*Educational Quest: An Int. J. of Education and Applied Social Science:* Vol. 8, Special Issue, pp. 283-291, June 2017
DOI: 10.5958/2230-7311.2017.00065.4


# Study of Environmental Awareness among Adolescents in Relation to their Scientific Attitude

Harpreet Kaur[1] and Ramandeep Kaur[2]

[1]Assistant Professor, Sewa Devi S.D. College of Education, Tarn Taran, Punjab, India

[2]Department of Education & Community Service, Arts Block-5, Punjabi University, Patiala, Punjab, India

Corresponding author: harpreet81edu@gmail.com

**ABSTRACT**

The study examined environmental awareness among adolescents in relation to their scientific attitude. The sample in the study was 482 adolescents from schools of S.A.S. Nagar, Sangur & Mansa and were selected randomly. The descriptive statistics such as mean, median, mode, S.D., skewness, kurtosis and ANOVA were used to analyse the data. The results revealed that there was no significant mean difference in environmental awareness in relation to gender and caste but location had significant effect on environmental awareness among adolescents. Environmental awareness was positively and significantly correlated with scientific attitude in total group and in sub-groups such as male group, female group, rural adolescents, urban adolescent, in Schedule caste (SC) and among general category adolescents. The correlation between environmental awareness and scientific attitude among was positive but not significant among Backward class (BC) adolescents.

**Keywords:** Environmental awareness, scientific attitude

## ENVIRONMENT AWARENESS

One of the best way of preservation of environment is by creating environmental awareness among society and especially among students as they are future leaders. It is an important component in strengthening sustainable development in the world. It is one of the objectives of environmental education program. Environment Awareness is made up from two words Environment and awareness. Environment is the sum total of all external conditions and influences in affecting the organism. Awareness means the state of being aware, conscious of a situation or object, without direct attention to it or definite knowledge of its nature, Awareness is more detailed or determined interpretation of the self or strongly visual observation on the conscious level. Bhatia (2006) defined environmental awareness means how much knowledge have the people about the environment. It is knowledge about the factors which influence the environment and also about the means of environmental conservation.

Bhatia (2006) studied environmental awareness among elementary school students. The data was collected from 200 students of Patiala district, from both boys and girls. The random sampling method was used to collect the data. The statistical techniques such as mean, S.D. and t-ratio were used. It was revealed that most of the students have moderate level of environmental awareness. There was no significant gender difference in environmental awareness of elementary school students. It was also highlighted that there was no significant difference in environmental awareness of elementary school students in relation to their locale.

Ghosh (1986) conducted a study on scientific attitude and aptitude of the students and determination of some determinants of scientific aptitude. The data was collected from 620 students of 9$^{th}$ class from 13

schools situated in urban and rural areas in different districts of west Bengal. The statistical techniques such as central tendency, variability, ANOVA, t-test and correlation were used. It was found that rural students show better performance in the scientific aptitude test than urban students. The girls possess more scientific aptitude than boys. There was a positive relationship between scientific aptitude and academic motivation.

Golwalkar (1986) studied scientific attitude, creativity and achievement on a sample of 270 tribal and 270 non-tribal students of classes 9th and 10th offering science as on optional subject and living in tribal area. It was found that when comparison of tribal and non-tribal's were found to be superior to tribal's on three components of scientific attitude. There was no significant difference found between the mean score of tribal's and non-tribal's. The overall mean score on the scientific attitude scale for non-tribal's was higher than for tribal's.

Kapila (2008) evaluated the environmental ethics of students studying in high and senior secondary schools of Punjab. The survey method was used to collect data. The data was collected from 300 students of high schools and senior secondary school of Bathinda, Sangrur, and Patiala districts. Both male and female students studying in urban and rural schools were covered. It was found that there was significant difference as majority of the students in high schools did not appear to have much knowledge of the environment. It was also highlighted that the students of senior secondary schools have good environmental ethics in comparison to high school students. The girl's students have more environmental ethics than boy students.

