

Environmental Awareness among Teachers and Students of Higher Education

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ABSTRACT

Environment is the pivotal point on which the universe exists. Hence, any change in this can lead towards the total destruction of earth in particular and universe in general. The present generation is facing those disasters that the past generations have done to earth. If this prevailing situation persists, the world will face a severe disaster in the near future. It is high time that we take some stern action towards protecting our mother earth. The United Nations Decade of Education for Sustainable Development (UNDESD) emphasized that Environmental education to be introduced not only as a part of school curriculum, but also in the teacher education curriculum in order to develop necessary awareness and desirable attitude towards environment and its conservation. The present study is to find out the environmental awareness of teachers of higher education who were undergoing the Orientation Programme (OP-123) at HRDC (Human Resource Development Centre), Himachal Pradesh University, Shimla and also from students of Himachal Pradesh University, Shimla. For this, a questionnaire was prepared consisting of items pertaining to issues like atmosphere and climate change, biodiversity and forests, water, fresh water, oceans and seas, health and sanitation. It was found that teachers had high environmental awareness, whereas in the students' category, only 64.28% of students showed a high awareness pertaining to environmental issues. The paper also includes suggestion for protecting the environment.

Keywords: Education for sustainable development, environmental awareness

Environment etymologically means 'Surroundings' which includes interactions and relationships among the natural elements- living, non- living and man-made. It is the sum total of external factors, substances and conditions which influence organisms without their intrinsic part. "Environment includes water, air, land, the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro organisms and property." (Section 2(a) of the Environmental Protection Act, 1986).

Earth is a living creature, a being, an organism with its own breathing, blood stream, glands sensitivity and intelligence: we (human beings) are just a minuscule integral part of it in disturbing and destroying its equilibrium. Man and his

activities are polluting the planet-physically' mentally and morally which may bring about the destruction of our civilization, not abruptly but it may decay and slowly die. Therefore the imperative need presently is to stop the mindless war and to preserve the earth. In the changing modern social scenario there is a crisis of environmental awareness leading to negative code of behaviour towards the environment. The major challenge facing present day society is the need for developing environmental values to protect our environment. In this regard it is worthy to mention the Rio principle which states that "States shall cooperate in a spirit of global partnerships to conserve, protect and restore the health and integrity of the earth's ecosystems in view of the contributions to global environmental

degradation. States have common but differentiated responsibilities.” (Rio principle: Implications of Agenda 21, 1992).

Global awareness and the concept of one world have grown greatly over recent decades, especially with the revolution of the space age and worldwide communications. Awareness has emerged with a number of successive but overlapping concerns such as; population growth, environmental change, inequalities in development and political fragmentation and instability. Worrying increase in Global Environmental Change (GEC) within the atmosphere, geosphere, hydrosphere and biosphere are associated with a whole series of major ecological problems such as; ozone depletion, global warming, rising sea-levels, air pollution, soil erosion, desertification, deforestation, water shortages, toxic wastes, etc. Among the various responses to these environmental concerns has been the emergence of environmental education. During the twentieth century there has also been growing global inequity in human prospects of economic development, resource use and standards of living, the more developed countries becoming ever richer and using evermore resources while at the other end of the scale the least developed countries seem unable to escape from their conditions of poverty. The growing gap between rich and poor is highlighted by the UNDP’s (1990) Human Development Index (Clarke 2007). All education springs from images of the future and all education creates images of the future. Significant part of education must be seen as the process by which we enlarge, enrich and improve the individual’s image of the future (Alvin Toffer 1992). Thus, there is a need to incorporate the education about environment in all the aspects of learning. One can ascertain that Environmental education has sprouted as pragmatic educational response to the problems and concerns of environment.

Significance of the Study

The knowledge of environmental education is very important for everyone in this web of life as it helps to create awareness and understanding of the evolving social and physical problems prevailing in the environment. International Environmental Education Workshop, Belgrade (1975) has recognized the urgent need to develop

a global understanding of perspective of the ecological, economic and moral considerations. In the present situation we can see that Environmental education is one of the subjects being taught as a compulsory subject in all classes, even in higher education. In teacher education institutions also it is gaining priority not only in the Indian context, but also throughout the world. There is a need for all teachers to be aware of the holistic nature of the natural order, including mankind, its intricately linked pattern (Eniko Salay Marzso, 1985). Learning Environmental education merely as a subject will not solve the present problems that the environment faces. It needs to reach up to ones affective as well as psychomotor domains of knowledge to protect the environment.

