Research Paper Education

Study Relationship between Environmental Attitude and Environmental Education Among Secondary Students of CBSE Board

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ABSTRACT

One of the most widely studied constructs in the study of human interaction with the natural environment is environmental attitudes. Environmental attitudes can be defined as a collection of beliefs, affects and behavioral intention a person holds regarding environmentally related activities or issues. In the case of exploring individual's environmentally responsible behavior it was found that environmental education inevitably plays an important part in providing support to the widespread concern about environmental sustainability and its entire ramification. Finally, attitudes toward the behaviors are thought to be the function of the individual's beliefs about the behavior along with his education which has a deep impact on developing individual's behavior. This study reveals that environmental education given by CBSE board in India does have any relationship with environmental attitude of an individual. Environment Attitude scale & achievement test for environment studies on the sample for the present study comprises of 357 secondary students of CBSE board who have studied environmental education till class X. It was found that environmental attitude is positively related to achievement in environmental education among all the students of CBSE board. In boys with increased level of achievement i.e. from low to average and average to high, there is significant increase in the development of positive environmental attitude. In girls, it was seen that as compared to low achievers, average and high achievers have more positive environmental attitude. Thus it can be concluded that environmental education in students of CBSE board till class X only also helps in enhancing environmental attitude of students

KEYWORDS | Environmental attitude, environmental education, secondary students, CBSE board

Introduction

Pro-environmental behavior can be defined as the action of an individual or group that advocates the sustainable or diminished use of natural resources (Sivek & Hungerford, 1989/90). As it is difficult to measure actual behavior, it is proposed that it is the expressed intent of an individual to perform pro- environmental behavior that provides a more accurate assessment of their future actions. In attempt to map what factors can encourage pro-environmental behavioral intentions, Fishbein and Ajzen's theory of reasoned action can be used as the basis of exploration. This theory posits that the best predictor of behavior is the intention to perform the behaviors (Fishbein & Ajzen, 1975). In turn the intention to perform the behavior is believed to be caused by the individual's attitude towards performing the behavior and the individual's subjective norms about the behavior which are greatly affected by the family, friends, society and education. Finally, attitudes toward the behaviors are thought to be the function of the individual's beliefs about the behavior. In the case of exploring individual's environmentally responsible behavior it was found that environmental education inevitably plays an important part in providing support to the widespread concern about environmental sustainability and its entire ramification. As a result of environmental degradation the global concern about sustainability arose among teenagers who can be further provoked by giving environmental education because our action depends on the knowledge of the working of nature, on positive attitudes towards nature and its problems, and an external regulation, education is seen as the key to "saving the world".

Review of related literature

Pandey White Vicky Steecklin (2008) in their study 'Nurturing children's Biophilia : Development, Appropriate Environmental education for young children' revealed that to be effective children's environmental education needs to be designed to match children's developmental needs, interest, abilities and learning styles, best learning occurs with hands on, interactive play and self discovery. Direct sensory experience is good as compared to conceptual generalization.

Sunita Bhalla Mehan (2007) in her study on 'Enhancing environmental awareness of school children' concluded that inquiry training model of teaching has affected students most. The concept attainment model has its place in increasing the environmental awareness of elementary students. Students taught by traditional model have not shown any significant gain regarding environmental awareness.

Anna Vitto and others (2003) in his study 'who is responsible for development', attitudes to environmental challenges: evaluated that there is high correlation between environmental responsibility and environment values among 9th grade students, which support environmental education in schools. Rejection of environmental problems develop negative attitude towards environment.

Mark Rickenson (2003) in his study on "What's the use of research in environmental education' suggest that questions of research utilization need to be seen within the context of wider debates about the professional learning, research based on schools, pedagogical change and collaborative enquiry.

Legault and Pelletier (2000) has worked on the "Impact of environmental education program on Students and Parents attitudes, motivation and behaviour', whose results indicated that at the and of school year, children who were part of EEP group engaged in ecological behaviour less for extrinsic motives than did children who were part of a control group. Parents of EEP children were more dissatisfied with local environmental conditions than other.

Vlosky Richard. P. and Vlosky Denese. A. (1999) found that most of the differences due to age and gender may be due to income, class or culture. People with income less than $30000 were less bothered regarding environment and environmental issues as compared o high income group.

The above studies revealed that environmental education plays effective role in developing positive attitude towards environment. Along with that it was also seen that different teaching methods of environmental education show different impact on environmental attitude of children.

Objectives of the Study

The objectives proposed for the study are as follows -

To find out the relationship between achievement in environmental education and environmental attitude among secondary students of CBSE board.

To find our whether secondary students of CBSE board with different levels of achievement in environmental education differ from one another on environmental attitude.

Hypotheses

To achieve the above mentioned objectives, following null hypothesis are proposed to be tested

There exist no significant relationship between achievement in environmental education and environmental attitude among secondary students of CBSE board.

Students of CBSE board differing with respect to achievement in environmental education do not differ from one another on environmental attitude.

METHODOLOGY

Sample

The sample for the present study comprises of 357 secondary students of CBSE board who have studied environmental education till class X.

Tools used

Environment Attitude Scale:

Environment Attitude scale prepared by K.S. Misra was used to measure the environmental attitude of students. The researcher administered the tools on 110 students in try-out stage. Split-half reliability coefficient was found to be 0.53. Face validity has been found by asking experts related to the field of education.

Achievement test for Environment studies:

The researcher has prepared the achievement test for environment studies. The basis of items prepared for the achievement tests were the contents present in class IX and X syllabus of environmental studies. Altogether 175 statements were prepared but only 40 were present in the final form of tool. The tool was administrated on 360 students in try-out stage. Discrimination Index (DI) and Difficulty value (DV) was taken out for each item. Test-retest reliability was 0.4526.

