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## ENVIRONMENTAL EDUCATION AWARENESS AMONG SCHOOL TEACHERS IN RELATION TO LEVEL AND RESIDENTIAL BACKGROUND

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**Abstract:** *The present study has been conducted on a stratified sample of 3600 school teachers to study their environmental education awareness with respect to their level and residential background. A self-made questionnaire was used to collect the data, which was treated with suitable statistical techniques like 2\*2 way ANOVA and t tests. The results revealed significant variations in the environmental education awareness of secondary and elementary school teachers with the former scoring higher. Significant difference was also noted in the environmental education awareness of urban and rural school teachers with urban teachers scoring higher. However, interaction effects of both variables (level and residential background) showed insignificant differences upon environmental education awareness.*

**Key words:** *Environmental education, awareness, school teachers, level, residential background.*

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## **INTRODUCTION**

The increasing application of science and technology has raised level of achievement and aspiration of man. He has scaled the highest peaks of mountains, has fathomed the ocean to discover the unknown treasures of ocean, has orbited moon, and has touched the space. In spite of all this, the world is getting poorer and poorer. Today, the delicate environment is facing a danger of destruction on a scale as never before in the history of mankind. Human activities such as urbanization, industrialization, nuclear experimentation, means of recreation, agriculture, setting up of power plants, tourism, transportation and above all escalation of numbers has deteriorated the scene regarding environment by increasing the pollution. The hazardous effects of these activities are manifested in all the ecological spheres. To this man's craving for living a contented life, has acted like adding fuel to the fire.

The prerequisite and integral part of the development process is to prevent the degrading environment from further deterioration at local, national and global level. Global concern regarding the steadily deteriorating state of the environment has emphasized the need for education. Education brings awareness and is essential for action. In this direction, environmental education provides an understanding of the multi-dimensional problems of depleting resources and ever increasing populations (Nachimuthu & Vijayakumari, 1993). The goal of environmental education is to develop a world population that is aware of and concerned about the environment and its associated problems and who has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively towards solution of current environmental problems and prevention of new ones. School system provides the largest organized base for environmental education and action. With children in the plastic age, school offers an effective instrument for imbedding in them the desirable environmental ethics. Teacher is one of the important factors, which is bound to affect this programme. They can provide a vital link in the delivery of environmental knowledge, its associated problems and their solutions.

Although research efforts have been undertaken in context of environmental education awareness among teachers by many researchers in India and abroad but still the subject faces certain limitations in regard to its proper implementation. The loophole is surely the lack of attitude of the teacher. The teacher should be aware of the environmental education



aspects only then he can make the future generation aware of the environmental problems and their solutions. However, among teachers the subject of differences on the basis of their modes of living is one of the perennials interest and research on this issue has evidenced the impact of locale (urban and rural) upon the personality traits and attitudes. Residential Background, that is, rural and urban modes of living are the two principal modes of social life. Modest of life tend to determine the attitudes of personality. The structural patterns of rural life are based on villages while that of urban life are based on cities. In rural life, the majority of the population is engaged in agricultural pursuits, the countryman is in close contact with nature or natural environment. While in urban life, people are principally engaged in manufacturing mechanical pursuits, commerce, trade and other allied works. Taking into consideration this situation, the investigator has felt a need to conduct a study to examine whether residential background has any effect on the environmental education awareness of school teachers along with their level. It is possible that the results of the study can help us to take necessary actions to enhance the efficacy of the content according to the residential background.

### **HYPOTHESES**

The purpose of the study is to know environmental education awareness of elementary and secondary school teachers in relation to residential background. Based on this objective, following hypotheses has been formulated for testing:

1. There will be no significant difference between the environmental education awareness of schoolteachers in relation to level.
2. There will be no significant difference between the environmental education awareness of schoolteachers in relation to residential background.
3. There will be no significant interaction between the level and residential background upon environmental education awareness.

### **METHOD**

#### **Sample**

The population for the sample was schools teachers of Punjab. A total sample of 3600 school teachers was selected using stratified random sampling technique from the five districts namely Amritsar, Jalandhar, Kapurthala, Nawanshahar and Gurdaspur. The sample



consisted of 1800 elementary and 1800 secondary school teachers which further consisted of urban and rural teachers.

### Tool

The study was conducted with the help of self-made questionnaire whose reliability and validity was tested. The reliability coefficient of the questionnaire by test- retest method was found to be +0.99. After standardizing the tool, the final draft of the questionnaire consisted of 100 multiple-choice items. Each correct test item was given a weightage of one mark and each wrong response or omitted item received zero mark. As there were 100 items, an individual could get a maximum score of 100

### Statistical Techniques

The two way (2\*2) ANOVA technique (Table-1) and t- tests (Table-2) were employed for the analysis and interpretation of data and testing the hypotheses. Means, standard deviations, maximum scores, minimum scores, medians was calculated (Table-3). Scores were arranged into various quartiles (0-25, 26-50, 51-75, 76-100) to know about the number and percentage of respondents who have low, moderate, high and very high environmental education awareness. (Table-4).