Mamta *et al.* (2009) studied environmental awareness and modernization on a sample of 200 students of tenth class from government and private schools of Solan district of Himachal Pradesh and found no significant difference between rural and urban, male and female students. This study also revealed that there was no significant relationship between government and private secondary school students in their environment awareness.

**Scientific Attitude**

Malviya (1991) examined attitude towards science and interest in science. The study showed that high scores on attitudes towards science favour higher scientific interest. Further, with minor differences here and there, age, sex, profession and socio-economic status had no effect on attitudes toward science.

Nellaiappan (1992) investigated that both attitude and interest within the context of the learning environment and should that the various components of the learning environment were significantly related to both scientific attitudes and interests. It was found that sex and locality of the students do not influence their scientific attitude and scientific interests.

Pillai (2012) explored scientific attitude of higher secondary school students. The random sampling technique was used in this study. The data was collected from 300 higher secondary school students in Virudhunagar district, Tamil Nadu, India. The descriptive statistics mean, standard deviation and t-test were used. It was found that there was no significant difference between male and female students in respect to their scientific attitude but there was significant difference between government and private school students in relation to their scientific attitude. It was also highlighted that there was significant difference between rural and urban area students in relation to their scientific attitude.

Mittal (2010) conducted a study on environmental ethics among degree college students of Punjab in relation to their intelligence and scientific attitude. The data was collected from 635 college students of 18 colleges affiliated to Punjab University Chandigarh, Punjabi University Patiala and Guru Nanak University Amritsar. The statistical techniques such as mean, median, mode, standard deviation, skewness, kurtosis and product moment correlation were used. It was found that male and female college students do not differ significantly in their environmental ethics. There was significant and positive correlation between environmental ethics and scientific attitude of college students. There was no significant difference in the environmental ethics of students studying in government and private colleges and rural and urban colleges.

Rao (1990) conducted a study on relationship among scientific attitudes, scientific aptitude and achievement in biology. It was found that scientific attitudes, scientific aptitude and achievement in biology are significantly related to each other.

## Objectives of the Study

1. To study the environmental awareness and scientific attitude among adolescents.
2. To study mean difference in environmental awareness among adolescents in relation to gender.
3. To study mean difference in environmental awareness among adolescents in relation to location.
4. To study mean difference in environmental awareness among adolescents in relation to social category i.e. Scheduled Caste (SC), Backward Class (BC) and general category.
5. To study the interaction effect of scientific attitude with (i) gender, (ii) location and (iii) social category i.e. Scheduled Caste (SC), Backward Class (BC) and general category on environmental awareness among adolescents.
6. To study relationship of environmental awareness with scientific attitude across gender, location and social category among adolescents.

## Hypotheses of the Study

1. There is no significant difference in environmental awareness among adolescents in relation to gender.
2. There is no significant mean difference in environmental awareness among adolescents in relation to location.
3. There is no significant mean difference in environmental awareness among adolescents in relation to social category i.e. Scheduled Caste (SC), Backward Class (BC) and general category.
4. There is no significant interaction effect of scientific attitude with (i) gender, (ii) location and (iii) social category i.e. Scheduled Social category (SC), Backward Class (BC) and general category on environmental awareness among adolescents.
5. There is no significant relationship of environmental awareness with scientific attitude across gender, location and social category among adolescents.

## Methods

The descriptive method was used to study environmental awareness among adolescents.

## Sample

The 482 adolescents from different schools of S.A.S Nagar, Sangrur and Mansa districts were randomly selected by lottery method shows in table 1.

