperative. The core module syllabus framed by UGC composed of 8 units. The core included

- Unit 1 : Multidisciplinary nature of environmental studies
- Unit 2 : Natural Resources
- Unit 3 : Ecosystems
- Unit 4 : Biodiversity and its conservation
- Unit 5 : Environmental Pollution.
- Unit 6 : Social Issues and the Environment
- Unit 7 : Human Population and the Environment
- Unit 8 : Field work

According to Hungerford et al. (1980) level I learning should focus on building ecological foundations in areas such as interaction and interdependence, energy flow and material cycling, and ecosystem succession; all of which are prescribed in the third unit in the present course content. The

level II learning should focus on the value of environment (natural resources) and is presented in the second unit. The level III learning should focus to investigate and deal with environmental issues and level IV to teach students skills needed to take necessary environmental action and are presented in fifth, sixth and seventh units.

Though an overview of the course content looks complete an in-depth analysis found some issues. The first unit mentions the nature of environmental studies but has not mentioned the nature/components of environment which is not only essential but that is what lay foundation for the course. The second unit deals with the natural resources their uses, the ways by which they are exploited or degraded, environmental impacts of over exploitation and measures to conserve them; all are complete and well organized. The third unit deals with concepts and types of ecosystems though complete seem to be over loaded with too many types of ecosystems. The fourth unit deals with global and national biodiversity but doesn't find a mention of local biodiversity (BVIEER, 2003). The fifth unit apart from different types of pollution deals with Disaster management which could be shifted to social issues of sixth unit. Topics like "From Unsustainable to Sustainable development, Urban problems related to energy, Water conservation, rain water harvesting, watershed management, resettlement and rehabilitation of people; its problems and concerns, nuclear accidents and public awareness" are extensions or repetitions of part of other previous units. These can be integrated into their respective topics. "Climate change, global warming, acid rain, ozone layer depletion" are part of environmental pollution of unit five and thus are repeated. Family Welfare Programme, Human Rights, Value Education, HIV/AIDS, Women and Child Welfare and holocaust of unit eight do not fit into the objective of the program. All these repetitions and unrelated topics have ended up into an extensive course content resulting in eight units instead of the regular five units strategies followed in other subjects.

Environmental Studies course should be reframed so as to incorporate learning modeled by Environmental Education methods including critical thinking, problem solving, hands on activities and relevant subject matters and evaluated for effective implementation. (Hoody, 1995). The curriculum should be redesigned with few modifications; certain topics as components of environment should be included and the repeated topics should be incorporated in the relevant topics or deleted and unrelated topics should be deleted. The curriculum can be reframed to have lesser units focusing on ecological foundations such as components and energy flow and material cycling; values of environment and sustainable management; local environment and biodiversity and issues; environmental pollution – sources, causes, effects and control measures. It is crucial that the framing of curriculum should involve experts from the field of environmental education.

Many environmental educators emphasize socially critical approach to environmental education for social/economic/political/cultural scrutiny in environmental crisis (Huckle in Clayton, 2006). According to Clayton, 2006 features of socially critical environmental education should

focus on values explicit, politics, action oriented, holistic, issue based and emancipatory. The present content of the course lack in these aspects; however even if these are mentioned in the course content, they can be effectively infused simply by the qualified or trained environmental educators.

According to Tbilisi Declaration environmental education was defined as "a learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action" (UNESCO 1978). The present course content though attempts to meet the objectives of environmental education taking consideration the above issues and rectifying them would enable the implementation of environmental education more efficiently and accomplishment of the aforesaid objectives.

4. Suggestions

The curriculum meets the objectives of environmental education such as environmental knowledge, problems and skill but is extensive; and certain topics as components of environment and local biodiversity are not mentioned and certain topics such as Global Warming and other environmental problems, watershed management, pollution control are repeated; some topics such as AIDS, women and child welfare are unrelated topics resulting in extensive and vague curriculum. The redesigning of the curriculum by including the missed topics such as environmental components and local biodiversity, incorporation of the aforesaid repeated topics into the respective main topics and deletion of unrelated topics would make the course structure better and concise and help out the perplexed teachers and ease their planning and performance and improve their competence. This would eventually end up in the implementation of the course effectively.

