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A COMPARATIVE STUDY OF ENVIRONMENTAL AWARENESS AMONG THE STUDENTS OF ARTS AND SCIENCE STREAMS

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Abstract

During the most recent couple of many years, the issues of ecological debasement have drawn in the consideration of a wide area individuals all around the globe. The quick exhaustion of backwoods, fast populace blast, growing industrialization, impromptu urbanization, soil disintegration, regular dangers like flood, dry spell, avalanche, tremor and so forth have made natural irregular characteristics in late year. Teachers and natural experts have over and again brought up that any answer for the ecological emergency will require ecological mindfulness and comprehension to be profoundly established in instruction frameworks at all levels.

The purpose of the present study has to find out whether there is any significant relationship between subject streams and environmental awareness of higher secondary students. In this study random sampling technique were used for collecting data from the population of government, government aided and private school students (arts and science streams). The major findings displayed that there was positive correlation between subject streams and environmental awareness. Also, it revealed that subject streams have influenced positively in student's environmental awareness. So, the government and educational policy makers plan to incorporate environment related importance in the school curriculum and arrange field study for sustainable development of the earth.

Key Words: Environmental Awareness, Arts and Science Streams, Eco-Club, Higher secondary Students

INTRODUCTION

Environment has been characterized as the aggregate, all things considered and impacts that influence the turn of events and life of life forms. Climate is intertwined in everyday existence of people and as such man assumes an incredible part in saving and working on the climate for advancement for a superior future. Be that as it may, unbalanced formative exercises are speeding up the speed of ecological debasement. This records for shortages of regular assets, which thusly undermine the supported usefulness of the economy, financial creation and utilization exercises. The ecological results of improvement will in general balance many advantages that might be accumulating to people and to social orders because of rising earnings. There are immediate expenses on the wellbeing of people, their life span and on the personal satisfaction because of disintegration in ecological quality. All the more critically the natural harm can likewise sabotage future accomplishments and usefulness, if the variables of creation are antagonistically influenced.

Along these lines, for a maintainable financial turn of events, each country needs to follow a severe natural approach where individuals will be answerable for guaranteeing long haul improvement, supportability and appropriateness of endeavors, and a definitive accomplishment of ventures at preparing nearby assets for addressing neighborhood needs and concerns. Given the mind-boggling accentuation being set on the manageability of improvement, it is urgent that climate instruction be put at the middle stage in the formative exercises.

Ecological instruction or study is a method of making information getting values, mentalities, abilities capacities and mindfulness among people and gatherings of people towards the climate and its security. Through environmental awareness every citizen must be enlightened on this vulnerable issue and be given an objective ***"to think globally and act locally".*** There is a Chinese proverb *"**If you plan for one year, plant rice, if you plan for ten years, plant trees and if you plan for 100 years, educate people."*** If we want to manage our planet earth, we have to make all the persons environmentally educated.

NEED FOR THE STUDY

The current investigation is significant for the mindfulness and security of normal assets from synthetic debacle. Adolescents are the vital part of the climate. The present youth are the apparatus resident of the general public. In this manner, the young people of a nation have an extremely crucial job to carry out in securing and protecting the climate. Both metropolitan and provincial youth can function as an agitator and initiator of different mindfulness program identified with 'Ecological Protection'. The simplest advance to approach with the idea of "plant a tree in our patio', where each little fellow and young lady sustain the seed of to develop into a full sprouts tree. Youth can be proactive about forestalling the employments of plastic packs. Youth can likewise utilize public vehicle for driving from their home to schools and universities or their educational costs as opposed to utilizing their private vehicles. This won't just assistance them set aside cash yet can likewise be viewed as step in lessening the steadily expanding deals out and about which makes a ruin for the compelling force of nature and keep it from turning into a metropolitan wilderness.

To advance the climate, they need ecological mindfulness through schooling and preparing. Natural schooling is never finished without application, in actuality. A feeling of obligation is essential from every understudy to contribute the eco-accommodating climate not every person is removed to be a pioneer however we all can add to the way toward securing our current circumstance in our own specific manner.

Hence, our demure obligation is to instruct individuals on this significant perspective. In the present circumstance, there is a pressing requirement for our understudies to comprehend the complexities of nature and make mindfulness for protection and safeguarding of nature. Clearly, the superb obligation of making this mindfulness among the understudies lies on the instructive foundations and ecological training is the most solid mode for accomplishing this objective. That is why researcher has taken up the study titled as *"A comparative study of Environmental Awareness among the Students of Arts and Science Stream of Higher Secondary School."*

OPERATIONAL DEFINITION OF THE TERMS

The definitions used in the study along with their operational definitions are given below.

