Comparative Study of Environmental Education in Adolescents and Higher Education Students

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Abstract

The present study is aimed at examining levels of environmental awareness and implementation of environmental knowledge amongst cross section of students in Jammu and Kashmir. The study is designed to compare the extent of awareness amongst adolescent and higher education students. It was found that overall awareness and implementation of environmental knowledge in adolescents is far below the expectations. Students with higher education were found to have largely satisfactory knowledge and skills for solving environment problems.

Introduction

Environment is defined comprehensively to include all relationships between humans and all that impact upon them, and all that they impact (Caldwell L. K., 1993). Environmental education (EE) refers to organised efforts to teach about how natural environments function and, particularly, how human beings can manage their behaviour and ecosystems in order to live sustainably. Indeed environmental education must be accepted as a prerequisite for sustainable development (Howell C. A., 1993) and programmes must be chalked out both through formal and non-formal systems. It is at the level of basic education that the coverage is the broadest and the general orientations and values have the highest impact (Edwards B., 1993).

Education and awareness in this regard is one of the most effective forces towards saving our besieged

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environment. The basis of a healthy environment is good air, water and soil. These basic building blocks of life are obviously essential for life to continue and must be cared for, preserved and enhanced. No programme can be a success without education as it is what makes people aware of the need for any activity and it can generate much needed support for that activity. Hence, there should be initiation of awareness programmes to understand the economic, political and ecological interdependence in the form of exhibitions and fairs, seminars and discussions, group projects, field trips, games, debates, lectures, elocution competitions, quiz, effective use of mass media, etc. (Schwaab Karl E., 1982).

One of the landmarks in the history of environmental education is the Stockholm Conference on Human Environment, organised by UNESCO in 1972. Thereafter, UNESCO launched the International Environmental Education Programme (IEEP) in the year 1975. The activities under IEEP in the first phase culminated in the organization of the first inter-governmental conference on 'Environmental Education' at Tbilisi (USSR) in 1977. This specified the nature and scope of environmental education and also laid down the aims and objectives as well as the repertoire of strategies to be adopted at the national and international levels (Bhushan *et al.* 1990).

It is now a universally recognised fact that the most effective approach to solve environmental problem is environmental awareness (Agarwal, 2008). There have been some comprehensive studies at national level regarding comparative studies of general awareness about environmental issues in populations, but special emphasis has been put on students in this regard in our state.

The present study was an attempt in this regard to see impact of different awareness campaigns amongst adolescents and higher education students, and to explore the attitudes of the sample of students from higher secondary school and degree colleges towards the environment.

Methodology

The study was based on a survey with a sample size of 100 students with 50 students selected from higher secondary school, Nawakadal, and 50 BA/BSc/ B.Com students of Government Women's College, Nawakadal. A comprehensive questionnaire was designed to achieve the objectives of the study using stratified Random Sampling Technique. Students were instructed to answer the questionnaire in a relaxed condition in the allotted time. The questionnaires were divided into three parts.

Part A

This covered questions related to awareness and consisted of 15 questions each having 5 options: Strongly agree (SA), Agree (A), Neutral (N), Disagree (D) and Strongly disagree (SD).

Part B

Part B of the questionnaire covered questions related to state-level

knowledge. It consisted of 10 questions each having four options and the students were asked to choose the correct option.

Part C

It covered the implementation part which consisted of seven questions to which each student had to respond with options and suggestions. It was more of subjective nature.

The questions covered issues such as deforestation, ecological imbalance, green house gases, acid rain, global warming, ozone depletion, hazardous industrial waste, environmental constituents, different pollutants, use of natural resources, Ecosystem, role of the state in enforcing laws regarding environment, forest cover, river topography biodiversity conservation, endangered species, interaction between man and wild animals, problem of non-biodegradable materials and lastly, the role of students in solving different environmental problems.

