
A Study on the Environmental Awareness of Secondary Grade Students at Warangal District of Telegana

Muttu Vemula*
Devendar Bhukya**
K. Rajendra Chary***

Abstract

Today man is living in a world of crises. The social, economic, political and value crises are some of the threats which the humanity faces and these threats are quite alarming. Added to this, in the recent decades, the environmental crises become another important factor which has made everyone in the world think of its gravity. Though the environmental dimension has its own history, it has gained prominence in the recent past due to several reasons such as urbanization, industrialization, automation and population explosion, along with pollution, acid rains, gas leaks, nuclear disasters which have made man a helpless victim. The present study observed that there was no significant difference between boys and girls with regard to environmental awareness. Majority of the secondary school students had good level of environmental awareness. Private school students had better environmental awareness than the students of Government schools and 9th class students had more environmental awareness level than 8th class student.

Keywords: *Environmental awareness, Secondary schools, Environmental crises*

Introduction: Meaning of the Environment

The dictionary meaning of the word “Environment” is a surrounding external condition influencing development or growth of people, animals’ plants, living or working conditions etc., environment refers to the sum total of conditions which surround man at a given point in space and time. In the beginning the environment of early men consisted of only physical aspects of the planet earth (land, air and water) and biological communities but with the march of time and advancement of society man extended his environment through his social, economic and political functions.

*Dr. Muttu Vemula, Assistant Professor, Department of Education, Mizoram University, Ph- 9908802204 Email: drmuttuedu@gmail.com

**Dr. Devendar Bhukya, Assistant Professor (Contractual) Department of Education, Kakatiya University, Ph-9490112582 Email: bk@yahoo.com

***K. Rajendra Chary, School Teacher, Warangal District, Telangana, Ph-9381433459

Characteristics of Environment

1. The sum total of the stimulation that one receives from the nature since one's birth until his death.
2. It is everything which affects the individual excluding genes.
3. All the external forces which affect the growth, development of living organism.
4. It consists of physical, intellectual. Social, moral, cultural, emotional, economic and political forces which affects the life and nature of behavior.
5. It refers to sum total conditions which surround man at a given point in space and time.
6. It include physical (land, air and water) and Biological (Plants, animals including man and his several functions organizations and institutions) components.
7. It involves, physical, chemical, biological, Social, economic, political and cultural processes.

In this background several international organizations including some non-Governmental organizations have started working on the sustainability of environmental and ecological balance. In this direction a large number of workshops, seminars and meetings have been conducted. Among these intellectual experiences we may cite a few like the workshop held in Belgrade on environmental education in 1975, the first inter-governmental conference on environmental education held in Tbilisi, former USSR 1977, Tbilisi plus the conferences (1987) held in Moscow and more particularly the Earth Summit which took place in Rio de Janeiro in 1992 which was attended by about 120 heads of state and government together with delegates from over 170 countries. Several important documents were signed at the summit, responding the beginning of a long process of interpreting, responding to and implementing recommendations and agreements designed to change the future of this planet. The center piece of the Rio agreement is known as Agenda 21, a major action programme setting.

Global Environmental Issues

- Green House Effect
- Depletion of Ozone Layer
- Acid Rain
- Thermal Pollution
- Pollution due to Oil Slicks
- Nuclear War – Fare
- Population Explosion
- Over Exploitation of Natural Resource
- Environmental pollution
- Air pollution

- Water pollution
- Soil pollution
- Noise pollution
- Deforestation

Environmental Education in School Education

The movement of basic Education launched by Mahatma Gandhi in 1937 was perhaps the first serious attempt at relating education in school to local environmental needs. The essential elements of Basic Education were (a) productive activity in education, (b) correlation of curriculum with the productive activity and the physical and social environment, and (c) intimate contact between the school and the local community.

The education system in India had incorporated some aspects in Environmental Education in School curricula as 1930. The roots of the present status of Environmental Education in formal education can be traced back to the Report of the Education commission (1964-66) (Kothari commission). This Report also incorporated the best that basic education had to offer so as to relate it to the life, needs and aspirations of the nation. For the primary stage, the Report recommended that “the aim of teaching science in the primary school should be to develop proper understanding of the main facts, concepts, principles and processes in the physical and biological environment”.