Environment

All of the biotic and abiotic factors that act an organism, population, or ecological community and influence its survival and development biotic factors include the organisms themselves, their food, and their interactions. Abiotic factors include such items as sunlight, soil, air, water, climate, and pollution. Organisms respond to changes in them environment by evolutionary adaptations in form and behaviour.

Awareness

The common meaning for the word aware, found in the dictionaries are, having knowledge, realization, consciousness and understanding. In our context, we want to take the meaning of awareness from the positive side that is the people who are aware initiated and move other by their personal example of by presenting their views through the media available to them.

Environmental Awareness

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

Student

A student is a learner, or someone who attends an educational institution. In some nations, the English term is reserved for those who attend schools, while a school child under the age of eighteen is called a pupil in English. In its widest use, student is used for anyone who is learning.

OBJECTIVES OF THE STUDY

The following objectives are formulated for the present study.

1. To find out the level of environmental awareness of the higher secondary students.
2. To find out there is any significant difference between male higher secondary students of arts and science stream in their environmental awareness.

3. To find out there is any significant difference between female higher secondary students of arts and science stream in their environmental awareness.
4. To find out there is any significant difference between government school higher secondary students of arts and science stream in their environmental awareness.
5. To find out there is any significant difference between government aided school higher secondary students of arts and science stream in their environmental awareness.
6. To find out there is any significant difference between rural school higher secondary students of arts and science stream in their environmental awareness.
7. To find out there is any significant difference between urban school higher secondary students of arts and science stream in their environmental awareness.
8. To find out there is any significant relationship between student's participation in eco-club and environmental awareness of higher secondary students.
9. To find out there is any significant influence of higher secondary students of arts and science stream on environmental awareness.

RESEARCH METHODOLOGY

1. Method Used for the Study

The Investigator has adopted the survey method of research to study on environmental awareness of higher secondary students.

2. Area and Population for the Study

The area of the present study has Dindigul District of Tamil Nadu State, India. The population of the present study consists of the students of higher secondary schools who are studying in Arts and Science Streams subject from Dindigul District of Tamil Nadu State, India.

3. Sample for the Study

The Investigator used stratified random sampling technique for selecting the sample from the population. The stratification was done on the basis of students, Gender (Male and Female), Locality (Rural and Urban) and Nature of Institution (Government, Government Aided and Self-financing). The sample consists of 540 higher secondary students from 7 higher secondary schools in Dindigul District of Tamil Nadu State, India.

4. Tools Used for the Study

The following tool were used for data collection

1. Environmental Awareness Scale developed and validated by Kusum Lata Kumari & Thomas Perumalil (2016).

5. Statistical Techniques Used for the Study

For the present study, the Investigator used the following statistical techniques.

1. 't' Test
2. ANOVA

3. Pearson Product Moment Correlation
4. Multiple Regression Analysis

ANALYSIS

Table - 1

Level of Environmental Awareness of Male Higher Secondary Students of Arts and Science Streams

Variable	Subject Stream	Low		Moderate		High	
		N	**%**	**N**	**%**	**N**	**%**
Environmental Awareness	**Arts**	24	21.8%	48	43.6%	38	34.6%
	Science	16	16%	57	57%	27	27%

It is inferred from the table 1, showed that 21.8% of male higher secondary students of arts stream have low, 43.6% of them have moderate and 34.6% of them have high level of environmental awareness. Whereas, 16% of male higher secondary students of science stream have low, 57% of them have moderate and 27% of them have high level of environmental awareness.

Table - 2

Level of Environmental Awareness of Female Higher Secondary Students of Arts and Science Streams

Variable	Subject Stream	Low		Moderate		High	
		N	**%**	**N**	**%**	**N**	**%**
Environmental Awareness	**Arts**	30	17.6%	104	61.2%	36	21.2%
	Science	26	16.2%	96	43%	38	23.8%

It is inferred from the table 2, showed that 17.6% of female higher secondary students of arts stream have low, 61.2% of them have moderate and 21.2% of them have high level of environmental awareness. Whereas, 16.2% of female higher secondary students of science stream have low, 43% of them have moderate and 23.8% of them have high level of environmental awareness.