**Table 1:** Sample Distribution of Adolescents: District-wise and Location-wise

| Name of the Schools | Female | Male | Total |
|---|---|---|---|
| Govt. Senior Secondary School, Banur | 19 | 21 | 40 |
| Govt. Senior Secondary School, Jhanjeri | 21 | 19 | 40 |
| Govt. Model Senior Secondary School, Phase 3B-1 | 17 | 19 | 36 |
| Vidya Bhawan, Phase-8, Sahibjada Ajit Singh Nagar | 23 | 23 | 46 |
| Govt. Model Senior Secondary School, Hiron. | 12 | 14 | 26 |
| Govt. High School Khiva, Khurd | 12 | 14 | 26 |
| Govt. Senior Secondary School, Beer Hodla Kalan | 14 | 12 | 26 |
| Govt. Girls Senior Secondary School, Mansa | 17 | — | 17 |
| Govt. Boys Senior Secondary School, Mansa | — | 21 | 21 |
| Govt. Girls Senior Secondary School, Bhikhi | 23 | — | 23 |
| Govt. Boys Senior Secondary School, Bhikhi | — | 19 | 19 |
| Govt. Senior Secondary School, Hathan | 8 | 6 | 14 |
| Govt. Senior Secondary School, Jhangir & Kheru. | 17 | 22 | 39 |
| Govt. Senior Secondary School, Ghanauri Kalan. | 17 | 12 | 29 |
| Khalsa Girls High School, Sangrur. | 11 | — | 11 |
| Govt. girls senior secondary school Sangrur. | 29 | — | 29 |
| Govt. Senior Secondary School, Dhuri. | 25 | — | 25 |
| Islamia Senior Secondary School, Malerkotla | — | 15 | 15 |
| Total | 265 | 217 | 482 |

## Research Tools

### 1. Environmental Awareness Ability Measure (EAAM-J) by Jha, P.K (2010)

There are 51 items in EAAM. Each agreed item

carries the value of 1 mark and each disagree item of zero mark but the negative items are scored inversely. Thus, on the total scale the scores ranged between 0-51.

**2. Scientific Attitude Scale (BMSAS) by Bajwa, S. & Mohajan, M. (2009)**

Scientific Attitude Scale is a five-point Likert type scale. A positive item weighted score of 5 for strongly agree (SA), 4 for agree (A), 3 for undecided (UD), 2 for disagree (D), 1 for strongly disagree (SD) and negative item weighed score of 1 for strongly agree (SA), 2 for agree (A), 3 for undecided (UD), 4 for disagree (D) and 5 for strongly disagree (SD).

**Statistical Analysis**

1. Mean, median, mode, S.D., skewness, kurtosis and quartile deviation was employed to study the environmental awareness and scientific attitude among adolescents.
2. The analysis of variance (ANOVA) was used to study the main and interaction effect. (a) Interaction effect of scientific attitude with (1) gender, (2) location and (3) caste on environmental awareness among adolescents.
3. The Karl Pearson's correlation method was employed to study the relationship of environmental awareness with scientific attitude across gender, location and social category among adolescents.

## RESULTS AND DISCUSSION

The purpose of the present study is to study the environmental awareness among adolescents.

**1. Environmental Awareness in Relation to Scientific Attitude with (i) Gender, (ii) Location and (iii) Social Category Among Adolescents**

In order to study the scientific attitude with i) Gender, ii) location and iii) social category on environmental awareness among adolescents, statistical technique of two-way analysis of variance was applied on environmental awareness.

**1.1 Environmental Awareness in Relation to Scientific Attitude with Gender**

To find out the main effects of scientific attitude and gender on environmental awareness among adolescents along with their interaction effect, statistical technique of analysis of variance (2×2 factorial design involving two types of scientific attitude i.e. low and high scientific attitude; and two types of gender i.e. male and female) was applied on environmental awareness. The mean and S.D.'s of environmental awareness scores among male and female adolescents in relation to scientific attitude x Gender design is given in table 2.

**Table 2:** Mean and S.D.'s of Environmental Awareness Scores among Adolescents in Scientific Attitude x Gender Design

| Gender | | Scientific Attitude | | Total |
|---|---|---|---|---|
| | | Low | High | |
| **Male** | N | 61 | 60 | 121 |
| | Mean | 42.04 | 43.3 | 42.66 |
| | S.D. | 3.43 | 5.01 | 4.31 |
| **Female** | N | 41 | 64 | 105 |
| | Mean | 41.80 | 44.32 | 43.34 |
| | S.D. | 6.56 | 2.87 | 4.80 |
| **Total** | N | 102 | 124 | 226 |
| | Mean | 41.95 | 43.83 | 42.98 |
| | S.D. | 4.90 | 4.07 | 4.55 |

