



## A STUDY ON ENVIRONMENTAL AWARENESS OF B.Ed., STUDENT TEACHERS

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### ABSTRACT

The International union for the conservation of nature and natural resources has evolved the following definition of environmental education as an outcome of the conference "International working meeting on environmental education in the school curriculum" held under the auspices of UNESCO at Nevada in 1970. "Environmental education is the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to a code of behavior about issues concerning environmental quality". One of the landmarks in the history of environmental education is the Stockholm Conference on Human Environment, organized by UNESCO in 1972. Thereafter UNESCO launched the International Environmental Education Program (IEEP) in the year 1975. The activities under IEEP in the first phase culminated in the organization of the first intergovernmental conference on "Environmental Education" at Tbilisi (USSR) in 1977.

**KEY WORDS:** Environmental Awareness Scale.

### INTRODUCTION

The word "Environment" is derived from the French word, "environner" which means to encircle (or) surround". The environment is the basis of all life, the source of all goods. Environment can be defined as "The circumstances on condition that surround organism or group of organisms", or "The complex of social (or) cultural conditions that affect an individual community". The term environment means surroundings which is considered as a composite term for the conditions in which organizing life and thus consists of air, water, food and sunlight which are the basic needs of all living beings and plant life, to carry on their life functions. Surrounding in which an organization operates, including air, water, land, natural resources, flora, fauna, human and their interrelation. All external conditions that affect an organism or other specified system during its lifetime.

### NEED AND IMPORTANCE OF ENVIRONMENTAL EDUCATION

The need for environmental education and its importance are;

- Man is a part of natural and bound by its basic laws. The more he crosses the limits and flouts natural laws and tendencies the more he invites danger.
- Nature is the protector, provider and the pointer more he understands about nature and appreciate its provisions and systems the better, for his safety and survival.
- Nature is the largest reservoir of the widest variety of resource. He draws his needs from the nature. Hence, he has to prevent their depletion and destruction beyond safe limits.
- In nature, the living and non-living things have interaction between one another, if there is a slight disturbance in the system.

- Man has to realize that while as a component of nature, he draws resources from nature, using his intellect, seek to modify and enrich his environment for better living. If he disturbs the natural equilibrium which may provide hazards to life.

### PRINCIPLES OF ENVIRONMENTAL EDUCATION

The UNESCO conference which was held on the 14<sup>th</sup> October to 26<sup>th</sup> October (1971) in Tbilisi (USSR) was a starting point for the international environmental education programme among the member states. The Tbilisi conference has given the following principles;

1. To consider the environment in its totality.
2. To consider a continuous life long process from pre- primary school to high school level as well as non-formal.
3. To be interdisciplinary in approach.
4. To examine major environmental issues.
5. To focus on current potential environmental situation.

### STATEMENT OF THE PROBLEM

The statement of the problem taken for this study can be stated as **“A study on Environmental Awareness of B.Ed., Student Teachers.**

### OPERATIONAL DEFINITION OF THE TERMS

**Environmental Awareness:** Environmental awareness is the Realization, recognition, cognizance familiarity sensitivity, understanding, mindfulness, appraisal, acquaintance and alertness towards the various dimensions of the environment.

**B.Ed Student Teachers:** It refers to the students who are studying the course of Bachelor of Education (B.Ed).

### OBJECTIVES OF THE STUDY

1. To find out the level of Environmental Awareness of B.Ed. student teachers.
2. To find out whether there is any significant difference between the Environmental Awareness of B.Ed. student teachers based on the background variables; namely
  - a. Gender (Male/Female),
  - b. Location of College (Rural/Urban),
  - c. Nature of Residence (Hostel /Day Scholar),
  - d. Major Subject (Arts/Science),
  - e. Educational qualification (Under Graduate/Post Graduate),
  - f. Type of management (Government/Aided/Private),
  - g. Type of family (Nuclear/Joint),
  - h. Fathers' educational qualification (illiterate/School Education / College Education),
  - i. Mothers' educational qualification (illiterate/School Education/ College Education),
  - j. Community (OC/OBC/SC& ST),
  - k. Fathers' occupation (Daily Wage/Agriculture/Government Job/ Private Job),
  - l. Mothers' occupation (Daily Wage/Agriculture/Government Job/ Private Job), and
  - m. Parental Monthly Income (Below Rs.10, 000/ Rs.10,001 to Rs.20,000/Rs.20,001 to Rs.30,000/ Above Rs.30,0001).
3. To identify the background variables which are contributing to the Environmental awareness of B.Ed. student teachers.
4. To identify the background variables which are contributing to the Environmental awareness of B.Ed. student teachers.

### HYPOTHESES OF THE STUDY

1. The level of environmental awareness of B.Ed. student teachers is low.
2. There is no significant difference between the environmental awareness of B.Ed. student teachers based on objectives the background variables.
3. The background variables do not contribute to the environmental awareness of B.Ed. student teachers.

### TOOLS USED IN THE STUDY

Three tools have been used in the present investigation. They are:

Environmental Awareness test constructed and validated by the **Investigator (2012)**.

### SAMPLE AND SAMPLING TECHNIQUE OF THE STUDY

970 B.Ed. student teachers were selected as the sample for the study. Random sampling technique has been used for the selection of the sample.