Null Hypothesis 1

There is no significant difference between male higher secondary students of arts and science streams in their environmental awareness.

Table - 3

Difference between Male Higher Secondary Students of Arts and Science Streams in their Environmental Awareness

Variables	**Subject Streams**	**Mean**	**SD**	**t-value**	**Remarks**
Environmental Awareness of Male Higher Secondary Students	Arts	74.80	8.81	4.21	S
	Science	86.99	9.56		

The calculated t-value (4.21), which is significant at 5% level of significance, it confirms that there was significant difference in the environmental awareness of male higher secondary students of arts and science

streams. While comparing the mean scores male higher secondary students of science stream are higher in their level of environmental awareness than the arts counterparts.

Null Hypothesis 2

There is no significant difference between female higher secondary students of arts and science streams in their environmental awareness.

Table - 4
Difference between Female Higher Secondary Students of Arts and Science Streams in their Environmental Awareness

Variables	Subject Streams	Mean	SD	t-value	Remarks
Environmental Awareness of Female Higher Secondary Students	Arts	79.56	5.81	2.81	S
	Science	84.39	7.27		

The calculated t-value (2.81), which is significant at 5% level of significance, it confirms that there was significant difference in the environmental awareness of female higher secondary students of arts and science streams. While comparing the mean scores female higher secondary students of science stream are higher in their level of environmental awareness than the arts counterparts.

Null Hypothesis 3

There is no significant difference between rural higher secondary students of arts and science streams in their environmental awareness.

Table - 5
Difference between Rural Higher Secondary Students of Arts and Science Streams in their Environmental Awareness

Variables	Subject Streams	Mean	SD	t-value	Remarks
Environmental Awareness of Rural School Higher Secondary Students	Arts	78.69	6.28	1.62	S
	Science	74.37	6.94		

The calculated t-value (1.62), which is not significant at 5% level of significance, it confirms that there was no significant difference in the environmental awareness of rural schools higher secondary students of arts and science streams.

Null Hypothesis 4

There is no significant difference between urban higher secondary students of arts and science streams in their environmental awareness.

Table - 6

Difference between Urban Higher Secondary Students of Arts and Science Streams in their Environmental Awareness

Variables	Subject Streams	Mean	SD	t-value	Remarks
Environmental Awareness of Urban School Higher Secondary Students	Arts	74.89	5.97	3.48	S
	Science	76.00	6.77		

The calculated t-value (3.48), which is significant at 5% level of significance, it confirms that there was significant difference in the environmental awareness of urban schools higher secondary students of arts and science streams. While comparing the mean scores urban schools higher secondary students of science stream are higher in their level of environmental awareness than the arts counterparts.

Null Hypothesis 5

There is no significant difference between government higher secondary students of arts and science streams in their environmental awareness.

Table - 7

Difference between Government Higher Secondary Students of Arts and Science Streams in their Environmental Awareness

Variables	Subject Streams	Mean	SD	t-value	Remarks
Environmental Awareness of Government School Higher Secondary Students	Arts	74.49	7.12	2.19	S
	Science	78.30	8.81		

The calculated t-value (2.19), which is significant at 5% level of significance, it confirms that there was significant difference in the environmental awareness of government schools higher secondary students of arts and science streams. While comparing the mean scores government schools higher secondary students of science stream are higher in their level of environmental awareness than the arts counterparts.

Null Hypothesis 6

There is no significant difference between government aided higher secondary students of arts and science streams in their environmental awareness.

Table - 8

Difference between Government Aided Higher Secondary Students of Arts and Science Streams in their Environmental Awareness

Variables	Subject Streams	Mean	SD	t-value	Remarks
Environmental Awareness of Government Aided Higher Secondary Students	Arts	71.23	7.23	1.57	S
	Science	69.58	6.97		

The calculated t-value (1.57), which is not significant at 5% level of significance, it confirms that there was no significant difference in the environmental awareness of government aided schools higher secondary students of arts and science streams.

Null Hypothesis 7

There is no significant difference between self-financing higher secondary students of arts and science streams in their environmental awareness.

Table - 9

Difference between Self-Financing Higher Secondary Students of Arts and Science Streams in their Environmental Awareness

Variables	Subject Streams	Mean	SD	t-value	Remarks
Environmental Awareness Self-Financing School Higher Secondary Students	Arts	70.11	6.54	0.97	S
	Science	69.65	6.29		

The calculated t-value (0.97), which is not significant at 5% level of significance, it confirms that there was no significant difference in the environmental awareness of self-financing schools higher secondary students of arts and science streams.