This recommendation could be implemented only in 1977 when the curriculum for the 10+2+3 pattern of education was evolved at the national level by NCERT, and presented in the document ‘The curriculum for the Ten years School: A Framework’ (1975). The National Policy on Education (NPE, 1988) and subsequent curriculum frameworks brought out by NCERT in 1988 and 2000 reiterated the importance of Environmental Education in school education. Thus, Environmental Education has been one of the priority areas of concern in all curriculum development programmes. The syllabi and instructional material for science and the social science, and, to some extent, those for languages and mathematics, included enough content related to the environment essential for the fulfillment of the desired objectives. The textbooks of biology, chemistry, physics, geography, sociology and mathematics at the senior secondary stage, too, provided enough content on the environment to further strengthen the knowledge, understanding and skills acquired up to the secondary stage.

Need of the Study

Health, clean and pure environment is a precious gift of nature to the humanity. The environment, which is made up of the layer of air above the surface of the earth and water and soil on the surface of the earth, is habitat of man as it is for all other living things. Like every living thing, man has to depend for his life on the environment. He receives his basic necessities like water, air, food, and shelter from it. The development of science and technology and the growth of population and industrialization brought in the tremendous changes in the natural environment thereby posing danger to the physical, mental and social health of man.

In the present scenario, the teacher has to play a vital role to educate the students on the awareness of environmental aspects like components of pollution, population issues, environmental sanitation, food issues, and environmental legislation. Unless the student possesses the awareness on the environmental; aspects, the students cannot acquire the knowledge of the environment. Therefore, there is a dire need to study the level of awareness on the environmental aspects among the secondary school students.

Objectives of the Study

1. To study the environmental awareness of secondary grade students with respect to their management of the school.
2. To study the environmental awareness of secondary grade students with respect to gender.
3. To study the environmental awareness of secondary grade students with respect to class of students.

Hypotheses of the study

1. There is no significant difference between students of private schools and government schools on the environmental awareness.
2. There is no significant difference between boys and girls on environmental awareness.
3. There is no significant difference between class 8 students and class 9 students on the environmental awareness
4. There is no significant difference between class 8 boys and class 9 boys on environmental awareness
5. There is no significant difference between class 8 girls and class 9 girls on environmental awareness
6. There is no significant difference between private school class 8 boys and government school class 8 boys on the environmental awareness.
7. There is no significant difference between private school class 8 girls and government school class 8 girls on environmental awareness.
8. There is no significant difference between private school class 9 boys and government school class 9 boys on environmental awareness.
9. There is no significant difference between private school class 9 girls and government school class 9 girls on environmental awareness.