### STATISTICAL TECHNIQUES USED FOR PRESENT STUDY

#### DESCRIPTIVE ANALYSIS

Descriptive analysis involves calculation of the measure of central tendencies and the measures of variability. The computed values of the mean and the standard deviation are used to describe the properties of the particular sample. Descriptive statistics is used to reduce the bulk of data into manageable size.

### ENVIRONMENTAL AWARENESS OF B.Ed STUDENT TEACHERS

The dependent variable of the present study is environmental awareness. The mean and standard deviation values of environmental awareness scores were calculated for the entire sample. On the basis of mean and standard deviation, the B.Ed student teachers were divided into different groups' namely more high, average and low level of environmental awareness by using normal probability curve method. The various levels of environmental awareness of student teachers were categorized by using  $M \pm 1 \sigma$ . The score range and interpretations are given below.

Norms	Score Range Limit	Category	Level of Awareness
$M+1\sigma$	Greater than 32+4	37 to 50	High Awareness
Between $M\pm 1\sigma$	Between 32-4 to 32+4	29 to 36	Average Awareness
$M-1 \sigma$	Less than 32-4	1 to 28	Low Awareness

### LEVELS OF ENVIRONMENTAL AWARENESS

The various levels of environmental awareness of B.Ed student teachers are presented in Table 4.9.

**TABLE 4.9 VARIOUS LEVELS OF ENVIRONMENTAL AWARENESS OF B.ED STUDENT TEACHERS**

S.No	Score Range	N	Mean	S.D	%	Level
1	37-50	102	41.16	2.095	10.5%	High Environmental Awareness
2	29-36	692	32.37	2.333	71.3%	Average Environmental Awareness
3	1 - 28	176	26.77	1.685	18.1%	Low Environmental Awareness

### ENVIRONMENTAL AWARENESS OF WHOLE SAMPLE AND DIFFERENT GROUPS

The environmental awareness scores obtained by the subjects were analyzed. The means and standard deviations of the whole sample and different groups are present in Table 4.10.

**TABLE 4.10 MEANS AND STANDARD DEVIATIONS FOR ENVIRONMENTAL AWARENESS OF THE WHOLE SAMPLE AND DIFFERENT GROUPS**

Variables	Sub variables	N	Mean	SD
Total	Whole sample	970	32.28	4.320
Gender	Male	480	31.86	4.503
	Female	490	32.68	4.096
Location of College	Urban	438	31.92	4.191
	Rural	532	32.57	4.406
Nature of Residence	Hosteller	428	33.04	4.177
	Day Scholar	542	31.67	4.339
Educational Qualification	UG	525	31.70	4.124
	PG	445	32.95	4.450
Family Type	Nuclear Family	535	31.63	4.116
	Joint Family	435	33.07	4.436
Major Subject	Science	398	31.72	3.953
	Arts	572	32.66	4.522
Type of Management	Government	268	30.23	2.432
	Aided	210	29.99	4.078
	Private	492	34.36	4.201
Fathers' Educational Qualification	Illiterate	250	31.39	2.945
	School Education	555	32.30	4.698
	College Education	165	33.55	4.440
Mothers' Educational Qualification	Illiterate	174	33.91	5.288
	School Education	620	31.91	3.770
	College Education	176	31.95	4.707
Community	OC	131	32.86	4.614
	OBC	580	32.14	4.270
	SC/ST	259	32.27	4.270
Fathers' Occupation	Daily Wage	142	33.37	5.504
	Agriculture	362	32.06	3.419
	Government	268	33.00	4.748
	Private	198	30.89	3.815
Mothers' Occupation	Daily Wage	460	30.94	3.226
	Agriculture	266	32.72	4.500
	Government	144	34.59	5.087
	Private	100	33.89	4.857
Parental Monthly Income	Below Rs.10,000	82	30.17	2.586
	Rs.10,001 to Rs.20,000	233	30.96	3.092
	Rs.20,001 to Rs.30,000	404	33.45	4.540
	Above Rs.30,001	251	32.29	4.772

It is clear from Table 4.10 that the mean value of whole sample is 31.86. Among the different groups, Female have secured more environmental awareness mean score (32.68) than Male mean score (31.86); Rural B.Ed student teachers have more environmental awareness mean score (32.57) than urban

