

An Exploratory Study in Educating High School Children towards Maintaining an Eco-Friendly Environment

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Abstract

An exploratory study in educating high school children towards maintaining an eco-friendly environment was conducted as a part of Doctoral research by Dr. K. Purnima and Smt. Bhavya N. Children are the citizens of tomorrow and a great responsibility of protecting the environment rests on their young shoulders. Hence, this study evolved. The objectives were: To know the existing knowledge of the adolescents about environment, its pollution and conservation; To compare the knowledge among the male and female high school children of the five schools and also between the high school children of the five schools. Two hypotheses were formulated stating that there is no difference in the knowledge about the eco-friendly environment concept between boys and girls and that there is no difference between the students of the five schools about the eco-friendly environment. The five schools taken for the study were Mangalavada, Mugadalabetta, CK Pura, Gujjanadu and KT Halli, which were randomly selected in Pavagada Taluk, Tumkur District, Karnataka. Adolescent boys and girls studying in 9th standard, numbering 20 from each school, totaling to 100 were selected using the Purposive Random Sampling technique. Questionnaire was used as tool, developed both in English and Kannada, which consisted of basic information about the respondents followed by five sections in which a total of 114 objective type questions were framed and distributed.

Very interesting results can be observed from the study undertaken for 9th standard students from the five rural schools in Pavagada Taluk.

With regard to a comparison among male and female students towards knowledge in maintaining an eco-friendly environment, except for the dimension eco-system and environment, the other dimensions Air, Water, Land and Resource and Energy conservation showed high significant difference in Mean scores among male and female children and also that male students had more knowledge about maintaining Eco-Friendly Environment compared to the females in all the dimensions.

The ANOVA, comparing children of schools located in the 5 villages showed high significant difference in Mean scores in all the 5 dimensions, revealing that children of K. T. Halli village had better knowledge towards maintaining Eco-Friendly Environment followed by students belonging to Mangalawada and Mugadalabetta villages in all the dimensions.

Observing the above study, a lot of improvement can be made regarding knowledge about eco-friendly environment making the children not only aware about their environment but also inculcate positive attitudes and practices among them.

Key words: adolescents and knowledge of environment, eco-friendly concept of environment

Introduction

Man is considered as an integral part of nature and there should be harmony & not hostility between man and environment. Man started interfering with the environment since the human civilization evolved. With the increased human tendency of exploitation of natural resources for economic development, the environment is facing serious threats to its conservation. Our vital and fragile environment is today increasingly threatened by commercial exploitation, growing population demands and industrial pollution. Our mother earth's rivers, oceans, forests, plains, grass lands and wet lands are fighting for survival.

Great efforts are necessary to protect the natural environment. Environment protection is the need of the hour today. Dr. Einstein said: "All our technological progress, our very civilization is like the ace in the hands of pathological criminals, who have mercilessly destroyed the forest and converted fertile land into desert" (Shankar Rao, 2004).

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There should be a final step for this creeping paralysis. Hence, we must think in terms of protecting our Environment, which protects us in return, one of the important means to create awareness about environment being environment education.

According to UNESCO and UNEP (United Nations Environment Program) "Environment education is a sustained process in which the individuals gain awareness of their environment and acquire the knowledge and skills to enable them to act individually as well as collectively to solve environment problems" (Kuruksheeta, 2004).

Need for the Study

Children are the citizens of tomorrow. A great responsibility of protecting the environment rests on their young shoulders. They have the capacity & enthusiasm to grasp whatever is told or taught to them. Hence the investigator found it immensely necessary and a dire need to educate adolescents studying at Government Aided High Schools in Pavagada Taluk towards maintaining an eco-friendly environment.

Review of Literature

A Study on Environmental Awareness among School Children was conducted by Aditi. N. Sowcar (2006) in Bangalore Urban District. The sample size consisted of 60 children belonging to 8th standard of State and I.C.S.E Syllabus schools. The results revealed that in some aspects such as environmental awareness in general, water pollution and air pollution, both the State & I.C.S.E respondents were on par with each other, while it was also evident that the I.C.S.E respondents were slightly better than the State respondents with regard to aspects of natural resources and soil pollution. However the difference between their awareness was not statistically significant.