Prahallada (2005) found that there was a significant difference in the level of student’s environmental awareness between the two countries –Iran and India. It was found that the Iranian students had high level of Environmental awareness as compared to the Indian students. Robertson et al (2004) opined that Environmental research in agriculture is largely reactive, and focus on problems of small scale agriculture and conducted within narrow disciplinary boundaries. This approach has worked to abate a number of environmental problems created by agriculture, but it has not provided effective solutions for many of the most recalcitrant ones. Furthermore, the approach fails to position agriculture to deliver new environmental benefits that the public and policy makers increasingly demand. They are of the opinion that new vision is needed for environmental research in agriculture—one that is anticipatory; promotes long-term, systems-level research at multiple scales; incorporates important interactions between the biophysical and social sciences; and provide for the proper evaluation of deployed solutions. Achieving this vision will require major changes in funding strategies, in institutional reward structures, and in policies that presently inhibit collaborations across disciplinary and institutional boundaries.

Sharma & Goel (2010) are of the view that there is a huge gap in energy/ power production, supply and demand in India. A large section of the country’s population suffers from power cut throughout the day or no power supply at all. Currently, major portion of the energy production in India is being

fulfilled by thermal and hydro power plants, which is not sufficient for the total energy demand of the country. It is therefore important to consider an alternative source of energy production, which is environment friendly as well as economically feasible for the Indian people. Wind and solar energy are the most environmentally sustainable sources of power generation which have been harnessed successfully in several countries, but they require high initial investment. Nuclear power would be an alternative to fulfil the energy demands of the country. India has been successful in making nuclear agreement recently with nuclear fuel producing countries to get uninterrupted supply of nuclear fuel (i.e. Uranium) to solve power shortage in the country. Before installing any nuclear power generation plants in India, it is important to implement stringent regulations for the health and safety of the people and for protection of the environment, soil and water from the nuclear and hazardous waste produced in the power plants. Although some initiatives have been taken for radioactive waste disposal in India, the current hazardous and nuclear waste storage/ disposal regulations are still too soft and not being implemented properly in the country. There are several examples of improper handling of hazardous waste by industries in India and elsewhere, which ultimately pollutes the surface water and ground water continuously.

Looking into the reviews, it was found that lots of environmental problems are occurring in our surroundings. Hence, in the present study, it was intended to study the Environmental awareness among the students and faculty of higher education. Keeping in mind various environmental issues it was intended to find out the environmental awareness of students of Higher education from the state of Himachal Pradesh and also from teachers of higher education who were attending the Orientation Programme (OP- 123) at HRDC, Shimla.

Objectives of the Study

1. To study the level of environmental awareness of faculty and students in Higher education.
2. To compare the environmental awareness among students and teachers of higher education
3. To provide practical suggestions to the University Authority and local governing

bodies to help in maintaining sustainable development in Shimla.

Research Questions

1. What is the level of awareness about environmental issues and problems among teachers of higher education?
2. What is the level of awareness about environmental issues and problems among students of higher education?
3. Is there a difference in the environmental awareness among students and teachers of higher education?

Methodology

The study was designed to be of a survey type where in the environmental awareness of teachers and students of higher education were explored. The Convenient sampling technique was used where in the group of 26 teachers who are undergoing Orientation Programme at HRDC, Himachal Pradesh University and 42 students of the same university were selected as the sample. The teachers and students were from various disciplines such as Physics, Chemistry, Biology, Mathematics, Economics and English.

In order to study the environmental awareness of teachers and students, an environmental awareness test was prepared. The Environmental awareness test contains thirty one items which intends to measure teachers' and students' awareness on issues like Atmosphere and climate change, Biodiversity and forests, Water, Fresh water, oceans and seas, Health and sanitation. The test was of multiple choice type questions and the maximum score for environmental awareness test was thirty. There was one question which was open ended.

Analysis of the Data

The scores obtained from the Environmental awareness test was analysed to find out the environmental awareness of teachers and students of higher education. The data obtained are presented in the following Table 1 and 2.

Data obtained in the Environmental awareness test was analysed by categorizing the scores into three levels, those getting scores 21-30 are categorised as having high environmental awareness, 11-20

as moderate environmental awareness and less than 11 as low environmental awareness as given in Table 1 and 2. The teachers and students were categorized under these levels based on their scores in Environmental awareness test.