B.Ed student teachers mean score (31.92); Hosteller B.Ed student teachers have more environmental awareness mean score (33.04) than day scholar B.Ed student teachers (31.67); Post graduate B.Ed student teachers have more environmental awareness mean score (32.95) than Under graduate B.Ed student teachers mean score (31.70); Joint family B.Ed student teachers have more environmental awareness mean score (33.07) than Nuclear family B.Ed student teachers mean score (31.63); Arts major B.Ed student teachers have more environmental awareness mean score (32.66) than Science major B.Ed student teachers mean score (31.72); Private college B.Ed student teachers have more environmental awareness mean score (34.36) than government college B.Ed student mean score (30.23) and aided college B.Ed student mean score (29.99); B.Ed student teachers whose fathers' educational qualification as college education have more environmental awareness mean score (33.55) than B.Ed student teachers whose fathers' educational qualification as school education mean score (32.30) and B.Ed student teachers whose fathers' educational qualification as illiterate mean score (31.39); B.Ed student teachers whose mothers' educational qualification as illiterate have more environmental awareness mean score (33.91) than B.Ed student teachers whose mothers' educational qualification as college education mean score (31.95) and B.Ed student teachers whose mothers' educational qualification as school education mean score (31.91); OC community B.Ed student teachers have more environmental awareness mean score (32.86) than SC/ST community B.Ed student teachers mean score (32.27) and OBC community B.Ed student teachers mean score (32.14); B.Ed student teachers whose fathers' occupation as daily wage have secured more environmental awareness mean score (33.37) than B.Ed student teachers whose fathers' occupation as government mean score (33.00), agriculture mean score (32.06) and private mean score (30.89); B.Ed student teachers whose mothers' occupation as government have secured more environmental awareness mean score (34.59) than B.Ed student teachers whose mothers' occupation as private mean score (33.89), agriculture mean score (32.72) and daily wage mean score (30.94); and B.Ed student teachers whose parental monthly income between Rs.20,001 to Rs.30,000 have more environmental awareness mean score value (33.45) than B.Ed student teachers whose parental monthly above Rs.30,001 mean score (32.29), between Rs.10,001 to Rs.20,000 mean score (30.96) and below Rs.10,000 mean score (30.17). The mean score indicates that the environmental awareness mean score of whole sample is found to be average. Therefore it is interpreted that the level of the environmental awareness of B.Ed student teachers is average.

#### DIFERENTIAL ANALYSIS

Differential analysis is an important procedure by which the researcher is able to make inferences involving the determination of the statistical significance of difference between groups with reference to selected variables. It involves the use of 't' test and 'F' test.

#### 4.5.27 Gender and Environmental awareness

The environmental awareness scores of male and female B.Ed student teachers were analyzed and the details are given in Table 4.48. It is evident from the Table 4.48 that male and female B.Ed student teachers have secured the mean values (31.86) and (32.68) respectively. 't' test has been applied to find out the significant difference between the mean scores of male and female B.Ed student teachers in their environmental awareness.

**TABLE 4.48**

**'t' VALUE FOR THE ENVIRONMENTAL AWARENESS MEAN SCORES OF MALE AND FEMALE B.ED STUDENT TEACHERS**

Gender	N	Mean	S.D	't' value	Level of significance	Significant/ Not significant
Male	480	31.86	4.503	2.987	0.01	Significant
Female	490	32.68	4.096			

It is clear from the Table 4.48 that the obtained 't' value, 2.987 is found to be lesser than the table value of 2.58 at 0.01 level of significance. Therefore the null hypothesis is rejected. Based on this it may be

inferred that male and female B.Ed student teachers differ significantly in their environmental awareness scores. In the present study gender is found to be a determinant factor of environmental awareness.

#### 4.5.28 Location of College and Environmental awareness

The environmental awareness scores of urban and rural college B.Ed student teachers were analyzed and the details are given in Table 4.49. It is evident from the Table 4.49 that urban and rural college B.Ed student teachers have secured the mean values (31.92) and (32.57) respectively. 't' test has been applied to find out the significant difference between the mean scores of urban and rural college B.Ed student teachers in their environmental awareness

**TABLE 4.49**  
**'t' VALUE FOR THE ENVIRONMENTAL AWARENESS MEAN SCORES OF URBAN AND RURAL COLLEGE B.ED STUDENT TEACHERS**

Location of College	N	Mean	S.D	't' value	Level of significance	Significant/ Not significant
Urban	438	31.92	4.191	2.314	0.05	Significant
Rural	532	32.57	4.406			

It is clear from the Table 4.49 that the obtained 't' value, 2.314 is found to be greater than the table value of 1.96 at 0.05 level of significance. Therefore the null hypothesis is rejected. Based on this it may be inferred that urban and rural college B.Ed student teachers differ significantly in their environmental awareness scores. In the present study location of college is found to be a determinant factor of environmental awareness.

#### 4.5.29 Nature of residence and Environmental awareness

The environmental awareness scores of hosteller and day scholar B.Ed student teachers were analyzed and the details are given in Table 4.50. It is evident from the Table 4.50 that hosteller and day scholar B.Ed student teachers have secured the mean values (33.04) and (31.67) respectively. 't' test has been applied to find out the significant difference between the mean scores of hosteller and day scholar B.Ed student teachers in their environmental awareness.

**TABLE 4.50**  
**'t' VALUE FOR THE ENVIRONMENTAL AWARENESS MEAN SCORES OF HOSTELLER AND DAY SCHOLAR B.ED STUDENT TEACHERS**

Nature of Residence	N	Mean	S.D	't' value	Level of significance	Significant/ Not significant
Hosteller	428	33.04	4.177	4.941	0.01	Significant
Day Scholar	542	31.67	4.339			

It is clear from the Table 4.50 that the obtained 't' value, 4.941 is found to be greater than the table value of 2.58 at 0.01 level of significance. Therefore the null hypothesis is rejected. Based on this it may be inferred that hosteller and day scholar B.Ed student teachers differ significantly in their environmental awareness scores. In the present study nature of residence is found to be a determinant factor of environmental awareness.