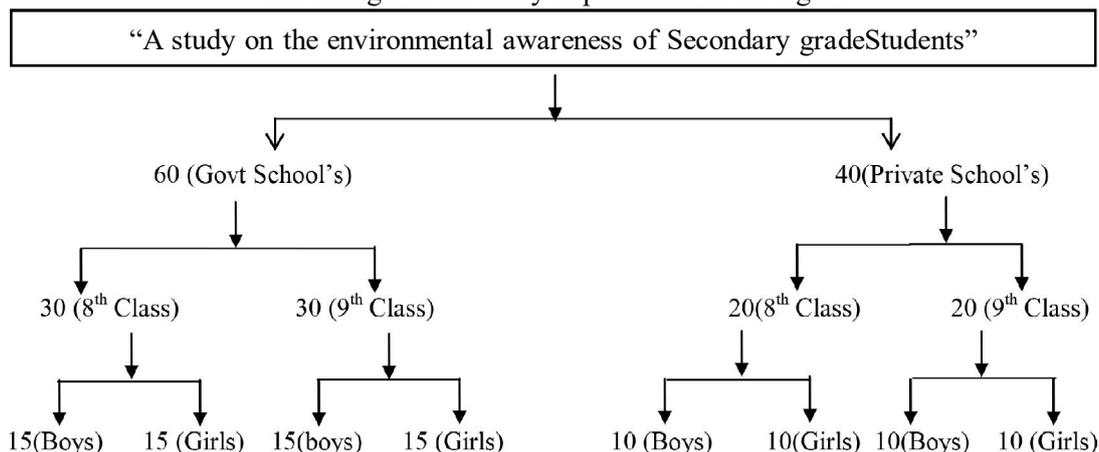
Limitations of the study

1. The scope of the present is limited only to six (6) areas i.e., (1) general environmental awareness, (2) components of environment, (3) reasons for pollution, (4) consequences of pollution, (5) current trends in protection of environmental pollution.

2. The study is limited to secondary grade students in Warangal district.
3. The sample is limited to government and private schools only.

Design of the Study

The Design of the study is presented in the figure



Diagrammatic Representation of the Research Design

The above figure shows that out of the 60 government schools selected for the present study, there were 30 class 8 students and 30 class 9 students. Among class 8 students, there were 15 boys and 15 girls. Similarly, among class 9 students, there were 15 boys and 15 girls.

Out of the 40 private schools selected for the present study, there were 20 class 8 students and 20 class 9 students. Among class 8 students, there were 10 boys and 10 girls. Similarly, among class 9 students, there were 10 boys and 10 girls.

Methodology

The investigator has selected survey method for the present study. The survey method was adopted since it was found suitable for collecting data regarding the existing status with regard to the environmental awareness of secondary grade students.

Research Tools Used

In order to study the awareness levels of secondary school students on environmental concerns, a comprehensive questionnaire is constructed and developed after reviewing the literature and taking into consideration of the suggestions of the experts in the field. This tool consists of one part of test besides the Proforma for personal bio-data of the respondents. It consists of a list of 20 multiple choice questions. Against each question choices are given.

Procedure of Data Collection

The study was conducted using the survey technique. The present researcher collected the required data from secondary school students of Warangal district.

The pupils were given a copy of the questionnaire. After explaining the purpose of the study, they were asked to select the appropriate answer for each multiple-choice question.

While answering the questions in the given questionnaire, the respondents do not face any problem. Altogether 100 questionnairescopies were distributed among the respondents. The same questionnaire copies were processed.

Statistical Techniques Used

The tool used for testing the environmental awareness among secondary level students was a questionnaire. The test consisted of 20 multiple –choice questions. each item was given four alternatives with one correct answer placed at different positions in different question. Correct answer was given weightage of one, and wrong answer was given zero weightage. The maximum score of the test is 20 and the minimum score is zero.

In order to find out the difference in environmental awareness with respect to gender, school management and classes, the mean score and standard deviations were computed. On the basis of calculated mean scores and S.D. the ‘t’ value were computed to bring out the significant difference in the environmental awareness with reference to the variables under study.

Hypothesis -1

There is no significant difference between students of private schools and government schools on the environmental awareness.

Table - 1

The difference between Private School and GovernmentSchool Students with regard to environmental awareness

S. No	Category	No. of Students	Mean	S. D	“t” Value
1	Government School	60	16.05	2.9	5.38
2	Private School	40	12.3	0.33	

The above table 1 reveals that the “t” value is 5.38 which is greater than the table value at 0.05 level. It is Significant at 0.05 level.

Hence the formulated null hypothesis “There is no significant difference between students of private schools and government schools on the environmental awareness” is rejected.

Hypothesis –2

There is no significant difference between boys and girls on the environmental awareness.

Table 2

The difference between Boys and Girls Students with regard Environmental Awareness

S. No	Category	No. of Students	Mean	S.D	“t” Value
1	Boys	50	14.92	0.38	0.05
2	Girls	50	14.96	0.55	

The above table 2 reveals that the “t” value is 0.05 which is less than the table value at both the level. It is Not Significant

Hence the formulated null hypothesis “There is no significant difference between boys and girls on the environmental awareness” is accepted

Hypothesis - 3

There is no significant difference between class 8 students and class 9 students on the environmental awareness

Table 3

The difference between Class 8 Students and Class 9 Students with regard environmental awareness

S. No	Category	No. of Students	Mean	S.D	“t” Value
1	8 th Class	50	13.58	2.9	4.35
2	9 th Class	50	16.3	3.3	

The above table 3 reveals that the “t” value is 4.35, which is greater than the table at 0.05 level. It is Significant at 0.05 level.