4.1 Suggested Improvised Course Content

Unit 1 : i. Components of Environment

Atmosphere, Hydrosphere, Lithosphere, Biosphere

ii. Concepts of Ecosystems

iii. Structure of an ecosystem.

iv. Dynamics of an ecosystem

a. Energy flow in the ecosystem.

b. Biogeochemical cycles

- Carbon cycle
- Oxygen cycle
- Nitrogen cycle
- Phosphate cycle

Unit 2 : Natural Resources

Natural resources: Values, issues and conservation.

- a. Land and Forest resources :
- b. Water resources :
- c. Mineral resources :
- d. Food resources :
- e. Energy resources :

Unit 3 : Biodiversity and its conservation

- a. Values of biodiversity
- b. Threats to biodiversity
- c. Conservation of biodiversity
- d. Biogeographical classification of India
- e. Biodiversity at global, National and local levels.
- f. Endangered and endemic species of India

Unit 4 : Environmental Pollution.

Sources, Causes, effects and management/control measures of :-

- a. Air pollution
- b. Water pollution
- c. Soil pollution
- d. Marine pollution
- e. Noise pollution

Unit 5 : Environmental Pollution

Sources, Causes, effects and management/control measures of :-

- a. Thermal pollution
- b. Nuclear pollution
- c. Solid waste management
- d. Disaster management: floods, earthquake, cyclone and landslides
- e. Importance & need of environmental conservation; Role of an individual in conservation

5. Conclusion

An indepth analysis of the course content revealed that it is extensive with certain topics missing; some topics are repeated and some other unrelated topics are included which ought to be reframed and concised under the guidance of environmental education experts who are in the current field of education. A model of the course content has been framed and suggested to be implemented. Thus by improvising the course content to maximise the efficiency of the teaching learning process of the teaching faculty.

References

- [1] BVIEER. (2003). Bharati Vidyapeeth Institute for Environmental Education and Research. Study of status of infusion of environmental concepts in school curricula and the effectiveness of its delivery; India Environment Management Capacity Building project of the Ministry of Environment and Forests, funded by the World Bank Report.
- [2] Clayton. (2006). Environmental education is history: The extent to which modern history education adopts characteristics of socially critical environmental education. Australian Journal of Environmental Education, 22 1: 3-13.
- [3] Daisy Caroline, A. and Relton. A. (2007). Environment Education to children – a basis for environmental sustainability, National Seminar on Ensuring Environmental Sustainability, VI/1.
- [4] Hoody, L. (1995). The educational efficacy of environmental education. State Education and

Environment Roundtable. Retrieved from <http://www.seer.org/pages/research/educeff.pdf>

- [5] Huckle, J. (1986). Ten red questions to ask green teachers. Green Teacher, December, pp. 11-16.
- [6] Hungerford, H., Peyton, R., & Wilke, R. (1980). Goals for curriculum development in environmental education. The Journal of Environmental Education, 11 (3), 42-47.
- [7] UNESCO. (1978). Final report: Intergovernmental conference on environmental education. Paris. Retrieved from <http://unesdoc.unesco.org/images/0003/000327/032763eo.pdf>
- [8] UNESCO-UNEP. (1994). International Environmental Education Programme. Environmental Education Series 22. Procedures for developing an environmental education curriculum (Revised). A Discussion Guide for UNESCO Training Seminars on Environmental Education. Retrieved from <http://unesdoc.unesco.org/images/0008/000842/084239e.pdf>

Authors Profile

Daisy Caroline Mary. A is an assistant professor of Environmental Studies at Bishop Heber College, Tiruchirappalli, S. India. She has published six papers and presented more than twenty papers in conferences. Her area of interest is ecology, butterflies and environmental education.

Dr. S. Kalavathy served as an assistant professor of Botany at Bishop Heber College, Tiruchirappalli, S. India with more than twenty five years of experience. She has published more than 20 papers and presented more than 50 papers in conferences. She has guided 16 Ph.D. scholars.