It is clear from table 2 that female adolescents had high environmental awareness (43.34) than male adolescents (42.66). It is also further found that male adolescents with high scientific attitude had high environmental awareness i.e. 43.3 and low environmental awareness in low scientific attitude i.e. 42.04. Also, the female adolescents with high scientific attitude had high environmental awareness i.e. 44.32 and low environmental awareness in low scientific attitude i.e. 41.80. The high environmental awareness was found in adolescents with high scientific attitude (43.83) and low environmental awareness in adolescents with low scientific attitude i.e. 41.95.

In order to find out the significance of mean difference in environmental awareness with respect to scientific attitude and gender and their interaction effect on environmental awareness, a two-way analysis of variance was carried out and the summary is given in table 3.

**Table 3:** Summary of Analysis of Variance (Scientific Attitude × Gender)

| Source of Variation | Sum of Squares(SS) | df | Mean Square | F-ratio |
|---|---|---|---|---|
| Scientific attitude (A) | 194.91 | 1 | 194.91 | 9.75** |
| Gender (B) | 8.407 | 1 | 8.40 | 0.42 |
| A × B | 22.15 | 1 | 22.15 | 1.10 |
| Error Within | 4438.00 | 222 | 19.99 | |
| Total | 4669.92 | 225 | | |

***p<.01*

**Main Effects**

**Scientific Attitude (A)**

The table 3 shows that F-value for main effect of scientific attitude (A) came out to be 9.75, which is significant at 0.01 level. This indicates that there is significant mean difference in two levels of scientific attitude i.e. low scientific attitude and high scientific attitude. It is also inferred from the results that the environmental awareness is high in high scientific attitude and low in low scientific attitude.

**Gender (B)**

The table 3 reveals that F-value for main effect of gender (B) came out to be 0.42, which is not significant. This indicates that there is no significant difference in male and female adolescents. Hence the hypothesis 1: "*There is no significant difference in environmental awareness among adolescents in relation to gender"* was accepted.

The results were in line with studies conducted by Jyoti (2006), Bhatia (2006), Gill (2006) and Mamta *et al*. (2009). The reason for low environmental awareness among adolescents may be due to lack of environmental awareness programs in schools, lack of practical exercises which inculcates environmental awareness among adolescents.

**Interaction Effect**

**Scientific Attitude (A) and Gender (B)**

The table 3 highlights that F-value for the interaction effect of scientific attitude and gender i.e. (A×B) came out to be 1.10, which is not significant. It clearly indicates that scientific attitude and gender are independent to each other. The results of interaction effect were in line with studies conducted by Gunde & Parit (2015) in which it was highlighted that sex and faculty independently affected on environmental awareness and the interaction effect was not significant.

### 1.3 Environmental Awareness in Relation to Scientific Attitude and Location

To find out the main effects of scientific attitude and location on environmental awareness among adolescents along with their interaction effect, statistical technique of two-way analysis of variance (2×2 factorial design involving two types of scientific attitude i.e. low scientific attitude and high scientific attitude and two types of location i.e. rural and urban) was applied on environmental awareness. The mean and S.D.'s of environmental awareness scores among rural and urban adolescents in relation to scientific attitude × location design is given in table 4.

**Table 4:** Mean and S.D.'s of Environmental Awareness Scores Among Adolescents in Scientific Attitude × Location Design (N=226)

| Location | | Scientific Attitude | | Total |
|---|---|---|---|---|
| | | Low | High | |
| Urban | N | 63 | 57 | 120 |
| | Mean | 42.06 | 45.08 | 43.50 |
| | S.D. | 5.53 | 2.83 | 4.69 |
| Rural | N | 39 | 67 | 106 |
| | Mean | 41.76 | 42.76 | 42.39 |
| | S.D. | 3.74 | 4.64 | 4.34 |
| Total | N | 102 | 124 | 226 |
| | Mean | 41.95 | 43.83 | 42.98 |
| | S.D. | 4.90 | 4.07 | 4.55 |