Study of Attitude of Students Towards Environmental Awareness: A Case Study by Prashant Thote, Gyanodaya Vidya Mandir, Narsingarh. Environmental Education is a process of recognized values and clarifications in order to develop skills and added tools to understand and participate, appreciate the inter-relationship among man, his culture and bio-physical

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surroundings. It creates an overall perspective, which acknowledges the fact that natural environment and manmade environment are inter-dependent. It should consider the environment in its totality and should be a continuous lifelong process beginning at the pre-school level and continuing through all stages. It should be inter-disciplinary and examine major environmental issues from local, national and international point of view. It should utilize various educational approaches to teach and learn about and from the environment with stress on practical activities and firsthand experience. It is through this process of education that people in the society to be aware towards protection of environment and make them skilled to solve environmental problem so as to enable them to participate in the activities undertaken for the protection of environment.

Environmental attitude is learned predisposition to respond towards a consistently given object negative or positive. Environmental behavior determines those actions which contribute towards environmental preservation and conservation is more eco-friendly awareness. The present study was conducted on the students of classes IX and X of a private co-educational school Narsingarh. In this study 100 students participated (50 boys and 50 girls). A questionnaire used to collect the data from students about the environmental awareness and degree of awareness among students. Percentage calculation was used to find the performance of the students. Coefficient of correlation “r” was used to find out the relation hip between achievement in environmental education and environmental awareness ability. The result of the study indicated that the students are not performing well to solve the problems of population explosion, exhaustion of natural resources and pollution of environment. As a result students are not having enough awareness and skills for identifying and solving problems. No significant positive relationship was found between achievement in environmental education and environmental awareness ability. Some recommendations were made on the basis of the study.

Environmental Awareness and Environment Related Behavior of Twelfth Grade Students in Kolkata: Effects of Stream and Gender by Anwesa, Vol. 5: 1 - 8 (January 2010) Dr. Madhumala Sengupta, Dr. Jayanti Das, Pintu Kumar Maji. The main purpose of this study is to understand the effect of Stream (Arts, Science and Commerce) and Gender on Twelfth Grade Students’ Environmental Awareness and environment Related Behavior in Kolkata. A total of

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360 (Boys =180 and Girls =180) students under West Bengal Council of Higher Secondary Education in Kolkata were randomly chosen as sample. Two 5-point Likert type questionnaires (Environmental Awareness 27 items and Environment Related Behavior 21 items) were used for this study and were standardized by the researchers. For statistical analysis ANOVA and Coefficient of Correlation were conducted to determine the effect of Stream and Gender on Environmental Awareness and Environment Related Behavior.

A Study on the Environmental Awareness and the Changing Attitude of the Students and Public in Coimbatore towards Green Products by Banumathi Mannarswamy, Pondicherry University, India. The increase in human pollution coupled with development of science and technology has been a serious threat to global ecological balance. Human activities through the years have degraded all the vital life supporting systems like air, water and land. The World Health Organization estimates that by the turn of the century, 18 per cent of the expenditure in Asia's newly industrialized countries will go towards environment-related expenses (Levin, 1991). Worldwide evidence indicates people are concerned about the environment and are changing their behavior accordingly. As a result there is a growing market for sustainable and socially responsible products and services. A new sense of urgency about Indian environmental degradation has compelled a number of ordinary individuals to make eco-conscious life style changes.

The objective of the study is to understand the awareness level of the customers on Green products in Coimbatore and to evaluate the customers' attitudes towards the Green Products. Primary data was collected through the questionnaire from 100 General Public (Men and Women) and 100 Students of Coimbatore city, Tamilnadu. Secondary data was collected from various published sources. The first section gives an over view on the importance of environmental awareness, the second section analyzes the awareness level of the customers third section deals with the factors influencing green purchase followed by the findings of the study and conclusion. It is found that the customers in Coimbatore are aware of environmental problems and green products in the market but the attitude and behavior towards the green purchase is not improved.

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Objectives of the Present Study

- To know the existing knowledge of the adolescents about environment, its pollution and conservation.
- To compare the knowledge about environment, its pollution and conservation among the male and female High School children of the five schools.
- To compare knowledge about environment, its pollution and conservation between the High School children of the five schools.

Hypothesis

- There is no difference in the knowledge about the Eco-friendly environment concept between boys and girls.
- There is no difference between the students of the five schools about the eco-friendly environment.

Scope of the Study

The findings of the present study will be a eye opener to other rural Government schools who, on the same lines can promote the knowledge of an Eco-friendly environment among students, thus leading to a cleaner & greener environment.

Methodology

The study was carried out in the following phases.

Phase – I

To conduct a survey of five Government Aided High Schools. Five different villages were randomly selected in Pavagada Taluk, Tumkur District, Karnataka, India, which are listed below.