## RESULTS AND DISCUSSION

The data was analyzed to find answers to the hypotheses set for the study. The results obtained for the main effects and interactions of factors have been presented as follows:

**Table 1. Summary of Two- way ANOVA Results**

Source of Variation	SS	df	MS	F ratio
A (Level)	2772.03	1	2772.03	15.32**
B (Residential background )	4038.6	1	4038.6	22.19**
A*B	7.2	1	7.2	0.54
Within group ( Errors)	650729.49	3596	180.96	

\*\* Significant at 0.01 level

**Table-2. Significance of Difference between the Mean Scores**

Pair of Comparison	Mean Difference	't' value
Ele.- Sec.	-1.76	3.90**
Urban- Rural	2.12	4.71**

\*\*Significant at 0.01 level



**Table-3. Means, Standard Deviations, Maximum Scores, Minimum Scores and Medians of School Teachers**

Variable	Mean	S.D	Max. Score	Mini. Score	Median	Total Sample
Elementary	64.28	14.39	90	9	66	1800
Secondary	66.04	14.21	91	3	68	1800
Urban	66.22	13.60	90	3	69	1800
Rural	64.1	14.9	91	8	67	1800

**Table-5. Distribution of the Scores into Various Quartiles with Percentage**

Quartile (Scores)	Ele. School teacher	Sec. School teacher	Urban	Rural
0-25	31	28	24	35
%(low`)	1.7	1.6	1.3	1.9
26-50	251	187	182	256
%(moderate)		10.4	10.1	14.2
51-75	1119	1102	1111	1110
%(high)	62.2	61.2	61.7	61.7
76-100	399	483	483	399
%(very high)	22.2	26.8	26.8	22.2
Total	1800	1800	1800	1800
%	100	100	100	100

## Main Effects

### 1. Level

ANOVA results (Table 1) show the F-value for level of schoolteachers in the mean environmental education awareness test scores to be 15.32, which was statistically significant at both levels ( $P < .01$  and  $P < .05$ ). Hence, it was concluded that level of school teachers effect their environmental education awareness. Further (Table 3), it was noted that the mean of elementary school teachers (64.28) is lower ( $p < 0.01$ ) than that of secondary school teachers (66.04) showing a difference of 1.76. The value of 't' calculated (Table 2) for this group difference was 3.90, which was significant at 0.01 level. This significant difference showed that secondary school teachers had a higher level of environmental education awareness than elementary school teachers. The findings of Fong



(1994), Owens (2000), Rai (2002) and Rajakumari (2002) also highlighted that higher environmental awareness is due to higher level of education.

The percentage distribution of the respondent's scores (Table 4) in the highest quartile of secondary teachers was 26.8% which was higher than that of elementary teachers, which was 22.2%. All these findings revealed that there exists significant difference between both the levels of school teachers, thus, H1 stands rejected.

## **2. Residential Background**

The F-value (Table 1) for residential background of schoolteachers in the mean environmental education awareness test scores was 1.24, which was statistically significant at both the levels ( $P < .01$  and  $P < .05$ ). Hence, it was concluded that of school teachers does affect their environmental education awareness. It was further noted that the mean of urban teachers (66.22) was higher than that of rural teachers (64.1) showing a difference of 2.12. Further, the value of  $t'$  calculated (Table 2) for this group difference was 4.71, which was also significant at 0.01 level. This significant difference showed that urban teachers had a higher level of environmental education awareness than the rural teachers. The findings of Patel and Patel (1994), Pradhan (1995), Wouters (1997), Pareek and Sidana (1998), and Pradhan (2002) also suggested that there exists significant difference in the environmental awareness level in relation to residential background.

Even the percentage distribution of the respondent's scores (Table 4) in the highest quartile of urban teachers was 26.8% which was higher than that of rural teachers, which was 22.2%. All these findings support the assumption that that there exists significant difference between urban and rural school teachers, thus, H2 was rejected.

## **Interaction Effect**

The F value for the interaction of variable, level and the residential background of school teachers (A x B), was 0.54, which was insignificant at both the levels ( $P < .01$  and  $P < .05$ ) (Table 1). This showed that there does not exist an interaction effect between the variables i.e., the level of schoolteachers along with residential background. Hence, H3 was accepted.

## **CONCLUSION**

The present study revealed following significant conclusions with respect to the environmental education awareness of school teachers in relation to level and residential background:



- The secondary school teachers showed significant variation in environmental education awareness than elementary school teachers. This suggests that level influences the environmental education awareness of teachers.
- The urban and rural school teachers showed significant variation in environmental education awareness highlighting that residential background affects the environmental education awareness of the school teachers.
- The interaction analysis highlighted that level factor was not dependent of residential background factor or, equivalently that residential background factor was not dependent of the level factors. That means there was insignificant interaction between level and residential background upon environmental education awareness. However, independently both vary in their results. This suggests that the independent effects of A and B should be interpreted cautiously.

## EDUCATIONAL IMPLICATIONS

Teacher can play an important role in educating their students about environment, which is possible only when the teacher themselves have the necessary level of environmental education awareness. Pertinent steps have to be taken to prepare environmentally conscious teachers and citizens. For this purpose, the government should pay greater attention towards teachers teaching at school levels. They should introduce and enrich environmental education programmes in both in-service and pre- service teacher education programmes. More effort has to be implemented to encourage elementary as well as rural teachers for performing and participating in environmental activities and actions.

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