#### 4.5.30 Educational Qualification and Environmental awareness

The environmental awareness scores of UG and PG B.Ed student teachers were analyzed and the details are given in Table 4.51. It is evident from the Table 4.51 that UG and PG B.Ed student teachers have



secured the mean values (31.70) and (32.95) respectively. 't' test has been applied to find out the significant difference between the mean scores of UG and PG B.Ed student teachers in their environmental awareness.

**TABLE 4.51**  
**'t' VALUE FOR THE ENVIRONMENTAL AWARENESS MEAN SCORES OF UG AND PG B.Ed STUDENT TEACHERS**

Educational Qualification	N	Mean	S.D	't' value	Level of significance	Significant/ Not significant
UG	525	31.70	4.124	4.543	0.01	Significant
PG	445	32.95	4.450			

It is clear from the Table 4.51 that the obtained' value, 4.543 is found to be greater than the table value of 2.58 at 0.01 level of significance. Therefore the null hypothesis is rejected. Based on this it may be inferred that UG and PG B.Ed student teachers differ significantly in their environmental awareness scores. In the present study educational qualification is found to be a determinant factor of environmental awareness.

#### 4.5.31 Family Type and Environmental awareness

The environmental awareness scores of nuclear and joint family B.Ed student teachers were analyzed and the details are given in Table 4.52. It is evident from the Table 4.52 that nuclear and joint family B.Ed student teachers have secured the mean values (31.63) and (33.07) respectively. 't' test has been applied to find out the significant difference between the mean scores of nuclear and joint family B.Ed student teachers in their environmental awareness.

**TABLE 4.52**  
**'t' VALUE FOR THE ENVIRONMENTAL AWARENESS MEAN SCORES OF NUCLEAR AND JOINT FAMILY B.ED STUDENT TEACHERS**

Family Type	N	Mean	S.D	't' value	Level of significance	Significant/ Not significant
Nuclear	535	31.63	4.116	5.214	0.01	Significant
Joint	435	33.07	4.436			

It is clear from the Table 4.52 that the obtained' value, 5.214 is found to be greater than the table value of 2.58 at 0.01 level of significance. Therefore the null hypothesis is rejected. Based on this it may be inferred that nuclear and joint family B.Ed student teachers differ significantly in their environmental awareness scores. In the present study family type is found to be a determinant factor of environmental awareness.

#### 4.5.32 Major Subject and Environmental awareness

The environmental awareness scores of science and arts major subject B.Ed student teachers were analyzed and the details are given in Table 4.53. It is evident from the Table 4.53 that science and arts major subject B.Ed student teachers have secured the mean values (31.72 and (32.66) respectively. 't' test has been applied to find out the significant difference between the mean scores of science and arts major subject B.Ed student teachers in their environmental awareness.

**TABLE 4.53**  
**'t' VALUE FOR THE ENVIRONMENTAL AWARENESS MEAN SCORES OF SCIENCE AND ARTS MAJOR SUBJECT B.Ed STUDENT TEACHERS**

Major Subject	N	Mean	S.D	't' value	Level of significance	Significant/ Not significant
Science	398	31.72	3.953	3.335	0.01	Significant
Arts	572	32.66	4.522			

It is clear from the Table 4.53 that the obtained 't' value, 3.335 is found to be greater than the table value of 2.58 at 0.01 level of significance. Therefore the null hypothesis is rejected. Based on this it may be inferred that science and arts major subject B.Ed student teachers differ significantly in their environmental awareness scores. In the present study major subject is found to be a determinant factor of environmental awareness.

#### 4.5.33 Type of Management and Environmental awareness

The environmental awareness scores of government, aided, and private college B.Ed student teachers were analyzed and the details are presented in Table 4.54. The mean values secured by the B.Ed student teachers belonging to government, aided, and private colleges are 30.23, 29.99, and 34.36 respectively. One way analysis of variance was computed to find out whether there are significant differences among the three groups of B.Ed student teachers in respect of their environmental awareness.

**TABLE 4.54**  
**ANALYSIS OF VARIANCE FOR GOVERNMENT, GOVERNMENT AIDED, AND SELF FINANCE COLLEGE STUDENTS ON ENVIRONMENTAL AWARENESS SCORES**

Variance	Sum of Squares	Df	Mean Square	F- Value	Level of Significance
Between Groups	4361.993	2	2180.996	153.702	Significant at 0.01 level
Within Groups	13721.514	967	14.190		
Total	18083.506	969			

F-Table Value -3.00 (0.05 Level), 4.63 (0.01Level)

It is evident from the Table 4.54 that the 'F' value obtained is 153.702 and it is found to be greater than the table value of 4.63 at 0.01 level of significance. Therefore the null hypothesis is rejected. It may be inferred that the B.Ed student teachers belonging to different colleges differ significantly among themselves in respect of their environmental awareness.

As the obtained F- ratio was significant for the sample type of management, the 't' test has been applied to find out whether the difference between the mean values of different groups of sub sample with respect to environmental awareness is significant or not and presented in Table 4.55.