It is clear from table 4 that urban adolescents with low scientific attitude, had low environmental awareness (42.06) and those with high scientific attitude had high environmental awareness (45.08). In case of rural adolescents, those with low scientific attitude had low environmental awareness (41.76) and those with high scientific attitude had high environmental awareness (42.76). It is also found that adolescents with low scientific attitude had low environmental awareness (41.95) and those with high scientific attitude had high environmental awareness i.e. 43.83. The environmental awareness

was high in urban adolescents (43.50) than in rural adolescents i.e. 42.39.

In order to find out the significance of mean difference in environmental awareness with respect to scientific attitude and location and their interaction effect on environmental awareness, a 2×2 two-way analysis of variance was carried out and the summary is given in table 5.

**Table 5:** Summary of Analysis of Variance (Scientific Attitude × Location)

| Source of Variation | Sum of Squares (SS) | df | Mean Square | F-ratio |
|---|---|---|---|---|
| Scientific Attitude (A) | 218.01 | 1 | 218.01 | 11.24** |
| Location (B) | 92.83 | 1 | 92.83 | 4.78* |
| A×B | 55.82 | 1 | 55.82 | 2.88 |
| Error Within | 4303.41 | 222 | 19.38 | |
| Total | 4669.92 | 225 | | |

**p<.05, **p<.01*

**Main Effects**

**Scientific Attitude (A)**

The table 5 shows that F-value for main effect of scientific attitude (A) came out to be 11.24, which is significant at 0.01 level of significance. This indicates that there is significant mean difference in environmental awareness among adolescents in low and high scientific attitude. It is inferred from the results that the environmental awareness was high among adolescents with high scientific attitude and low among adolescents with low scientific attitude.

**Location (B)**

Further table 5 reveals that F-value for main effect of location (B) came out to be 4.78, which is significant at 0.05 level of significance. It is inferred from the results that there is significant mean difference in environmental awareness among rural and urban adolescents. It indicates that urban adolescents had high environmental awareness than rural adolescents. Hence the hypothesis 2: *"There is no significant mean difference in environmental awareness among adolescents in relation to location"* was not accepted.

The results were in accordance with studies conducted by Jyoti (2006) , Bhatia (2006) and Mittal (2010). The reason for low environmental awareness among rural adolescents may be due less awareness and low educational qualification of parents, lack of opportunities in the rural schools to organize environment awareness programs, less facilities available in school labs.

**Interaction Effect**

**Scientific Attitude (A) and Location (B)**

The table 5 reveals that F-value for the interaction effect of scientific attitude and location i.e. (A × B) came out to be 2.88, which is not significant. It clearly indicates that scientific attitude and location are independent to each other.

### 1.3 Environmental Awareness in Relation to Scientific Attitude and Social Category

In order to study the main effects of scientific attitude and social category on environmental awareness among adolescents along with their interaction effect, statistical technique of two-way analysis of variance (2×3 factorial design involving two types of scientific attitude i.e. low scientific attitude and high scientific attitude and three types of categories of social category i.e. Scheduled caste (SC), Backward Class (BC) and General category) was applied on environmental awareness. The mean and S.D.'s of environmental awareness scores among Scheduled Social category (SC), Backward Class (BC) and General category adolescents in relation to scientific attitude × social category design is given in table 6.

**Table 6:** Mean and S.D.'s of Environmental Awareness Scores among Adolescents in Scientific Attitude × Social Category Design (N= 226)

| Social Category | | Scientific Attitude | | Total |
|---|---|---|---|---|
| | | Low | High | |
| SC | N | 19 | 26 | 45 |
| | Mean | 41.05 | 44.96 | 43.31 |
| | S.D. | 8.77 | 2.95 | 6.34 |
| BC | N | 13 | 5 | 18 |
| | Mean | 42.46 | 42.80 | 42.55 |
| | S.D. | 4.31 | 1.92 | 3.74 |
| General | N | 70 | 93 | 163 |
| | Mean | 42.10 | 43.56 | 42.93 |
| | S.D. | 3.40 | 4.37 | 4.04 |
| Total | N | 102 | 124 | 226 |
| | Mean | 41.95 | 43.56 | 42.98 |
| | S.D. | 4.90 | 4.37 | 4.55 |

