

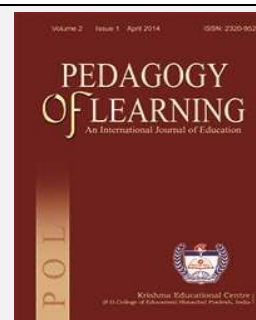
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Comparative Study on Environmental Awareness among Arts and Science Students Studying in Higher Secondary Schools of Sambalpur Town

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Abstract

The aim of this paper was to study the environmental awareness among the arts and science students studying in secondary schools of Sambalpur town, located in state of Odisha, India. In the present study, a sample of 120 students, 60 each constitute arts and science streams of higher secondary schools of Sambalpur town was selected. The sample was selected through random sampling technique. The researchers prepared a questionnaire for data collection. The questionnaire was made with the consultation of experts in both research methodology and environmental science. The analysis of 't' test revealed that 1) The students belonging to arts stream of higher secondary schools were more aware than the students belonging to science stream in dimensions such as pollutants, air pollution and radioactive pollution; 2) the students belonging to science stream of higher secondary schools were more aware than that of arts students in dimensions such as water pollution, noise pollution and soil pollution; 3) out of six dimensions on environmental awareness, only two dimensions such as pollutants and noise pollution exists significance of difference between mean of arts and science students studying in higher secondary schools. It means there exists variations on environmental awareness of arts and science students studying at higher secondary schools

and 4) out of six dimensions on environmental awareness, four dimensions such as air pollution, water pollution, soil pollution and radioactive pollution exists no significance of difference between mean of arts and science students studying in higher secondary schools. It means both arts and science students are almost same aware in these dimensions.

Keywords: Environmental awareness, arts and science students, higher secondary schools and Pollution

INTRODUCTION

The 2030 agenda for Sustainable Development Goals (SDGs) was adopted by all members of United Nation Organization in 2015 aimed at providing a shared blue print for peace and prosperity for people and the planet. The SDGs includes 17 different goals in making human life prosperous. Out of 17 goals, the 13 number goal is an urgent call for every country to take actions against climate change. As the SDGs is a shared responsibility, the government of India has pledged for generating 175 GW energy from renewable sources by 2022 followed by taking actions towards afforestation, reduce carbon emission and making Indian citizens aware on environment. Since the changes in environment are the results of climate change, pollution, manipulation of resources and many other factors, the protection and preservation of environment lie directly in the hand of human beings. As human being is the ultimate authority of protection, promotion and preservation of environment, the awareness among the people towards its environment is essential. Thus, the present study was undertaken to compare the environmental awareness of arts and science students studying in higher secondary schools of Sambalpur town in Odisha, India.

RATIONALE OF THE STUDY

A critical analysis of studies conducted so far on environmental awareness revealed that science students had more environmental awareness in comparison to arts students because more importance given in their curriculum (Astalin, 2011; Dahiya & Ritu, 2013), students had a high level of environmental awareness and this help in active participation and environmental attitude for protecting environment and also there exists strong positive correlation between environmental awareness and environmental education, because environmental education had been introduced as a compulsory subject in the curriculum (Ghosh, 2014), there exists positive relationship between environmental awareness and attitude towards environment (Bala, 2016; Bhartiya, 2016; Aral et al., 2017), there exists no significance of difference between students of government and private school at secondary level on environmental awareness (Dev & Kumar, 2017). From the above analysis, it was clear that, the students' environmental awareness was positively correlated with environmental education studied in school curriculum and led to positive attitude towards protection, promotion and preservation of environment.

OBJECTIVE OF THE STUDY

To compare the environmental awareness of arts and science students studying in secondary schools of Sambalpur town.

HYPOTHESIS

There exists no significance of difference between the means of arts and science students studying in higher secondary school on environmental awareness.

METHODOLOGY

Design: Since the objective of the present study was to compare the mean of arts and science students studying in higher secondary schools on environmental awareness, the investigators used causal comparative or ex-post facto research design.

Sample: A sample of 120 students, 60 each constitute arts and science students' studying in higher secondary schools of Sambalpur town was selected for the study. The sample was selected through random sampling technique.

Tool: The researchers prepared a questionnaire for data collection. The questionnaire was made with the consultation of experts in both research methodology and environmental science.

Delimitations

1. The present study was confined to environmental awareness among arts and science students in relation to pollution and its types.
2. The sample of this study was delimited to Sambalpur town in Odisha, India only.
3. It compared the environmental awareness of arts and science students only.
4. It is delimited to higher secondary school students only.

