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Attitude of Students towards Environmental Education Programme with Special Reference to Punjab (India)

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Abstract

Purpose of the present study was to compare the attitude of urban-rural and male-female secondary school students towards environmental education programme being implemented in their schools and gender by locale interaction on their attitude. An Attitude Towards Environmental Education Programme Scale (ATEEPS) was developed and used for the study. Sample consisted of 1824 students of classes IX and X drawn from 36 schools selected randomly from 6 different districts belonging to the three traditional geographical regions (Majha, Malwa and Doaba) of the state of Punjab (India). The sampled schools were further classified into three categories – large, medium and small-sized schools on the basis of the size of student-population. From each of these schools, a cluster of first 80, 50 and 20 students, respectively, available as per roll numbers on the particular day of study was taken up. Data analysis was done through 2-way 2x2 ANOVA. Urban-rural or male-female secondary school students did not significantly differ in their attitude towards environmental education programme. No differential effect of the one variable at the different levels of the other variable was found to be there.

Key words: *Attitude towards Environmental Education Programme, Environmental Education, Attitude, Environmental Education Programme.*

Introduction

1.1 Background of the problem

In general the term 'environment' refers to surroundings of an object. It is the sum total of all living (biotic) and non living (abiotic) components in our immediate, near and far-off surroundings. In another way, it may also be considered as consisting of two components – natural environment and man-made environment.

During the last 100 years the fundamental relationship between human beings and the earth has altered for the worse. The reasons for this may be numerous. To name a few these include ever increasing population, over-exploitation of natural resources especially fossil fuels, competing economics, political agendas etc. How safe the newer technologies are for human, animal and plant life is also a debatable issue.

The role of human beings in relation to the natural world has been highlighted as *bull in a china shop* by Gore (2000/2007: xi) when he writes

> The results of this profoundly new relationship between humans and the earth are devastating, it is now not so much a relationship as a collision.

1.1.1 Environmental education in school curriculum

The roots of environmental education in the Indian school curriculum since independence can be traced back to the report of the Indian Education Commission (1964-66) which according to Singh (2007: 64) incorporated the best that basic education had to offer so as to relate it to the life, needs and aspirations of students.

The first step towards introducing and implementing environmental education in Indian school system was taken through the development of 'The Curriculum for the Ten Year School - A Framework' by the National Council of Educational research and training (NCERT) in 1975 (Sharma, 2009: 113). Then, as per NCERT (unpublished: 1) National Policy of Education 1986 (as modified in 1992) advocated

> Protection of the environment as a common core around which a National Curriculum Framework (NCF) would be woven. This policy emphasised the need to create awareness of environmental concerns by integrating it in the educational process at all stages of education and for all sections of society.

The National Curriculum for Elementary and Secondary Education: A Framework – 1988 (nd: 1) presented the NCERT's view

> The school curriculum should highlight the measures for protection and care of the environment, prevention of pollution and conservation of energy.

In consonance with these documents, Environmental Studies was introduced as a subject at the primary level. The topics related to environment were suitably infused with science and social science subjects at all school stages.

NCFSE–2005, with respect to environmental education at primary level, advocated integrating students' experiences of the world around them with their school knowledge as well as continuing and further strengthening the integrated approach. For upper primary and secondary level students, it was recommended that environmental education was infused mainly in the textbooks of Science, Social Studies and languages. For higher secondary classes, a separate discipline - environmental education as a compulsory subject was recommended so that the students, at this stage, opting for different streams/elective subjects can be given environmental training through this compulsory subject which was to have small projects aimed at environmental training.

1.1.2 Efforts towards environmental education programme at school level in Punjab

Realising the need of creating environmental awareness among citizens in general and students in particular as also its consequences on our environment, the State of Punjab (India) has taken several steps in line with national pattern, during the past a few years, through formal and non-formal systems of education. Some of these steps are: National Environment Awareness Campaign (NEAC), National Green Corps Programme and Children's Science Congress, Celebration of environmentally important days in schools of Punjab, Greening of Punjab School Education Board textbooks, Constitution of Eco-Clubs in 5500 schools in Punjab under the 'National Green Corps programme, Development of manuals and websites/Environment Information System (ENVIS) Centre on environmental education /environment and Annual Science Fairs/Exhibitions organized by the Department of Education, Punjab at tehsil level, district level and state level

1.2 Statement of the problem

Effective implementation of environmental education programme at the school level is a matter of concern not only for the State but also for academicians, administrators, teachers and students. During the recent past, a lot of resources have been pumped into the effort of making the education green. In order to make our environmental education efforts bear fruit, it must be ensured that they are designed in such a way that they are welcomed by the students whole heartedly. For this, the need of the hour is that we study and compare the attitude of students towards environmental education programme - gender wise and locale wise so that remedial steps are taken wherever needed. With this aim in view, it was planned to study

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1.3 Research method

It was mainly a survey type descriptive study. An Attitude Towards Environmental Education Programme Scale (ATEEPS) was developed and used by the

investigator to collect data for the present study. Prior permission from authorities was obtained for collecting data from the sampled schools which were selected using multistage stratified random sampling technique.

1.3.1 Sampling

For the purpose of the study 30% districts of Punjab state were selected randomly. From the traditional geographic regions of Majha, Doaba and Malwa of Punjab 1, 2 and 3 districts respectively were selected at random. From the selected districts, three tehsils per district were selected at random. Three rural and three urban NGC schools were randomly selected from each tehsil. This multistage stratified random sampling technique has been depicted in Table1.