It is clear from table 6 that among Scheduled Social category (SC) adolescents with low scientific attitude had low environmental awareness (41.05) and with high scientific attitude had high environmental awareness (44.96). It is also further seen that among Backward Class (BC) adolescents, those who had low scientific attitude had low environmental awareness i.e. 42.46 and those with high scientific attitude had high environmental awareness i.e. 42.80. It is reveals from table 6 that among general category adolescents who had low scientific attitude had low environmental awareness (42.10) and those with high scientific attitude had high environmental awareness (43.56). The environmental awareness is high among Scheduled Social category (SC) adolescents (43.31), secondly general category adolescents (42.93) and thirdly by Backward Class (BC) adolescents (42.55).

In order to find out the significance of mean difference in environmental awareness with respect to scientific attitude and social category also their interaction effect on environmental awareness, a two-way analysis of variance (2×3) was carried out and the summary is given in table 7.

**Table 7:** Summary of Analysis of Variance (Scientific attitude × Social category)

| Source of Variation | Sum of Squares (SS) | df | Mean Square | F-ratio |
|---|---|---|---|---|
| Scientific Attitude (A) | 83.16 | 1 | 83.16 | 4.15* |
| Social Category (B) | 1.80 | 2 | .903 | 0.04 |
| AxB | 60.48 | 2 | 30.24 | 1.51 |
| Error Within | 4407.03 | 220 | 20.03 | |
| Total | 4669.92 | 225 | | |

*$p<.05$

**Main Effects**

**Scientific Attitude (A)**

The table 7 shows that F-value for main effect of scientific attitude (A) came out to be 4.15, which is significant at 0.05 level. This indicates that there is significant mean difference in environmental awareness in two levels of scientific attitude i.e. low scientific attitude, and high scientific attitude. It is inferred from the results that the environmental awareness was high among those who had high scientific attitude and low environmental awareness with low scientific attitude.

**Social Category (B)**

Further table 7 reveals that F-value for main effect of social category (B) came out to be 0.04, which is not significant. It is inferred from the results that there is no significant mean difference in environmental awareness with respect to three categories of social category i.e. Scheduled Social category (SC), Backward Class (BC) and general category.

Therefore the hypothesis 3: *"There is no significant mean difference in environmental awareness among adolescents in relation to social category i.e.* Scheduled Class (SC), Backward Class (BC) and General category*" was* accepted.

However from the mean table 6 it is evident that scheduled social category have higher mean of environmental awareness scores (43.31) than general (42.93) and backward class (42.55) but the difference is not significant statistically. Adolescents having different social categories i.e. SC, BC and general do not differ significantly with regard to environmental awareness.

**Interaction Effect**

**Scientific Attitude (A) and Social Category (B)**

The table 7 reveals that the F-value for the interaction effect of scientific attitude and social category i.e. (A x B) came out to be 1.51, which is not significant. It clearly indicates that scientific attitude and social category were independent to each other.

Hence, hypothesis 4: *"There is no significant interaction effect of scientific attitude with i) gender, ii) location and iii) social category on environmental awareness among adolescents"* was accepted.

**2. Coefficient of Correlation of Environmental Awareness with Scientific Attitude among Adolescents**

The coefficient of correlation of environmental awareness with scientific attitude among adolescents is shown in table 8.