Statistics used

Product Moment Co-efficient of Correlation has been computed to find out the relationship between environmental attitude and achievement in environmental education among secondary students of CBSE board. One way ANOVA followed by multiple range tests have been used for finding out whether students with low, moderate and high level of achievement in environmental education differ from one another on environmental attitude.

Results and Discussion

Table.1 Correlation between environmental attitude and achievement in environmental education among secondary level students of CBSE board.

S.No.	Groups	N	Values of correlation
1.	Male students of CBSE Board	210	0.079*
2.	female students of CBSE Board	147	0.311*

*** Significant at 0.05 level**

Values of correlation between environmental attitude and achievement in environmental education for male and female students of CBSE board are 0.079 and 0.311 respectively and both are significant at 0.05 level. So the null hypothesis stand rejected at 0.05 levels. It means that environmental attitude is positively related to achievement in environmental education among male and female students of CBSE board.

Table.2 Summary of results of ANOVA showing differences in environmental attitude of male students of CBSE board with low, average and high achievement in environmental studies.

Source	df	Sum of squares	Mean square	F-ratio
Between groups	2	2901.49	1450.74	9.00*
Within groups	207	33370.4	161.21	

*** Significant at 0.05 level**

Table.2 shows that the value of F-ratio (= 9.00) is significant at 0.05 level, so the null hypothesis is rejected. It shows that male students of CBSE board with different levels of achievement, differs from one another on environmental attitude. Further analysis was done using multiple range test, show in Table.3

Table.3 Results of multiple range test showing difference in environmental attitude among male students of CBSE board with low, average and high achievement in environmental studies.

Gp. No.	Achievement	Mean	Group compared	Difference between means
1	low	95.9412	1-2	-2.76221
2	average	98.7034	1-3	*-10.0188
3	high	105.96	2-3	*-7.25661

*** denotes statistically significant difference.**

Table.3Shows that mean scores of environmental attitude scores of male students with low, average and high achievement are -2.7621, -10.0188 and -7.25661 respectively. Significant paired comparisons show that as compared to male students of CBSE board with low achievement, those with average and high achievement have better environmental attitude. Furthermore students with high achievement have more environmental attitude as compared to those with average achievement in environmental studies.

In case of female students of CBSE board too, on the basis of Mean ± 1SD three groups were formed. ANOVA was used for comparing environmental attitude among female students CBSE board with low, average and high achievement in environmental studies. Results have been shown in Table.4

Table.4 Summary of results of ANOVA showing differences in environmental attitude of female students of CBSE board with low, average and high achievement.

Source	Df	Sum of squares	Mean square	F-ratio
Between groups	2	1185.46	592.73	6.37*
within groups	144	13393.0	93.007	

*** Significant at 0.05 level**

Table.4 shows that female students of CBSE board have the value of F-ratio which is significant at 0.05 levels, so the null hypothesis is rejected. It means that female students of CBSE board with high, low and med. achievement differ from on another on environment attitude. Further analysis was done using multiple range tests.

Table.5 Results of multiple range tests showing difference in environmental attitude among female students of CBSE board with low, average and high achievement in environmental studies.

Group	Achievement	Mean	group compared	Difference between means
1	Low	97.0741	1-2	*-6.01416

2	average	103.088	1-3	*-9.87037
3	High	106.944	2-3	-3.85621

*** Denotes statistically significant difference.**

Table.5 Shows that mean scores of environmental attitude scores of female students of CBSE board. Significant paired comparisons show that as compared to female students of CBSE board with low achievement, those with average and high achievement have better environmental attitude. On comparing female students of CBSE board with average and high achievement, no difference in their environmental attitude has been found statistically.

Summary of findings

Values of correlation show that environmental attitude is positively related to achievement in environmental education among all the students of CBSE board.

Results of ANOVA show that secondary level students being either male or female, belonging to group of low, average and high level of achievement in environmental studies, which proves that study of environmental education helps in the development of environmental attitude among children. Results of multiple range test further show that, in boys with increased level of achievement i.e. from low to average and average to high, there is significant increase in the development of positive environmental attitude. In girls, it was seen that as compared to low achievers, average and high achievers have more positive environmental attitude. Unlike boys where high achievers have more positive environmental attitude than average achievers, average and high achievers girls have similar level of environmental attitude.

Results of ANOVA show that, both male and female students of CBSE board belonging to low, moderate and high group of achievement level differ from one another on environmental attitude. It means that all the students of CBSE board belonging to low, average and high achievement level exhibit variation in their environment attitude.

Male students of CBSE board with average and high achievement exhibit more positive environmental attitude, than those with low achievement. High achievers have greatest environmental attitude as compared to average achievers. In case of female students of CBSE board, no difference in environmental attitude was found between average and high achievers but as compared to low achievers, those females with average and high achievement have more positive environment attitude. It means that except for females with average and high achievement which exhibit similar environmental attitude, all other groups of males and females of CBSE board show more positive environmental attitude with increasing level of achievement. This it can be concluded that environmental education in students of CBSE board helps in enhancing environmental attitude of students.

These findings can be supported by the study of Sarah (2007) in which it was revealed that though environmental education help both boys and girls to develop interest in environmental issues, but there is significant difference in boys and girls attitude due to environmental education. Jennifer Elezabeth Dubley (2003) also found that male learners show more significant change than females, when participated in place-based environmental education programs. The reason may be that girls being more, responsible, sensitive and caring citizen, they are more aware regarding academics; therefore there seems little difference in the environmental attitude of girls belonging to average and high level of achievement.

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