RESULTS

Table-1: Summary of 't' values for environmental awareness of arts and science students studying in higher secondary schools (N=120)

Stream Dimensions	Arts Student		Science Student		't' value	Level of significance
	Mean	SD	Mean	SD		
Awareness on Pollutants (1)	2.03	1.004	1.5	1.01	3.78	0.01
Awareness on Air pollution (2)	5.85	1.30	5.6	1.73	1.04	N.S
Awareness on Water Pollution (3)	3.25	1.17	3.4	0.98	0.88	N.S
Awareness on Noise Pollution (4)	1.88	0.78	2.16	0.59	2.80	0.01
Awareness on Soil Pollution (5)	4.03	1.2	4.06	1.04	0.03	N.S
Awareness on Radioactive Pollution (6)	1.68	0.55	1.58	0.58	1.00	N.S

As it can be seen in Table-1, there found significance of difference between arts and science students studying in higher secondary school on awareness in relation to pollutants ($t=3.78$, $df=118$, $p<0.01$) in favour of arts students ($M=2.03 > M=1.01$). Thus, it was clear that arts students were more aware than science students in relation to pollutants. Therefore, the null hypothesis stating that there exists no significance of difference between the arts and science students studying in higher secondary schools on environment awareness in relation to pollutants was rejected in favour of research hypothesis.

As it can be seen in Table-1 there found no significance of difference between arts and science students studying in higher secondary school on awareness in relation to air pollution ($t=1.04$, $df=118$, $p>0.01$). Further, it was found out that arts students were more aware than science students on awareness about air pollution ($M=5.85 > M=5.60$). Therefore, the null hypothesis stating that there exists no significance of difference between the arts and science students studying in higher secondary schools on environment awareness in relation to air pollutions was accepted.

As it can be seen in Table-1 there found no significance of difference between arts and science students studying in higher secondary school on environmental awareness in relation to water pollutions ($t=0.88$, $df=118$, $p>0.01$). Further, it was found out that science students were more aware than the arts students on about water pollutions ($M=3.40 > M=3.25$). Therefore, the null hypothesis stating that there exists no significance of difference between the arts and science students studying in higher secondary schools on environment awareness in relation to water pollutions was accepted.

As it can be seen in Table-1 there found significance of difference between arts and science students studying in higher secondary school on environmental awareness in relation to noise pollution ($t=2.80$, $df=118$, $p<0.01$) in favour of science students ($M=2.16 > M=1.88$). Thus, it was clear that the science students were more aware than the arts students on environmental awareness in relation to noise pollution. Therefore, the null hypothesis stating that there exists no significance of difference between the arts and science students studying in higher secondary schools on environment awareness in relation to noise pollutions was rejected in favour of research hypothesis.

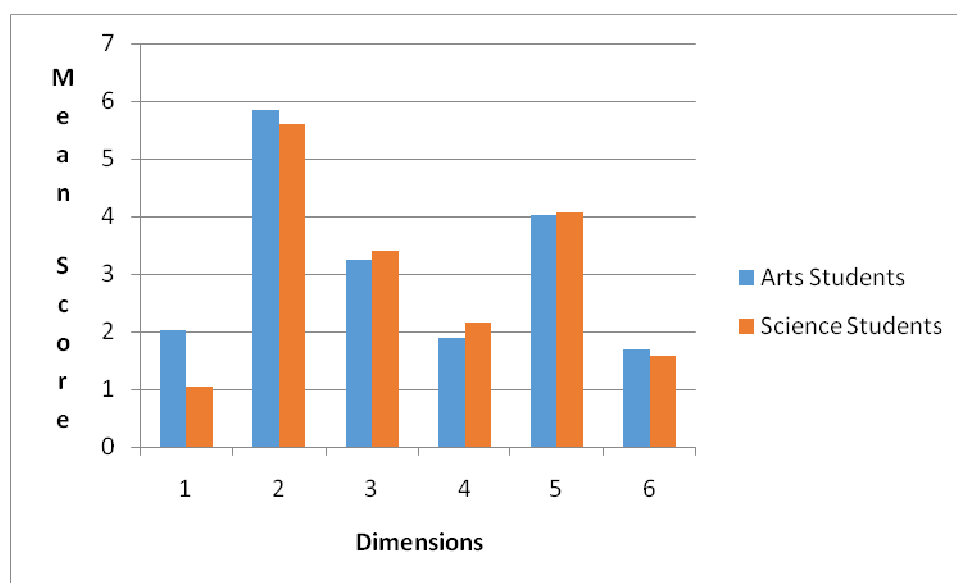
As it can be seen in Table-1 there found no significance of difference between arts and science students studying in higher secondary schools on environmental awareness in relation to soil pollution ($t=0.03$, $df=118$, $p>0.01$). Further, it was found out that science students were more aware than arts students on soil pollution ($M=4.06 > M=4.03$). Therefore, the null hypothesis stating that there exists no significance of difference between the arts and science students studying in higher secondary schools on environment awareness in relation to soil pollutions was accepted.