Results and Discussion

A. Response from students

A-1. Awareness of environmental issues

Comparing the awareness of environmental issues among the studied population with reference to higher education students, 60 per cent of the total population is completely aware of the environment, 20.42 per cent of the population is partially aware while rest of the studied population, i.e., 19.58 per cent are ignorant as shown in Fig.1 about the environment or related issues. Comparing this with the data of secondary school students, only 27.12 per cent of the total population had complete awareness regarding environmental issues as shown in fig.1. Partial awareness was

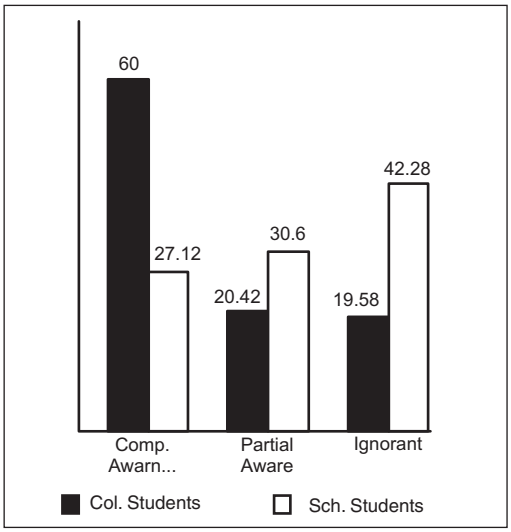

Figure 1 : *Comparison of awareness in school education group and higher education*

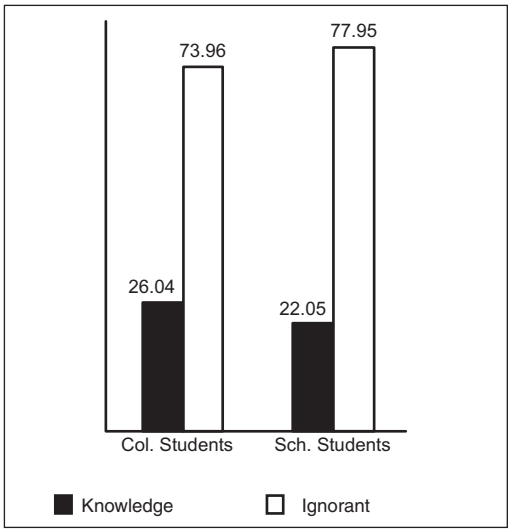

Figure 2 : *Comparison of knowledge in secondary and college level students*

shown by 30.60 per cent while as 42.28 per cent were completely ignorant.

A-2. State-level Environmental knowledge

The results with reference to state-level environmental knowledge showed alarming percentage of population, i.e., 73.96 per cent, with no knowledge, as shown in Fig. 2 regarding the environment of Jammu and Kashmir state. Only a mere 26.04 per cent of the sample with higher education has knowledge about the same. Similar types of results were shown by school education students with 77.95 per cent as shown in fig. having no knowledge regarding the environment of Jammu and Kashmir State. Only a mere 22.05 per cent of the sample with higher education has knowledge about the same.

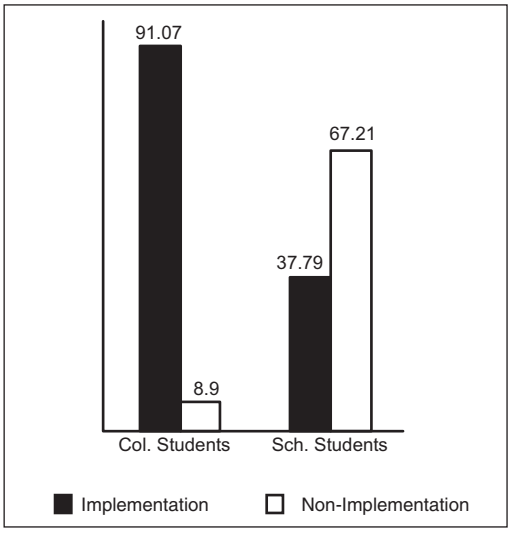

Figure 3 : *Comparison of implementation between college and school students*

A-3. Implementation of Knowledge in Conserving Environment

Out of all the studied population, among the higher education masses 91.07 per cent implement their awareness and knowledge about environment in their day to day life. Rest 8.9 per cent of the sample does not implement their awareness and knowledge in order to save the environment as shown in fig.3. Comparing these results with secondary school students, only 32.79 per cent implement their awareness and knowledge in order to save environment, while 67.21 per cent were unable to implement the same.

B. Overall Interpretation of Data

B-1. Awareness about environmental issues

Out of 100 students constituting our sample, 63.56 per cent students are completely aware, 30.81 per cent students are partially aware, and 5.63 students are ignorant about the environment.

B-2. State-level environmental knowledge

Out of 100 students, only 24.05 per cent students possess knowledge about the environment of J&K.

B-3. Implementation of knowledge in conserving environment

Out of 100 students, 78.33 per cent of the total sample implements their awareness and knowledge in order to save the environment.