Table1 Region, district and tehsil wise selection of sample

Sr. No.	Geographical region of Punjab	Total no. of districts	Number of the districts taken up	Name of the district taken up	Total number of tehsils in the district	Number of tehsils taken up	Number of schools taken up
1.	Majha	3	1	Tarn Taran	3	2*	6
2.	Doaba	4	2	Hoshiarpur	4	3	6
				Shaheed Bhagat Singh Nagar (Nawan Sehar)	3	3	6
3.	Malwa	13	3	Patiala	5	3	6
				Barnala	2	2	6
				Faridkot	3	3	6

* Tehsil Khadur Sahib (Tarn Taran) has no urban school.

These 36 randomly selected government secondary schools, covered by the National Green Corps (NGC) programme, had relevant student population varying from 50 to above 200 each. Thus the sampled schools were further classified into three categories – large sized schools, medium sized schools and small sized schools on the basis of the size of student population. From each of these schools, one section each of class IX and X was selected at random. Then from these sections, a cluster of first 80, 50 and 20 students respectively available as per roll numbers on the particular day of study was taken up. This scheme of sample selection is represented in Table2

Table2 Sample size according to the defined school size

Sr. No.	Category of school	Student population for class IX-X	Size of the sample taken up per school	Total number of schools	Total sample size
1.	Large	> 150	80	10	800
2.	Medium	101-150	50	22	1100
3.	Small	50-100	20	4	80
TOTAL				**36**	**1980**

Out of this lot of sample of students, after rejecting incomplete data and outliers, the final sample size was 1824 – thereby registering a data rejection rate of 7.88%. For data collection, prior permission from the Director General School Education, Punjab was obtained.

1.3.2 Methodology

Administration of the tool (Attitude Towards Environmental Education Programme Scale) to the sampled students was undertaken in the presence of their class teachers. For this, the students were made to sit comfortably in a room of the concerned school. Before starting, they were explained the purpose of the visit of the investigator. Directions required to be followed while responding to the items were also explained orally. Confidentiality of the data provided was assured.

1.4 Data analysis for attitude towards environmental education programme

The 'Attitude Towards Environmental Education Programme Scale' as developed by the investigator, was used to collect data. The data so collected were analysed through 2-way 2x2 ANOVA to test the following null (statistical) hypotheses.

Null hypothesis 1: *Secondary school boys and girls do not significantly differ in their attitude towards environmental education programme.*

Null hypothesis 2: *Urban and rural secondary school students do not significantly differ in their attitude towards environmental education programme.*

Findings are reported in Tables3 and 4

Table3 Cell frequencies, the sums of scores and their means on the ATEEP Scale

	BOYS	GIRLS	
URBAN	n_1= 375 $\sum X_1$ = 41108 M_1 = 109.62	n_3= 470 $\sum X_3$ = 52415 M_3 = 111.52	$\sum Xr_1$ = 93523 M r_1= 110.68

RURAL	n_2= 427 $\sum X_2$ = 47039 M_2 = 110.16	n_4= 552 $\sum X_4$ = 60681 M_4 = 109.93	$\sum Xr_2$ = 107720 M r_2= 110.03
	$\sum Xc_1$ = 88147 M c_1= 109.91 N = 1824	$\sum Xc_2$ = 113096 M c_2= 109.93	$\sum X_t$ = 201243 M_t= 110.33

Table4

Summary of the 2X2 multifactor ANOVA for attitude scores

Source of variance	Sum of squares	d_f	M.S.	F-value
Between Columns (Gender)	254.44	1	254.44	1.44*
Between Rows (Locale)	190.12	1	190.12	1.07*
c x r	511.47	1	511.47	2.89*
Between Groups	956.03	3	318.68	
Within Groups	322513.62	1820	177.20	

*** Not significant at the .05 level as the F-table value is 3.85 for d_f (1,1000)**

The null hypothesis no. 3 of no significant sex difference in attitude of secondary school students towards school environmental education programme is retained at the .05 level of significance. Hence, **boys and girls** do not significantly differ on attitude towards school environmental education programme. This finding stands in contrast to that of Naseema (2010) who studied the effect of gender and social position on attitude towards environment of secondary school pupils and found girls to have better attitude towards environment when compared with boys. Katoch and Kumari (2010) too reported more favourable attitude of female teachers towards environment as compared to the male teachers.

The obtained F-value 1.07 for between rows fails to reach the F-table value of 3.85 for d_f = 1, 1000 at the .05 level of significance. Therefore, the null hypothesis no. 4 of no significant difference in attitude of urban and rural secondary school students towards school environmental education programme is retained at the .05 level of significance. Urban and rural secondary school students do not significantly differ in their attitude towards the school environmental education programme. This finding is in line with that of Naseema (2010) who found that rural and urban school students did not differ significantly in their attitude towards environment.

The column by row (c x r) interaction F-value of 2.89 fails to reach the F-Table value of 3.85 for d_f = 1, 1000 at the .05 level. There is no differential effect of the one variable at the different levels of the other variable.

1.5 Findings and conclusions

i. Secondary school boys (N_1=802) and girls (N_2=1022) don't significantly differ on attitude towards environmental education programme at the .05 level with their mean scores being 109.91 and 109.93 respectively.
ii. Urban secondary school students (N_1=845) and rural secondary school students (N_2=979) do not significantly differ at the .05 level with their mean being 110.68 and 110.03 respectively.
iii. There is no significant gender by locale interaction on attitude towards environmental education programme.

1.6 Implications

Urban-rural and male-female difference on Attitude Towards Environmental Education Programme Scale being non significant indicates that all the students can be exposed to the same set of activities under environmental education programme.

1.7 Suggestion for further research

Attitude of students towards the environmental education programme as a whole (not merely the attitude towards environment or environmental education, as the emphasis hitherto has been on) needs to be the focus of future studies so that environmental education programme can be effectively implemented.

1.8 References

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