Hence the formulated null hypothesis “There is no significant difference between class 8 students and class 9 students on the environmental awareness” is rejected.

Hypothesis –4

There is no significant difference between class 8 boys and class 9 boys on environmental awareness

Table - 4**The difference between class 8 Boys and Class 9 Boys with regard to Environmental Awareness**

S. No	Category	No. of Students	Mean	S.D	“t” Value
1	8 th Class Boys	25	13.2	0.25	5.85
2	9 th Class Boys	25	16.64	2.64	

The above table 4 reveals that the “t” value is 5.85 which is greater than the table value at 0.05 level. It is Significant at 0.05 level.

Hence the formulated null hypothesis “There is no significant difference between class 8 boys and class 9 boys on environmental awareness” is rejected.

Hypothesis - 5

There is no significant difference between class 8 girls and class 9 girls on environmental awareness

Table 5**The difference between Class8 Girls and class 9 Girls with regard to environmental**

S. No	Category	No. of Students	Mean	S.D	“t” Value
1	8 th Class Girls	25	13.96	3.84	1.78
2	9 th Class Girls	25	15.96	3.91	

The above table 5 reveals that the “t” value is 1.78 which is less than the table value at both levels. It is Not Significant.

Hence the formulated null hypothesis “There is no significant difference between class 8 girls and class 9 girls on environmental awareness” is accepted.

Hypothesis - 6

There is no significant difference between government school class 8 boys and private school class 8 boys on the environmental awareness.

Table 6

The difference between Government school class 8 boys and Private School Class 8 boys with regard to Environmental Awareness

S. No	Category	No. of Students	Mean	S.D	“t” Value
1	Government School’s 8 th Class Boys	10	13.06	1.48	0.63
2	Private School 8 th Class Boys	15	13.4	0.84	

The above table 6 reveals that the “t” value is 0.63 which is less than the table value at both levels. It is Not Significant.

Hence the formulated null hypothesis “There is no significant difference between government school class 8 boys and private school class 8 boys on the environmental awareness.” is accepted.

Hypothesis -7

There is no significant difference between private school class 8 girls and government school class 8 girls on environmental awareness.

Table 7

The difference between Government school class 8 girls and Private School Class 8 girls with regard to Environmental Awareness

S. No	Category	No. of Students	Mean	S.D	“t” Value
1	Government School’s 8 th Class Girls	10	10.1	1.45	4.92
2	Private School 8 th Class Girls	15	16.5	2.9	

The above table 7 reveals that the “t” value is 4.92 which is greater than the table value at 0.05 levels. It is Significant at .05 level.

Hence the formulated null hypothesis “There is no significant difference between private school class 8 girls and government school class 8 girls on environmental awareness is rejected

Hypothesis - 8

There is no significant difference between private school class 9 boys and government school class 9 boys on environmental awareness.

Table 8

The difference between Private School class 9 boys and Government school class 9 boys with regard environmental awareness

S. No	Category	No. of Students	Mean	S.D	“t” Value
1	Private school’s 9 th class boys	10	13.9	1.7	7.62
2	Government school’s 9 th class boys	15	18.47	1.18	

The above table 8 reveals that the “t” value is 7.62 which is greater than the table value at 0.05 level. It is Significant at 0.05 level.

Hence the formulated null hypothesis “There is no significant difference between private school class 9 boys and government school class 9 boys on environmental awareness.” is rejected.

Hypothesis - 9

There is no significant difference between private school class 9 girls and government school class 9 girls on environmental awareness.