- 1) Mangalawada
- 2) Mugdalabetta “Fig.1”
- 3) C.K. Pura “Fig.2”
- 4) Gujjanadu “Fig.3”
- 5) K.T. Halli



Fig. 1 - Rastra Pragathi High School, Mugdalabetta



Fig. 2 - Sri Siddeshwara Swamy High School, C.K. Pura



Fig. 3 - Netra Vidya Peeta High School, Gujjanadu

Phase – II

Identification of the Sample

Adolescent boys and girls studying in 9th standard in the 5 Government Aided High Schools in Pavagada Taluk numbering 20 from each school were selected using the purposive random sampling.

Phase – III

Development of the Tool

A Questionnaire on adolescents' knowledge about the environment, its pollution and conservation was developed both in English and Kannada, since Kannada is the medium of instruction followed in the rural schools. It consisted of the basic information about the

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respondents followed by five sections in which objective type questions were asked. A total of 114 questions were framed for the questionnaire.

Phase – IV

Pilot Study

A pilot study was conducted on hundred 9th standard High school students, selected randomly, 20 each from the 5 schools “Fig.1,2,3”. The results of this pilot study have been statistically analyzed and presented in the following pages.



Fig. 1 - Sri Rama Rural High School, K.T. Halli



Fig. 2 - Sri Siddeshwara Swamy High School, C.K. Pura

Gender	No. of Respondents	Percentage (%)
Male	35	35
Female	65	65



Fig.3 - Netra Vidya Peeta High School, Gujjanadu

Table – I

Gender Status of the Students

Table – II

Type of Family

Family Type	No. of Respondents	Percentage (%)
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Nuclear	72	72
Joint	28	28

Table – III
Age Group of the Students

Age Group	No. of Respondents	Percentage (%)
13	57	57
14	42	42
15	1	1

Table – IV
Student’s Parent’s Educational Qualification

Parents Education	Illiterates	Primary School	Middle School	High School	PUC	Graduate
Father	41	26	8	17	1	7
Mother	53	25	9	10	0	3

Table – V
Student’s Parent’s Occupation

Parents Occupation	Agriculture (owns land)	Labor (Agriculture)	Employed	Business	Artisans	Home Maker
Father	79	11	5	4	1	0
Mother	78	11	0	0	1	10

Table – VI
Comparison among Male and Female Children towards Maintaining an Eco-Friendly Environment

Dimensions	Male (Mean ± SD) (n = 20)	Female (Mean ± SD) (n = 20)	Significance of t value
Eco system & Environment	10.77 ± 2.16	10.25 ± 1.93	1.2500 ^{NS}
Air pollution	10.37 ± 1.80	8.37 ± 2.72	3.9100 ^{**}
Water pollution	8.57 ± 2.15	7.40 ± 2.07	2.6700 ^{**}
Land pollution	7.77 ± 2.56	6.54 ± 2.21	2.5200 [*]
Resource & Energy Conservation	16.51 ± 5.42	11.86 ± 5.45	4.0800 ^{**}