**TABLE 4.55**  
**t-TEST VALUE FOR DIFFERENT GROUPS OF SUB SAMPLE TYPE OF MANAGEMENT ON ENVIRONMENTAL AWARENESS**

Variable	Sub-groups	t- value	Level of Significance	Significant/ Not Significant
Type of School Management	Government/Aided	1.069	0.05	Not Significant
	Aided/Private	12.722	0.01	Significant
	Private/Government	17.171	0.01	Significant

't' -Table value – 1.96 (0.05 Level), 2.58 (0.01 Level)



From the table 4.55, it is clear that the t- values for the difference between environmental awareness mean scores of B.Ed student teachers of government and aided college group is not significant whereas other aided and private, private and government colleges groups are significant. In the present study type of management is found to be a determinant factor of environmental awareness.

#### 4.5.34 Fathers' Educational Qualification and Environmental awareness

The environmental awareness scores of B.Ed student teachers belonging to different fathers' educational qualification were analyzed and the details are presented in Table 4.56. The mean values secured by the B.Ed student teachers whose fathers' educational qualification as illiterate, school education and college education are 31.39, 32.30, and 33.55 respectively. One way analysis of variance was computed to find out whether there are significant differences among the three groups of B.Ed student teachers in respect of their environmental awareness.

**TABLE 4.56**

#### ANALYSIS OF VARIANCE FOR FATHERS' EDUCATION QUALIFICATION OF B.Ed STUDENT TEACHERS BELONG TO ILLITERATE, SCHOOL EDUCATION, COLLEGE EDUCATION ON ENVIRONMENTAL AWARENESS SCORES

Variance	Sum of Squares	Df	Mean Square	F- Value	Level of Significance
Between Groups	461.474	2	230.737	12.662	Significant at 0.01 level
Within Groups	17622.032	967	18.223		
Total	18083.506	969			

F-Table Value -3.00 (0.05 Level), 4.63 (0.01Level)

It is evident from the Table 4.56 that the 'F' value obtained is 12.662 and it is found to be greater than the table value of 4.63 at 0.01 level of significance. Therefore the null hypothesis is rejected. It may be inferred that the B.Ed student teachers belonging to different fathers' educational qualification differ significantly among themselves in respect of their environmental awareness.

As the obtained F- ratio was significant for the sample type of management, the 't' test has been applied to find out whether the difference between the mean values of different groups of sub sample with respect to environmental awareness is significant or not and presented in Table 4.57.

**TABLE 4.57**

#### t-TEST VALUE FOR DIFFERENT GROUPS OF SUB SAMPLE FATHERS' EDUCATIONAL QUALIFICATION ON ENVIRONMENTAL AWARENESS

Variable	Sub-groups	t- value	Level of Significance	Significant/ Not Significant
Fathers' Educational Qualification	Illiterate/School Education	2.802	0.01	Significant
	School /College Education	3.038	0.01	Significant
	College Education/Illiterate	5.942	0.01	Significant

't' -Table value – 1.96 (0.05Level), 2.58 (0.01Level)

From the table 4.57, it is clear that the t- values for the difference between environmental awareness mean scores of B.Ed student teachers whose fathers' educational qualification as illiterate and school education, school education and college education, and college education and illiterate groups are significant. In the present study fathers' educational qualification is found to be a determinant factor of environmental awareness.

#### 4.5.35 Mothers' Educational Qualification and Environmental awareness

The environmental awareness scores of B.Ed student teachers belonging to different mothers' educational qualification were analyzed and the details are presented in Table 4.58. The mean values secured by the B.Ed student teachers whose mothers' educational qualification as illiterate, school education and college education are 33.91, 31.91, and 31.95 respectively. One way analysis of variance was computed to find out whether there are significant differences among the three groups of B.Ed student teachers in respect of their environmental awareness.

**TABLE 4.58**  
**ANALYSIS OF VARIANCE FOR MOTHERS' EDUCATIONAL QUALIFICATION OF B.Ed STUDENT TEACHERS BELONG TO ILLITERATE, SCHOOL EDUCATION, COLLEGE EDUCATION ON ENVIRONMENTAL AWARENESS SCORES**

Variance	Sum of Squares	Df	Mean Square	F- Value	Level of Significance
Between Groups	569.500	2	284.750	15.722	Significant at 0.01 level
Within Groups	17514.006	967	18.112		
Total	18083.506	969			

F-Table Value -3.00 (0.05 Level), 4.63 (0.01Level)

It is evident from the Table 4.58 that the 'F' value obtained is 15.722 and it is found to be greater than the table value of 4.63 at 0.01 level of significance. Therefore the null hypothesis is rejected. It may be inferred that the B.Ed student teachers belonging to different mothers' educational qualification differ significantly among themselves in respect of their environmental awareness.

As the obtained F- ratio was significant for the sample mothers' educational qualification, the 't' test has been applied to find out whether the difference between the mean values of different groups of sub sample with respect to environmental awareness is significant or not and presented in Table 4.59.

**TABLE 4.59**  
**t-TEST VALUE FOR DIFFERENT GROUPS OF SUB SAMPLE MOTHERS' EDUCATIONAL QUALIFICATION ON ENVIRONMENTAL AWARENESS**

Variable	Sub-groups	t- value	Level of Significance	Significant/ Not Significant
Mothers' Educational Qualification	Illiterate/School Education	5.634	0.01	Significant
	School /College Education	0.120	0.05	Not Significant
	College Education/Illiterate	3.673	0.01	Significant

't' -Table value – 1.96 (0.05Level), 2.58 (0.01Level)

From the table 4.59, it is clear that the t- values for the difference between environmental awareness mean scores of B.Ed student teachers whose mothers' educational qualification as illiterate and school education, and college education and illiterate groups are significant whereas other school education and college education group is not significant. In the present study mothers' educational qualification is found to be a determinant factor of environmental awareness.