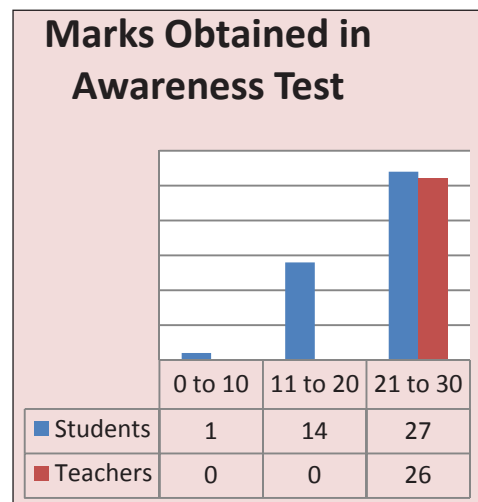
Table 1: Environmental Awareness of Students of higher education

Category	Marks range	Students	Percentage
Low environmental awareness	0 to 10	1	2.38%
Moderate environmental awareness	11 to 20	14	33.33%
High environmental awareness	21 to 30	27	64.28%
Total		42	

Table 2: Environmental Awareness of Teachers of higher education

Category	Marks range	Teachers	Percentage
Low environmental awareness	0 to 10	0	0%
Moderate environmental awareness	11 to 20	0	0%
High environmental awareness	21 to 30	26	100%
Total		26	

From the analysis it was found that only one student (2.23%) showed a low environmental awareness by scoring between 0-11, whereas 14 students (33.33%) showed a moderate environmental awareness by scoring between 11- 20. The remaining 64.28% of students showed a high environmental awareness by scoring above 20. Since majority (64.28%) of them fall under high environmental awareness, it may be concluded that most of them had a high level of awareness related to environmental problems and issues. In case of teachers, 100% of teachers scored above 20, hence all the teachers had high awareness regarding environment. The comparison of environmental awareness among students and teachers of higher education is shown in Graph 1, which shows that teachers are having better environmental awareness than students in higher education.



Graph 1: Bar diagram showing the environmental awareness of students and teachers of higher education

Qualitative analysis on what is most important to protect the environment of Shimla

The suggestions given by the participants on an open ended question regarding how to protect environment at Shimla is given in Table 3. It was found that maximum participants suggested water harvesting should be given importance in Shimla. Some of the participants were of the opinion that we have to discourage urbanization and also proper waste management has to be practiced. Very few participants also suggested conservation of forest, awareness programme, use of CNG, minimum use of private vehicle, adopt odd even formula and tree plantation as some ways of protecting the environment of Shimla. The Table 3 shows that 18% of the response was suggesting that we should discourage urbanization. The highest percentage i.e. 33% response were supporting that rain water harvesting should be the main for environmental protection in Shimla. A same percentage i.e. 33% response were supporting that proper waste management is essential for Shimla and also use of CNG, minimum usage of private vehicles, using odd/ even formula as the ways to conserve environment of Shimla. About 6% of the responses were of the suggestion that tree plantation and conservation of forest to be considered as the main areas for environmental protection. Also 5% of the response was that through awareness programme we can protect the environment of Shimla.

Table 3: Table showing the suggestions given by participants for protecting the environment of Shimla

	Teacher	Students	Total	Percentage
Discouraging Urbanization	8	7	15	18%
Water Harvesting	19	8	27	33%
Proper Waste Management	5	7	12	15%
Conservation of Forest	3	2	5	6%
Awareness Programme	1	3	4	5%
Rope Way	1	0	1	1%
Use of CNG/minimum use of private vehicle/Odd even Formula	0	12	12	15%
Tree Plantation	0	5	5	6%
No. of suggestions for question number 31	Total		81	

Findings

It was found out from the data analysed that all the teachers of higher education has high awareness on issues like atmosphere and climate change, biodiversity and forests, water, fresh water, oceans and seas, health and sanitation. Whereas in the students category, only 2.23% showed a low environmental awareness 33.33% showed a moderate environmental awareness and 64.28% of students showed a high environmental awareness in the environmental awareness test. Few suggestions were also given by the participants for improving the environment of Shimla. The suggestions given by the participants, regarding how to protect environment at Shimla are water harvesting, discourage urbanization and also proper waste management, Conservation of Forest, Awareness Programme, Use of CNG/minimum use of private vehicle/Odd even Formula and tree plantation.

CONCLUSION

Environmental awareness is the stepping stone towards changes in the participation in protecting environment. Hence, we felt a need to study the environmental awareness of teachers and students of higher education since, the teachers play a vital role in imparting knowledge, values and skills in students, towards environmental protection and conservation. The study revealed that all teachers of higher education had very high environmental awareness on aspects pertaining to atmosphere and climate change, biodiversity and forests, water, fresh water, oceans and seas, health and sanitation. But the students of higher education had less awareness when compared with that of teachers.

From the findings it was observed that students need to improve upon their environmental awareness so that the environment can be protected and conserved. Some of the suggestions obtained from the study are that Shimla require more rain water harvesting systems, discourage urbanization, proper waste management, promote the usage of CNG, reduce the use of private vehicles in order to encourage environmental protection.

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