As can be seen in Table-1 there found no significance of difference between arts and science students studying in higher secondary schools on environmental awareness in relation to radioactive pollution ($t=1.00$, $df=118$, $p>0.01$). Further it was found out that arts students were more aware than the science students on radioactive pollution ($M=1.68 > M=1.58$). Therefore, the null hypothesis stating that there exists no significance of difference between the arts and science students studying in higher secondary schools on environment awareness in relation to radioactive pollutions was accepted.

The findings emerged that the students belonging to arts stream of higher secondary schools were more aware than the students belonging to science stream in dimensions such as pollutants, air pollution and radioactive pollution. On the other hand, the students belonging to science stream of higher secondary schools were more aware than that of arts students in dimensions such as water pollution, noise pollution and soil pollution

ENVIRONMENTAL AWARENESS

Figure-1 showing bar graph drawn on environmental awareness among arts and science students' studying in higher secondary schools relating to the various dimensions like awareness on pollutants, air pollutions, water pollutions, noise pollutions, soil pollutions and radioactive pollutions.



(Figure-1 Bar graph showing mean environmental awareness of arts and science students' studying in higher secondary schools)

MAJOR FINDINGS

1. The students belonging to arts stream of higher secondary schools were more aware than the students belonging to science stream in dimensions such as pollutants, air pollution and radioactive pollution.
2. The students belonging to science stream of higher secondary schools were more aware than that of arts students in dimensions such as water pollution, noise pollution and soil pollution
3. Out of six dimensions on environmental awareness, only two dimensions such as pollutants and noise pollution exists significance of difference between mean of arts and science students studying in higher secondary schools. It means there exists variations on environmental awareness of arts and science students studying at higher secondary schools.

4. Out of six dimensions on environmental awareness, four dimensions such as air pollution, water pollution, soil pollution and radioactive pollution exists no significance of difference between mean of arts and science students studying in higher secondary schools. It means both arts and science students are almost same aware in these dimensions.

DISCUSSIONS

On the basis of finding revealing both arts and science students are equally aware on environment in relation to air pollution, water pollution, soil pollution and radioactive pollution along with their respective causes and remedies. However, they are not equally aware on pollutants and noise pollution. Since the environmental awareness have positive correlation with environmental education and develop positive attitude to protect environment, the environmental education must be taught to every students with special awareness training given to them. Various types of pollution threaten the health of environment in recent past. The environmental awareness should not be confined to students' community only rather extended to all stakeholders in a country. The tribes have the greater potential for forest conservation and wild life protection. Industrialization and Urbanization have become a great challenge for all kind of pollutions. The announcement of programs and policies of both state and central government should be well financed and implemented effectively. Creation of nuclear energy has greatest potential to fill the supply and demands gaps in energy sector. However, the disposal of nuclear waste has become a great challenge in present scenario. Thus, the government has to essential and immediate steps to curb all types of pollutions and make aware peoples on causes, effect and remedies of various pollutions.

REFERENCES

- Astalin, P.K. (2011). A study of environmental awareness among higher secondary students and some educational factors affecting it. *International Journal of Multidisciplinary Research*, 1(7), 90-101.
- Aral, N., Bayram, N. & Celik, C. (2017). A study of relationship between environmental awareness and environmental attitude among high school students. *International Journal of Recent Advance in organizational Behaviour and Decision Sciences*, 3(1), 948-955.
- Bala, R. (2016). A study of environmental awareness in relation to attitude towards environment among secondary school students. *Indian Journal of Research*, 5(2), 236-237.
- Bhartiya, T. K. (2016). Study of awareness, attitude and knowledge about environmental education in high school and higher secondary school students. *Journal of Environmental Science, Toxicology and Food Technology*, 10(12), 51-54.
- Dahiya, N. and Ritu.(2013). A study of environmental awareness and attitude towards environmental degradation of senior secondary school students. *International Journal of Engineering, Management, Humanities and Social Sciences Paradigm*, 2(1), 15-26.

- Dev, M. & Kumar, A. (2017). Comparative study of the environmental awareness among students of secondary classes of government and private school in Haryana. *Journal of Educational & Psychological Research*, 7(2), 15-18.
- Ghosh, K. (2014). Environmental awareness among secondary school students of Golaghat district in the state of Assam and their attitude towards environmental education. *Journal of Humanities and Social Science*, 19 (3), 30-34.

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