#### 4.5.36 Community and Environmental awareness

The environmental awareness scores of OC, OBC, SC&S T B.Ed student teachers were analyzed and the details are presented in Table 4.60. The mean values secured by the B.Ed student teachers of OC, OBC, SC&ST are 32.86, 32.14, and 32.27 respectively. One way analysis of variance was computed to find out

whether there are significant differences among the different groups of B.Ed student teachers in respect of their environmental awareness.

**TABLE 4.60**  
**ANALYSIS OF VARIANCE FOR OC, OBC, AND SC & ST COMMUNITY OF B.Ed STUDENT TEACHERS ON ENVIRONMENTAL AWARENESS SCORES**

Variance	Sum of Squares	Df	Mean Square	F- Value	Level of Significance
Between Groups	55.064	2	27.532	1.477	Not Significant at 0.05 level
Within Groups	18028.442	967	18.644		
Total	18083.506	969			

F-Table Value -3.00 (0.05 Level), 4.63 (0.01Level)

It is evident from the Table 4.60 that the 'F' value obtained is 1.477 and it is found to be lesser than the table value of 3.00 at 0.05 level of significance. Therefore the null hypothesis is accepted. It may be inferred that the B.Ed student teachers belonging to different community do not differ significantly among themselves in respect of their environmental awareness. In the present study community is not found to be a determinant factor of environmental awareness.

#### 4.5.37 Fathers' Occupation and Environmental awareness

The environmental awareness scores of B.Ed student teachers belonging to different fathers' occupation were analyzed and the details are presented in Table 4.61. The mean values secured by the B.Ed student teachers whose fathers' occupation as daily wage, agriculture, government and private are 33.37, 32.06, 33.00 and 30.89 respectively. One way analysis of variance was computed to find out whether there are significant differences among the four groups of B.Ed student teachers in respect of their environmental awareness.

**TABLE 4.61**  
**ANALYSIS OF VARIANCE FOR FATHERS' OCCUPATION OF B.Ed STUDENT TEACHERS BELONG TO DAILY WAGE, AGRICULTURE, GOVERNMENT AND PRIVATE ON ENVIRONMENTAL AWARENESS SCORES**

Variance	Sum of Squares	Df	Mean Square	F- Value	Level of Significance
Between Groups	705.976	3	235.325	13.082	Significant at 0.01 level
Within Groups	17377.530	966	17.989		
Total	18083.506	969			

F-Table Value -3.00 (0.05 Level), 4.63 (0.01Level)

It is evident from the Table 4.61 that the 'F' value obtained is 23.303 and it is found to be greater than the table value of 4.63 at 0.01 level of significance. Therefore the null hypothesis is rejected. It may be inferred that the B.Ed student teachers belonging to different fathers' occupation differ significantly among themselves in respect of their environmental awareness.

As the obtained F- ratio were significant for the sample fathers' occupation, the 't' test has been applied to find out whether the difference between the mean values of different groups of sub sample with respect to environmental awareness is significant or not and presented in Table 4.62.

**TABLE 4.62**  
**t-TEST VALUE FOR DIFFERENT GROUPS OF SUB SAMPLE FATHERS' OCCUPATION ON ENVIRONMENTAL AWARENESS**

Variable	Sub-groups	t- value	Level of Significance	Significant/ Not Significant
Fathers' Occupation	Dailywage/Agriculture	3.216	0.01	Significant
	Agriculture/Government	2.878	0.01	Significant
	Government/Private	5.135	0.01	Significant
	Private/Dailywage	4.906	0.01	Significant

't' -Table value – 1.96 (0.05Level), 2.58 (0.01Level)

From the table 4.62, it is clear that the t- values for the difference between environmental awareness mean scores of B.Ed student teachers whose fathers' occupation as daily wage and agriculture, agriculture and government, government and private, and private and dailywage groups are significant. In the present study fathers' occupation is found to be a determinant factor of environmental awareness.

#### 4.5.38 Mothers' Occupation and Environmental awareness

The environmental awareness scores of B.Ed student teachers belonging to different mothers' occupation were analyzed and the details are presented in Table 4.63. The mean values secured by the B.Ed student teachers whose fathers' occupation as daily wage, agriculture, government and private are 30.94, 32.72, 34.59 and 33.89 respectively. One way analysis of variance was computed to find out whether there are significant differences among the four groups of B.Ed student teachers in respect of their environmental awareness.

**TABLE 4.63**  
**ANALYSIS OF VARIANCE FOR MOTHERS' OCCUPATION OF B.Ed STUDENT TEACHERS BELONG TO DAILY WAGE, AGRICULTURE, GOVERNMENT AND PRIVATE ON ENVIRONMENTAL AWARENESS SCORES**

Variance	Sum of Squares	Df	Mean Square	F- Value	Level of Significance
Between Groups	1904.061	3	634.687	37.894	Significant at 0.01 level
Within Groups	16179.445	966	16.749		
Total	18083.506	969			

F-Table Value -3.00 (0.05 Level), 4.63 (0.01Level)

It is evident from the Table 4.63 that the 'F' value obtained is 37.894 and it is found to be greater than the table value of 4.63 at 0.01 level of significance. Therefore the null hypothesis is rejected. It may be inferred that the B.Ed student teachers belonging to different mothers' occupation differ significantly among themselves in respect of their environmental awareness.