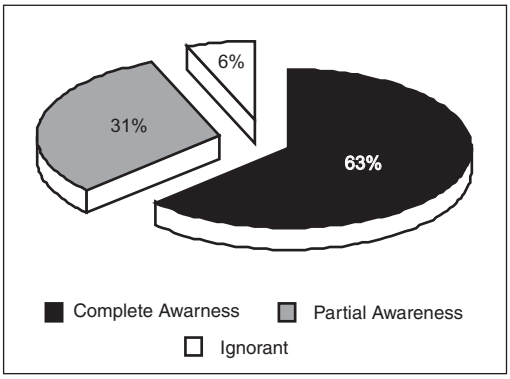

Figure 4 : *Overall awareness*

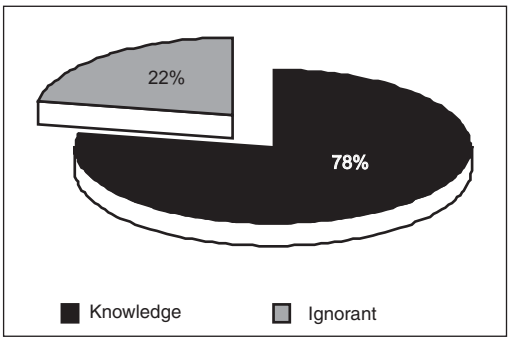

Figure 5 : *Knowledge among all masses*

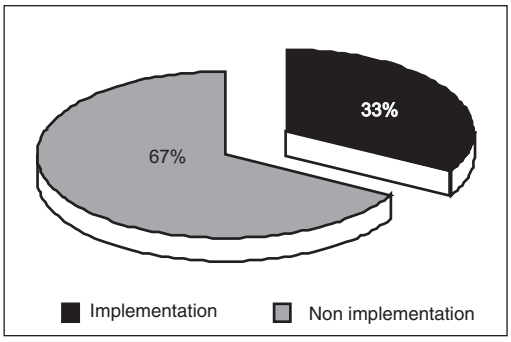

Figure 6 : *Overall implementation*

Discussion

The following points can be made by evaluating responses of the subject. These points also foreground key themes in environmental education investigation in the current study and thus provide a living status of affairs in the field of environmental education.

Comparison between the responses generated during the study

Part A of the Questionnaire

This part contains questions related to environmental degradation, air pollution, deforestation, soil erosion, acid rain, ozone depletion, ecology, etc.

More than half of the sample strongly opposed the environment degradation and meant to protect our environment. Very few students either agree to this point or are neutral in their answer. Most of the students constituting our sample strongly believe that deforestation created ecological disequilibrium. Very few percentage from our sample are neutral and oppose this view.

Maximum population constituting our sample is of the view that CO_2 in any concentration (more or less) creates air pollution. But as far as this point of view is concerned, they should have disagreed to this point which has been done by less than 50 per cent of our sample.

Very few students from our sample believe that deforestation decreases chances of soil erosion. Most of the students from the sample believe that deforestation increases the chances of soil erosion.

More than 70 per cent of the population of our sample strongly opposes the point that acid rain can be useful to man. Very few students are ignorant of the fact that acid rain

is harmful to man as well as all living beings and it cannot be made useful in any way.

Almost cent percent students are aware and strongly believe in the fact that ozone layer is destroyed by CFCs.

More than half of our sample agrees to the point that emission of smoke directly or indirectly causes pollution of water. Very less number of students are ignorant about this fact and very few disagree to this point of view.

Industrial wastes dumped into rivers cause serious threat to aquatic life. Maximum number of students have agreed to this view.

Biotic and Abiotic are the two components of environment. This fact has been agreed by at least 85 per cent of the sample.

Green plants do not form the third tropic level. But most of the students forming our sample disagree to this point. Very less number of students believe this fact.

Out of 100 students, 3 students strongly agree on this question; 13 students agree on this question; 38 students are neutral in their answer; 20 students disagree on this question; and 26 students strongly disagree on this question.

Components of the environment never remain the same and this is what at least half of the population comprising our sample has agreed. Half of the sample is either neutral or opposes this view point.

Polythene is not a biodegradable substance. Very few students believe that polythene is a biodegradable substance but most of the students agree that it is not so.

Chemical fertilisers do not always improve the quality of soil because every time its concentration needs to be increased. But maximum number of students have opposed to this view point as they believe that chemical fertilisers always improve soil quality.

