

COMPARASION OF ENVIRONMENTAL ETHICS AND SCIENTIFIC ATTITUDE AMONG SECONDARY SCHOOL STUDENTS

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ABSTRACT

The present study made an attempt to compare environmental ethics and scientific attitude among secondary school students and; to compare the environmental ethics across the gender; to find out significant difference between scientific attitude of male and female secondary school students. Sample consisted of 100 number of secondary school students selected randomly studying in grade IX only, out of which 50 male and 50 female students were considered. The tools used were Environmental Ethics Scale (EES) by Haseen Taj and scientific attitude scale by Syed Mustaq (2007). The findings revealed significant difference between environmental ethics of male and female secondary school students whereas no such difference was found in case of scientific attitude. The participative and collaborative approach can be adapted at school level to develop sensitivity regarding environmental issues and leading to environment friendly decision making.

Keywords: environmental ethics, scientific attitude, secondary students

Introduction

One important issue in the world is to know the value of natural world. Individual view is that persons, animals and plants are valuable in their own right. Another view is to adopt value pluralism. This is the attempt to visualize values outside of ethics and understanding of the value of the environment. Environmental ethics are related with human being's ethical concern.

Pollution and degradation of environment are not the only concerns that are related with ethics, loss of wilderness and degradation of ecosystem, changes in the climate are all related with environment issues. The main duty of human being is to understand the moral obligation towards natural environment.

Most important issue is related to an ethos that is helpful in the development of sustainable life-

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style in the society. In India every school and college must be exposed to the issues of natural environment. Everyone must understand the importance of environment and should also appreciate the beauty of nature and environment.

Having ethical skills and paying attention to environmental ethics is considered as a part of certainty strategy and improving human standard of living (Abedi Sarvestani and Shah Mansour, 2008).

It is important to develop the positive outlook and attitude among students. Likewise attitude scientific attitude of students may play a role in the development of ethics. Scientific attitude is the attitude that is free from all biases, prejudices and closed mindedness. It is related with open mindedness. Critical mindedness plays an important role in developing scientific attitude. So it is natural that a student who possesses scientific knowledge has the ability to handle the situation and find the solution. Scientific attitude of student has an effect on the development of ethics or not? Is there any relationship between scientific attitude and environmental ethics? These are research questions that are answered through this research study.

Review

Suryavati and Osman (2018) conducted a study to measure the effectiveness of Contextual Teaching and Learning (CTL) on the students' achievement and scientific attitude in Natural Sciences among Junior school students in Pekanbaru. The findings revealed that there is significant difference exist in terms of students' achievement. However, there is no significant difference in terms of scientific attitude. These findings contribute significant implications for the enhancement of scientific thinking skills among various students' capabilities and different categories of school to improve their performance in the subject of natural sciences in order to conserve environment. Contextual teaching strategy is found appropriate in achieving the above dimensions in heterogeneous schools.

Rani (2017) made a study to measure the environmental ethics and scientific attitude among the college students studying in 8 colleges affiliated to Kurukshetra university of Haryana. She found that majority of students have average level of environmental ethics and scientific attitude. Also there exists positive relationship between environmental ethics and scientific attitude of students. She suggested that necessary changes should be made in the curriculum on all the levels of education, the entire major environmental educational concept should be included so that environmental ethics and scientific attitude can be improved.

Singh (2017) conducted survey study in Jaunpur district at secondary level to find relationship between environmental awareness and scientific attitude of grade X students studying in U.P. board running schools.. He selected the sample randomly on the basis of locality and gender. He incorporated EEAM and scientific attitude scale and found positive coefficient of correlation between environmental awareness and scientific attitude of secondary school students.

Harpreet (2017) examined environmental awareness among adolescents from schools of S.A.S Nagar, Sangrur and Mansa in relation to their scientific attitude and were selected randomly. The results revealed that there is no significant difference in environmental awareness with respect to gender and caste but location had significant mean difference in environmental awareness. Also, it was found that environmental awareness was positively correlated with scientific attitude in total group and in sub-groups based on gender, caste and location.

Objectives of the Study:

1. To compare the environmental ethics of male and female secondary school students.
2. To compare the scientific attitude of male and female secondary school students.

Hypotheses of the Study:

1. There is no significant difference between environmental ethics of male and female secondary school students.
2. There is no significant difference between scientific attitude of male and female secondary school students.

Methodology:

Descriptive survey method was implied to find out the differences between environmental ethics and scientific attitude among secondary school students of grade IX.

Sample

A sample of 100 students was selected from the Government Model School Chandigarh. Out of 100 students, 50 of them were males and 50 numbers of female. The sample was selected with simple random sampling technique.

Tools Used

1. Taj Environmental Ethics Scale developed by Taj (2001)
2. Scientific Attitude Scale by Mustaq (2007)

Description of Tools Used

The Taj Environmental Ethics Scale (T.E.E.S) developed by Haseen Taj (2001) has been used to measure Environmental Ethics of secondary school students. This tool consists 45 items with both favourable and unfavourable statements on Likert scale. As per the manual of this tool the maximum score for each subject is 135 with its reliability 0.76 and high rate of content validity. The second tool which was implied for collection of data was Scientific Attitude Scale developed by Sayeed Mustaq (2007) for secondary school students. This tool comprised of 50 items with 25 positive and 25 negative statements on 5-point Likert scale. The maximum score obtained is 250. The reliability of this scale is 0.697 and validity is 0.831.

Table 1: Mean, SD and t-value showing difference in environmental ethics of male and female secondary school students

Gender	N	Mean	SD	t-ratio
Male	50	103.14	10.521	2.135*
Female	50	117.10	12.302	

*significant at 0.05 level

The objective of the study was to find out significant difference in the environmental ethics of male and female secondary school students. Table 1 show that there exists significant difference with p value 2.135 at 0.05 levels. Thus null hypothesis stating no difference exists between male and female environmental ethics is rejected. Also from the mean scores it is quite evident that female students (M=117.10) have higher environmental ethics than male students (M=105.14) of secondary school. The maximum score which can be obtained is 135 and the mean value obtained for both male and female students is more than average as given in the manual of Environmental Ethics Scale. So, it can be concluded that both male and female have high environmental ethics.

Table 2: Mean, SD and t-value showing difference in scientific attitude between male and female students of secondary school

Gender	N	Mean	SD	t-ratio

Male	50	160.74	26.061	0.0093
Female	50	176.52	19.717	

The second objective of this study was to find out the significant difference between the scientific attitude of male and female secondary school students. Table 2 shows that p value is 0.0093 which is way less than the table value of 1.660 so the null hypothesis stating there exists no significant relationship between scientific attitude of both male and female students of secondary school is accepted. As mentioned earlier the maximum score that can be obtained in scientific attitude scale is 250 as per its manual and mean value for male (M=160.74) and female (176.52) students is quite high. So, it can be concluded that scientific attitude of both male and female students of secondary school is high.

Conclusion:

This shows that equal consideration needs to be given for the development of environmental ethics along with scientific attitude by providing learning opportunities to the students. Also, efforts need to be done on the part of teachers and school to encourage male students especially and develop environmental ethics by imbibing environmental attitude, beliefs and sense of responsibility. It can be concluded that existing curriculum need to be critically reviewed as per the need of students to develop environmental ethics in order to conserve and preserve environment from degradation which is utmost need of an hour. Also, efforts are required from teachers to involve participatory approach with the help of proper educational planning and implementing proper educational strategy to develop environmental ethics along with among secondary school students.

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