As the obtained F- ratio was significant for the sample mothers' occupation, the 't' test has been applied to find out whether the difference between the mean values of different groups of sub sample with respect to environmental awareness is significant or not and presented in Table 4.64.

**TABLE 4.64**  
**t-TEST VALUE FOR DIFFERENT GROUPS OF SUB SAMPLE MOTHERS' OCCUPATION ON ENVIRONMENTAL AWARENESS**

Variable	Sub-groups	t- value	Level of Significance	Significant/ Not Significant
Fathers'	Dailywage/Agriculture	6.176	0.01	Significant

Occupation	Agriculture/Government	3.831	0.01	Significant
	Government/Private	1.077	0.01	Not Significant
	Private/Dailywage	7.485	0.01	Significant

't' -Table value – 1.96 (0.05Level), 2.58 (0.01Level)

From the table 4.64, it is clear that the t- values for the difference between environmental awareness mean scores of B.Ed student teachers whose mothers' occupation as daily wage and agriculture, agriculture and government, and private and dailywage groups are significant whereas other group government and private is not significant. In the present study mothers' occupation is found to be a determinant factor of environmental awareness.

#### 4.5.39 Parental Monthly Income and Environmental awareness

The environmental awareness scores of B.Ed student teachers belonging to different parental monthly income were analyzed and the details are presented in Table 4.65. The mean values secured by the B.Ed student teachers whose parental monthly income as below Rs.10,000, Rs.10,001 to Rs.20,000, Rs.20,001 to Rs.30,000 and above Rs.30,001 are 30.17, 30.96, 33.45 and 32.29 respectively. One way analysis of variance was computed to find out whether there are significant differences among the four groups of B.Ed student teachers in respect of their environmental awareness.

**TABLE 4.65**  
**ANALYSIS OF VARIANCE FOR PARENTAL MONTHLY INCOME OF B.Ed STUDENT TEACHERS BELONG TO BELOW Rs.10,000, Rs.10,001 TO Rs.20,000, Rs.20,001 TO Rs.30,000 AND ABOVE Rs.30,001 ON ENVIRONMENTAL AWARENESS SCORES**

Variance	Sum of Squares	Df	Mean Square	F- Value	Level of Significance
Between Groups	1321.152	3	440.384	25.379	Significant at 0.01 level
Within Groups	16762.354	966	17.352		
Total	18083.506	969			

F-Table Value -3.00 (0.05 Level), 4.63 (0.01Level)

It is evident from the Table 4.65 that the 'F' value obtained is 25.379 and it is found to be greater than the table value of 4.63 at 0.01 level of significance. Therefore the null hypothesis is rejected. It may be inferred that the B.Ed student teachers belonging to different parental monthly income differ significantly among themselves in respect of their environmental awareness.

As the obtained F- ratio was significant for the sample parental monthly income, the 't' test has been applied to find out whether the difference between the mean values of different groups of sub sample with respect to environmental awareness is significant or not and presented in Table 4.66.

**TABLE 4.66**  
**t-TEST VALUE FOR DIFFERENT GROUPS OF SUB SAMPLE PARENTAL MONTHLY INCOME ON ENVIRONMENTAL AWARENESS**

Variable	Sub-groups	t- value	Level of Significance	Significant/ Not Significant
Parental Monthly Income	Below Rs.10,000 /Rs.10,001 to Rs.20,000	2.074	0.05	Not Significant
	Rs.10,001 to Rs.20,000/ Rs.20,001 to Rs.30,000	7.424	0.01	Significant

	Rs.20,001 to Rs.30,000/ Above Rs.30,001	3.099	0.01	Significant
	Above Rs.30,001/ BelowRs.10,000	3.847	0.01	Significant

't' -Table value – 1.96 (0.05Level), 2.58 (0.01Level)

From the table 4.66, it is clear that the t- values for the difference between environmental awareness mean scores of B.Ed student teachers whose parental monthly income as below Rs.10,000 and Rs.10, 001 to Rs.20,000, Rs.10, 001 to Rs.20,000 and Rs.20, 001 to Rs.30,000, Rs.20, 001 to Rs.30,000 and above Rs.30,001, and above Rs.30,001 and below Rs.10,000 groups are significant. In the present study mothers' occupation is found to be a determinant factor of environmental awareness

### MAJOR FINDINGS OF THE STUDY ENVIRONMENTAL AWARENESS

#### Levels of environmental awareness of coastal and non – coastal districts

- 18.15, 45.52 and 36.33 percentage of B.Ed student teachers belong coastal area districts have high (38.12), average (34.77) and low awareness (27.89) towards environment.
- 29.44, 38.07 and 32.49 percentage of B.Ed student teachers belong to Non-Coastal area districts have high (37.98), average (33.32) and low (26.52) awareness towards environment.
- 42.57 percentage of B.Ed student teachers belong to Coastal area districts have average environmental awareness (33.27).
- 57.43 percentage of B.Ed student teachers belong to Non-Coastal area districts have average environmental awareness (31.54).
- B.Ed student teachers belong to Coastal area districts (33.27) have more environmental awareness than B.Ed student teachers belong to Non-Coastal area districts (31.54).