There should be a planned use of natural resources on the earth and maximum numbers of students have agreed to this fact. Very few students oppose this point.

Most of the students believe in the fact that the interaction between living organisms and their environment is called ecosystem. Very few are there who are ignorant of this fact.

Part-B of the Questionnaire

One-fourth of the population has correctly answered the total length of river Jhelum.

Only 15 per cent of our sample has correctly answered the source origin of the Chenab River and the river of which Krishanganga is an important tributary.

Just a few students replied to the question about the mightiest river of the state of J&K. One-fourth of our sample has given the total length of Chenab river. One-sixth of the population constituting our sample has answered the question about the division of J&K in which black necked crane is found.

One-fourth of the sample correctly answered the name of Sweet Water Lake of Kashmir. One-fourth of our sample gave the correct answer to the question on total forest cover of J&K. Half of the population correctly replied to the name of the beautiful town of

Baramulla district which is called 'Port of Wullar'. Forty per cent students from our sample correctly responded to the question about the name of the Lake which the Kashmir valley was in the ancient times.

Part-C of the Questionnaire

The emission from industries cause air, water and soil pollution which directly or indirectly affects the health of the people. But on the other hand, industries are the most important factor for economic development of the nation. To minimise the effects of industrial emissions, half of the students from our sample suggest that industries should be planted away from residential areas to minimise their direct effect on human beings. The remaining half suggest the use of biodegradable chemicals, proper environmental education, the installment of tall chimneys, more and more plantation of trees, and the recycling of waste products.

It is not only the duty of Lakes and Waterways Development Authority (LAWDA) and other governmental bodies to save and protect the water bodies of Kashmir valley. It is rather the concern of every individual to develop conscience in him/her to save the water bodies in particular and environment in general. Individual citizens can do a lot on his/her part to perform this duty. Half percentage of our sample suggest the use of chemicals and weedicides in water bodies. Besides they have recommended to educate the people properly. Rest of the students suggest proper disposal of solid and liquid wastes.

Certain plant and animal species have become extinct and many are on the brink of extinction. In order to save and protect these species, most of the students from our sample discourage hunting and encourage aforestation. Some students also suggest the saving of natural habitat of wild animals. Few students also encourage the protection of forest areas by the government.

The conflict between man and animal has increased to a great extent since the last two decades. This is because wild animals are deprived of their dwelling places. In order to tackle this problem, most of the students from our sample suggest that we should try to rebuild the dwelling places of these wild animals. Some students are also of the opinion that more plants should be planted and deforestation should be discouraged.

Polythene has become a part and parcel of our daily life in spite of its ban. All kinds of eatables are packed in polythene wrapers. Maximum number of students are of the opinion that we should use paper and jute bags in place of polythene bags.

People concerned with the department of forestry are themselves involved in smuggling of timber. In the opinion of most of the students, in order to check this problem special investigation teams should be appointed by the government. The views of students about what they can do on their part to save their environment and teach the ignorant people about the hazards of environmental pollution reveal that these people should be educated properly through rallies and seminars. Besides, some students also

suggest planting of more and more trees and usage of biodegradable or renewable substances.

Conclusion

The main objectives of our study were to examine the level of awareness, knowledge and implementation among adolescents and higher education students and to compare the two. As far as these objectives are concerned, we have reached to a conclusion that the overall awareness among adolescents is far below the expectations. Besides they possess very little knowledge of the environment and its implementation is far below the satisfactory level. In comparison to this, the students at higher education level are aware of environment and related problems. Also the knowledge possessed by them is satisfactory. And as far as the implementation is concerned, maximum number of students from higher education level implement their knowledge and awareness in order to do something on their part to save the environment.

It can be concluded that the adolescent students do not consider environmental education as a process and are not skilled enough for solving environmental problems. This is because their awareness about the environment is very poor and they do not have positive attitude towards environment. Besides, their knowledge and implementation of it is also too weak to tackle the environmental problems.

In comparison to this, the students at higher education level possess some skill for solving environmental problems and consider environmental education as a process. They possess enough awareness and knowledge about their environment and they implement this knowledge in order to protect the environment. Also their attitude towards the environment and its related problems is positive, which is of utmost importance in order to tackle the environmental issues. Their commitment, i.e., responsibility towards the environment, is very satisfactory in comparison to adolescents. In order to enhance and modify their skill, proper environmental education should be provided to them through different modes including media.

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