** Significant at 1% level * Significant at 5% level NS Not

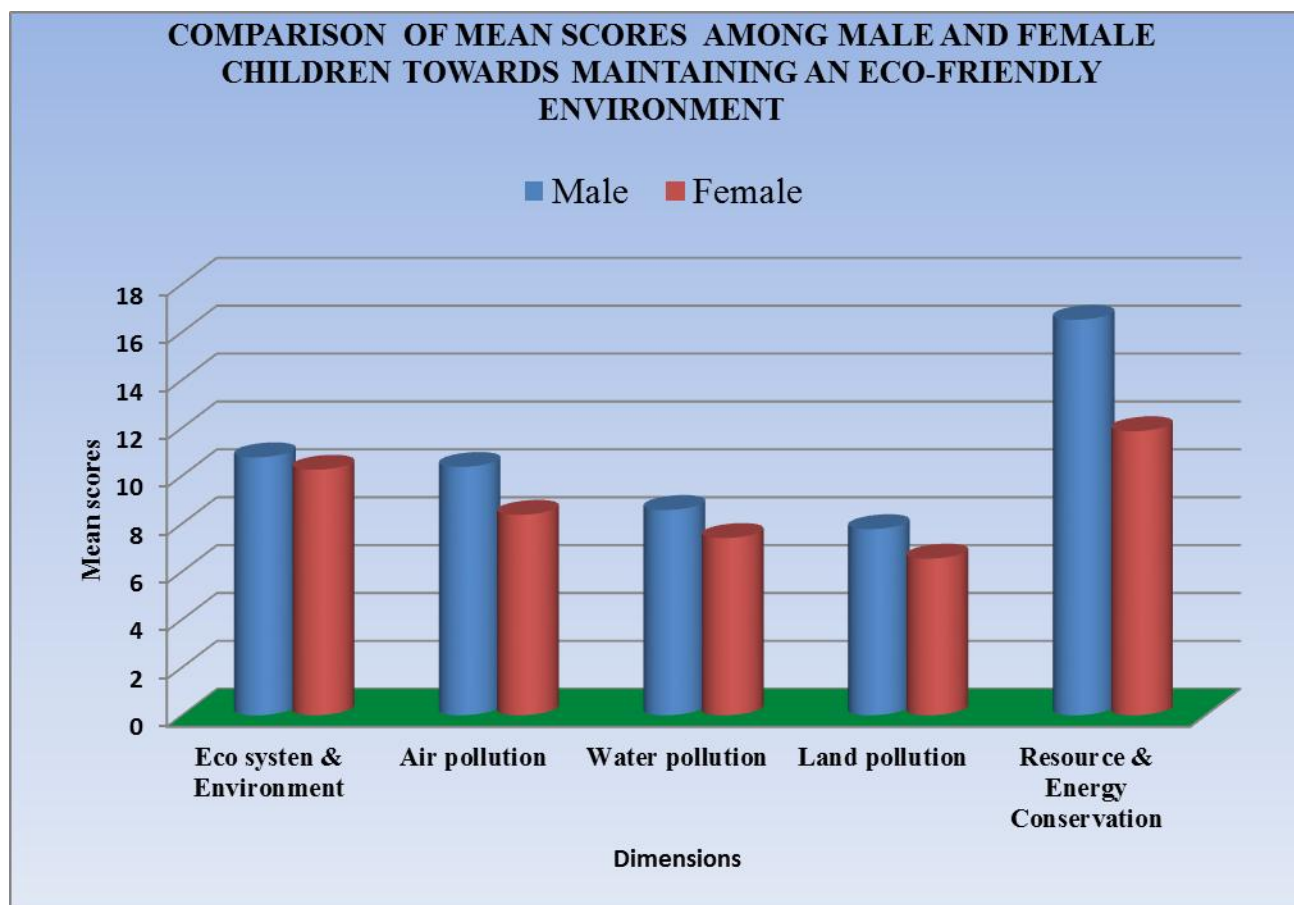
significant

Interpretation

The analysis shows high significant difference in mean scores among male and female children towards maintaining an Eco-Friendly environment in the areas of air, water, land and resource and energy conservation. However, there was no significant difference between them with respect to Eco system and Environment. Also, it reveals that male adolescents have more awareness towards maintaining eco-friendly environment compared to females in all the dimensions.

Hence the hypothesis that there is no difference between the knowledge about the Eco-friendly environment concept between boys and girls is disproved.

Graph - I



Dimensions	Schools (Mean \pm SD)					Significance of F value
	C K Pura	Gujjanadu	K T Halli	Managalawada	Mugadala Betta	
Eco system & Environment	10.50 \pm 1.90	9.25 \pm 2.14	10.55 \pm 0.99	11.00 \pm 2.00	10.85 \pm 2.43	2.4900*
Air	8.25 \pm 3.02	8.40 \pm 2.52	10.45 \pm 1.60	9.65 \pm 2.03	8.60 \pm 3.08	2.8200*

Water	7.05 ± 2.46	6.85 ± 2.05	8.30 ± 0.86	8.55 ± 2.43	8.30 ± 2.15	2.9200*
Land	7.50 ± 2.28	5.65 ± 2.32	7.85 ± 1.13	8.15 ± 2.32	8.70 ± 2.55	6.0900**
Resource & Energy Conservation	11.20 ± 2.80	11.80 ± 2.52	19.90 ± 4.25	16.60 ± 4.35	7.25 ± 5.74	26.5500* *

Table –VII

Comparison among Children of Different Schools towards Maintaining an Eco-Friendly Environment