#### Levels of Environmental Awareness

- 10.5 percent (102) of B.Ed students have high awareness, 71.3 percent (692) of B.Ed students have average awareness, and 18.1 percent (176) of B.Ed students have low awareness towards environment.

#### Environmental Awareness of the whole sample and different groups

- Female have secured more environmental awareness (32.68) than Male (31.86).
- Rural B.Ed student teachers have more environmental awareness (32.57) than urban B.Ed student teachers (31.92).
- Hosteller B.Ed student teachers have more environmental awareness (33.04) than day scholar B.Ed student teachers (31.67).
- Post graduate B.Ed student teachers have more environmental awareness (32.95) than under graduate B.Ed student teachers (31.70).
- Joint family B.Ed student teachers have more environmental awareness (33.07) than Nuclear family B.Ed student teachers (31.63).
- Arts major B.Ed student teachers have more environmental awareness (32.66) than Science major B.Ed student teachers (31.72).
- Private college B.Ed student teachers have more environmental awareness (34.36) than government college B.Ed student (30.23) and aided college B.Ed student (29.99).
- B.Ed student teachers whose fathers' educational qualification as college education have more environmental awareness (33.55) than B.Ed student teachers whose fathers' educational qualification as school education (32.30) and B.Ed student teachers whose fathers' educational qualification as illiterate (31.39).



- B.Ed student teachers whose mothers' educational qualification as illiterate have more environmental awareness (33.91) than B.Ed student teachers whose mothers' educational qualification as college education(31.95) and B.Ed student teachers whose mothers' educational qualification as school education (31.91).
- OC community B.Ed student teachers have more environmental awareness (32.86) than SC/ST community B.Ed student teachers (32.27) and OBC community B.Ed student teachers (32.14).
- B.Ed student teachers whose fathers' occupation as daily wage have secured more environmental awareness (33.37) than B.Ed student teachers whose fathers' occupation as government (33.00), agriculture (32.06) and private (30.89).
- B.Ed student teachers whose mothers' occupation as government have secured more environmental awareness (34.59) than B.Ed student teachers whose mothers' occupation as private (33.89), agriculture (32.72) and daily wage (30.94).
- B.Ed student teachers whose parental monthly income between Rs.20,001 to Rs.30,000 have more environmental awareness (33.45) than B.Ed student teachers whose parental monthly above Rs.30,001 (32.29), between Rs.10,001 to Rs.20,000 (30.96) and below Rs.10,000 (30.17).
- The level of the environmental awareness of B.Ed student teachers is average.

### DIFERENTIAL ANALYSIS

#### Environmental Awareness

- Male and female B.Ed student teachers differ significantly in their environmental awareness.
- Urban and rural college B.Ed student teachers differ significantly in their environmental awareness.
- Hosteller and day scholar B.Ed student teachers differ significantly in their environmental awareness.
- UG and PG B.Ed student teachers differ significantly in their environmental awareness.
- Nuclear and joint family B.Ed student teachers differ significantly in their environmental awareness.
- Science and arts major subject B.Ed student teachers differ significantly in their environmental awareness.
- B.Ed student teachers belonging to different colleges differ significantly among themselves in respect of their environmental awareness.
- B.Ed student teachers belonging to different fathers' educational qualification differ significantly among themselves in respect of their environmental awareness.
- B.Ed student teachers belonging to different mothers' educational qualification differ significantly among themselves in respect of their environmental awareness.
- B.Ed student teachers belonging to different community do not differ significantly among themselves in respect of their environmental awareness.
- B.Ed student teachers belonging to different fathers' occupation differ significantly among themselves in respect of their environmental awareness.
- B.Ed student teachers belonging to different mothers' occupation differ significantly among themselves in respect of their environmental awareness.
- B.Ed student teachers belonging to different parental monthly income differ significantly among themselves in respect of their environmental awareness.

### CONCLUSIONS

The findings of the present study revealed that the students have favourable attitude towards Environment, average level of Environmental Behaviour and Environmental Awareness. The main reason may be that the B.Ed. students have less exposure to environmental knowledge when compared to other subject. They are also not getting the opportunity to participate in the environmental activities and environmental awareness programme. The purpose of environmental education is to provide the individual and social groups sufficient scope so that they should acquire knowledge, develop attitudes, skills, abilities

and participate in solving real-life environmental problems. So higher education institutions must provide students with the maximum practicable flexibility to action oriented outreach course programs to suit the multidisciplinary requirements of a thorough environmental knowledge with latest trends and developments.

Initially it was assumed that knowledge affected attitude, which then affected behaviour. Therefore, in order to induce a change in behaviour regarding any particular matter, it would be sufficient to increase knowledge of the matter as that would change the attitude, which in turn would lead to a change in behaviour. Awareness is an important determinant of attitude and behaviour. Responsibility in environmental behaviour is mainly determined by environmental education.

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