**Table 8:** Coefficient of Correlation of Environmental Awareness with Scientific Attitude among Adolescents

| Group | N | Scientific Attitude |
|---|---|---|
| Total | 482 | 0.178** |
| Male | 242 | .134* |
| Female | 240 | .216** |
| Rural | 240 | .136* |
| Urban | 242 | .280** |
| SC | 86 | .335** |
| BC | 51 | .141 |
| General | 345 | .134* |

**p<0.05, **p<0.01*

It is evident from table 8 that the coefficient of correlation between environmental awareness and scientific attitude in total group was positive and significant (r=0. 0.178**, p< 0.01). The table 8 further shows scientific attitude was positively and significantly correlated with environmental awareness in male group (r=.134*, p< 0.05) and also in female group (r=.216**, p<0.01). There was positive and significant correlation in case of rural college adolescents (r=.136*, p<0.05) and positive and significant correlation in case of urban college adolescents(r= .280**, p<0.01)**.** The table 8 further indicates that coefficient of correlation between environmental awareness and scientific attitude in SC adolescents was positive and significant(r=.335**, p< 0.01). The coefficient of correlation between environmental awareness and scientific attitude in BC adolescents was positive but not significant (r=.141, p>0.01) and the coefficient of correlation between environmental awareness and scientific attitude in general category was positive and significant (r=.134*, p>0.05).

It revealed that the environmental awareness was not significantly correlated in BC group with scientific attitude, but this relationship was significant among different groups. So, from above results it is concluded that environmental awareness is positively and significantly correlated with scientific attitude (in total, male, female, rural, urban and SC, general category group of adolescents).

Hence the hypothesis 5: "*There is significant relationship of environmental awareness with scientific attitude among adolescents*" was accepted in total group but not in all sub groups.

The results were cue with following studies conducted by Mittal (2010).

### Educational Implications

1. The practical exercises/projects/survey report should include in the curriculum of adolescents to inculcate environmental awareness among adolescents.
2. Extra burden must not be given to the government teachers so that they can organize scientific activities to develop environmental awareness among adolescents.
3. Environmental education should be made a compulsory subject in schools at every level.
4. The allocation of funds should be there by the state and central government to organize camps/tours and excursions in governmental schools also.
5. The well-equipped laboratory should be there in every government school.
6. N.S.S camps should be conducted in the schools. The special efforts should be made to arrange the extension lectures/seminars/ workshops and conferences on different issues of environment/disaster management by experts and environmentalists at school level.
7. The activities like quiz competitions/painting competitions/extempore / exhibitions should be organized in the schools on the theme related to environment.
8. The important environment days like Van Mahotsav, World Environment Day, Earth Day, World Water Day, World Ozone Protection Day, Energy Conservation Week etc. should be celebrated in the schools.

## REFERENCES

Bhatia, R. 2006. *A study of environmental awareness among elementary school students*. (Master of Education, Dissertaion). Punjabi University, Patiala.

Ghosh, S. 1986. A critical study of scientific attitude and aptitude of the students and determination of some determinants of scientific attitude. Fourth Survey of Educational Research, 1988-1992, 730.

Golwalkar, S. 1986. A study of identific attitude, creativity and achievement of tribal students of Rajasthan. Fourth Survey of Research in Education, 1983-1988, 492.

Kapila, V. 2008. Environmental ethics of students studying in high and senior secondary schools of Punjab (M.Ed. dissertation). Punjabi University Patiala.

Malviya, D.S. 1991. A study of attitude towards science and interest in science of school going adolescents. Fifth Survey of Educational Research, 1988-1992. 360.

Mamta, *et al.* 2009. Environment Awareness and Modernization Among Secondary students. *Psycho-lingua*, **39**(2): 178-181.

Nellaiappan, N.O. 1992. A study of scientific attitude and interests among biology students in relation to their learning environment. Fifth Survey of Educational Research 1988-1992, 360.

Pillai, S.K.P. 2012. An analytical study on scientific attitude of secondary school students in Virudhunagar district. *International Journal of Teacher Education Research,* **1**(4): 32-37.

Mittal, K. 2010. *Environmental Ethics among degree college students of Punjab in relation to their Intelligence and Scientific Attitude*. (M.Phil. Thesis in Education). Punjabi University, Patiala.

Rao, D.B. 1990. A comparative study of scientific attitude, scientific aptitude and achievement in biology at secondary school level. *Fifth survey of educational research*, 1988-1992, 361.