** Significant at 1% level

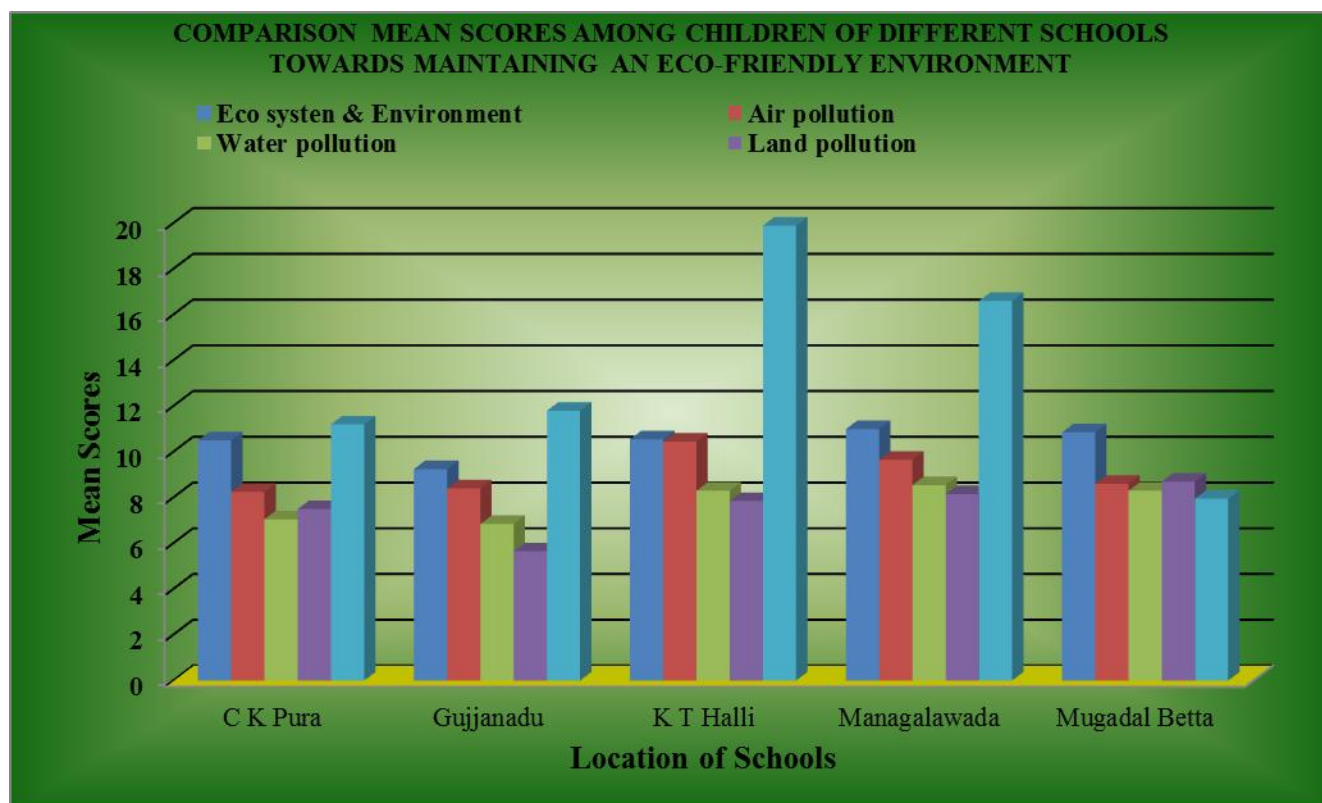
* Significant at 5% level

Interpretation

The analysis of variance (ANOVA) comparing children of schools located in different villages shows high significant difference in mean scores towards maintaining an Eco-Friendly environment in the areas of eco-system and environment, air, water, land and resource and energy conservation. Also, it reveals that children of K T Halli village have more awareness towards maintaining eco-friendly environment followed by school children belonging to Managalawada and Mugadal Betta villages in all the dimensions.

Hence the hypothesis that there is no difference between the students of the five schools about the eco-friendly environment is disproved.

Graph - II



Conclusion

Very interesting results can be observed from the study undertaken for 9th standard students from the five rural schools in Pavagada Taluk.

With regard to a comparison among male and female students towards knowledge in maintaining an eco-friendly environment, except for the dimension eco-system and environment, the other dimensions Air, Water, Land and Resource and Energy conservation showed high significant difference in Mean scores among male and female children and also that male students had more knowledge about maintaining Eco-Friendly Environment compared to the females in all the dimensions.

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Observing the above study, a lot of improvement can be made regarding knowledge about eco-friendly environment making the children not only aware about their environment but also inculcate positive attitudes and practices among them.

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