Table 9

The difference between Private school class 9 girls and Government School class 9 girls with regard environmental awareness

S. No	Category	No. of Students	Mean	S. D	“t” Value
1	Private School’s 9 th class girls	10	11.7	1.64	10.92
2	Government school’s 9 th class girls	15	18.8	1.44	

The above table 9 reveals that the “t” value is 10.92 which is greater than the table at 0.05 level. It is Significant at 0.05 level.

Hence the formulated null hypothesis “There is no significant difference between private school class 9 girls and government school class 9 girls on environmental awareness” is rejected.

Findings

1. It is found that there is a significant difference between private school and government school students with regard to the environmental awareness of secondary grade students. Government school students having better environmental awareness level.

2. It is found that there is a no significant difference between boys and girls in environmental awareness among secondary grade students.
3. It is found that there is significant difference between class 8 and class 9 students with regard to environmental awareness. Class 9 students are found to have better environmental awareness.
4. It is found that there is a significant difference between class 8 Boys and Class 9 Boys with regard to environmental awareness. Class 9 Boys are found to have better environmental awareness.
5. It is found that there is nosignificant difference between Class 8 Girls and class 9 Girls with regard to environmental awareness.
6. It is also found that there is no significant difference between Government school class 8 boys and Private School Class 8 boys with regard to environmental awareness.
7. It is found that there is a significant difference between private school class 8 girls and government school class 8 girls. Private school class 8 girls are found to have better environmental awareness than the government school class 8 girls.
8. It is also found that there is significant difference between Private School class 9 boys and Government school class 9 boys. Government school class 9 boys are found to have higher environmental awareness compared to Private school class 9 boys.
9. It is found that there is significant difference between Private school class 9 girls and Government School class 9 girls with Government school class 9 girls having better environmental awareness.

Educational Implications

1. As the environmental awareness is only at moderate level the action must be initiated to enrich the environmental awareness of the students.
2. Environmental education can be made local specific along with the help of local education bodies.
3. Environmental signficance had to be instilled in the students of government school to enrich their environmentalawareness.

References

- Aggarwal, J.C.(1996). Educational research- An introduction. *Indian Educational Review, Vol.XIV*.
- Best, J.W. (1978). *Research in education*. Prentice Hall of India Pvt Ltd.
- Bosole, S. (2006). Environmental education in schools. *University News- A Weekly Journal of Higher Education, 44(12)*, 114.
- Chandra, A., & Pandey, S.N. (1980). *Industrial pollution and plants*. Ashish Publishing House.
- Deb, S.K.,& Battacharya, N. (2006). Perspective on environment education- Challenge to civilization. *Edutracks, 6(3)*, 9.
- Garret, H.E. (1971). *Statistics in psychology and education*. Akallas, Febber & Semmom Pvt Ltd.
- Kalle, S.R. (2006). Environmental protection act. *University News- A Weekly Journal of Higher Educatio. 44(12)*, 85.
- Kaul, L. (1984). *Methodology of educational research*. Vikas Publishing House Pvt., Ltd.
- Manicom, R. (2001). *Statistical methods in psychological and educational research*. Concept Publishing Co.
- Sadhana.(2007). *Our NGS green life*. APNGC.
- Sailaja, V.V.,& Bhubaneshwar L.G. (2006). Developing environmental attitude with special reference to use of plastics. *University News. 45(29)*, 16-19.
- Saravanvel, P. (2005). *Research methodology*. Kitab Mahal, New Delhi.
- Saxena, C. (2006). Environmental awareness in ancient India. *University New. 44(12)*, 79-84.
- Sharma, R.A. (1981). *Educational statistics*. Loyal Bokk Depot.
- Sharma, R.A. (2001). *Teacher education- Theory, practice and research*. Rastogi Publications,
- Sharma, R.A. (2001). *Environmental education*. Surya Publications.
- Victor, D. G. (2004). *Climate change- Debating America's policy options*. Council on Foreign Relation Press.
- Yogamoorthi, A. (n.d.). Need for environmentally trained teachers for environmental education. *Journal of Education Research and Extensions, 29*, 38-41.