Null Hypothesis 8

There is no significant relationship between student's participation in eco-club and environmental awareness of higher secondary students.

Table - 10

Relationship between Environmental Awareness and Eco-Club Participation of Higher Secondary Students

Variables	Students Participation in Eco-Club	Remarks
Environmental Awareness	**0.739**	**Significance**

The calculated **'γ'** value (0.739), which is significant at 0.5% level, it confirms that there was significant positive correlation between student's participation in eco-club and environmental awareness of higher secondary students. It implies that, the high level of environmental awareness based on their active eco-club participation.

Null Hypothesis 9

There is no significant influence of arts and science stream subjects on environmental awareness of higher secondary students.

Table – 11.a

Influence of Arts and Science Streams on Environmental awareness of Higher Secondary Students - Summary of Model-I

Regression Analysis	R	R Square	Adjusted R Square	Standard Error
Model – I	0.571	0.428	0.420	13.4172

Table -11.b

Influence of Arts and Science Streams on Environmental awareness of Higher Secondary Students – ANOVA

Regression Analysis		Sum of Squares	Mean Square	F	'p'
Model – I	Regression	20412.025	10114.013	56.186	0.000
	Residual	37124.624	142.437		
	Total	57562.754			

Table – 11.c

Influence of Arts and Science Streams on Environmental awareness of Higher Secondary Students - Coefficients of Regression Analysis

Regression Analysis	Unstandardized Co-efficient		Standardized Co-efficient	't'	'p'
	B	Std. Error	Beta		
Constant	63.094	7.846		7.263	.000
Arts Stream	0.364	0.070	0.287	4.201	.000
Science Stream	0.482	0.062	0.426	6.705	.000

From the Table 11a, it is observed that the adjusted R square value of 0.420 indicated that 42% of the variance could be predicted that stream of subjects did influence environmental awareness of higher secondary students.

It is inferred from the Table 11a that the multiple correlations co-efficient (R=0.571) showed that there was substantial correlation among arts and science stream subjects with regard to environmental awareness of higher secondary students.

It is learnt from the Table 11b that the significant 'P' value 0.000 for ANOVA (F=56.186) indicated that arts and science stream subjects differed in their influence on environmental awareness of higher secondary students.

It is inferred from the Table 11c that science stream significantly influence environmental awareness (Beta = 0.426, 't' = 6.705) than the arts stream (Beta = 0.287, 't' = 4.201) of higher secondary students.

MAJOR FINDINGS

The following are the findings of the present study

1. There is significant difference between male higher secondary students of arts and science stream in their environmental awareness. While comparing the mean scores male higher secondary students of science stream are higher in their level of environmental awareness than the arts counterparts.
2. There is significant difference between female higher secondary students of arts and science stream in their environmental awareness. While comparing the mean scores female higher secondary students of science stream are higher in their level of environmental awareness than the arts counterparts.
3. There is no significant difference between rural school higher secondary students of arts and science stream in their environmental awareness.

4. There is significant difference between urban school higher secondary students of arts and science stream in their environmental awareness. While comparing the mean scores urban higher secondary students of science stream are higher in their level of environmental awareness than the arts counterparts.
5. There is significant difference between government school higher secondary students of arts and science stream in their environmental awareness. While comparing the mean scores government school higher secondary students of science stream are higher in their level of environmental awareness than the arts counterparts.
6. There is no significant difference between government aided school higher secondary students of arts and science stream in their environmental awareness.
7. There is no significant difference between self-financing school higher secondary students of arts and science stream in their environmental awareness.
8. There is significant relationship between higher secondary students of arts and science stream in their environmental awareness and participation of Eco-Club.
9. There is significant influence of higher secondary students of arts and science stream on environmental awareness. While comparing the beta score of coefficient of correlation analysis the science stream significantly influence environmental awareness than the arts stream of higher secondary students.

INTERPRETATION AND DISCUSSION

The Investigator with his observations and field experience has come out with the following interpretations derived from the present study.

The percentage analysis of the study revealed that majority of higher secondary students expressed moderate level of environmental awareness as shown in the Table 1 and 2. The prevalence of environmental awareness at moderate level among higher secondary students of male and female arts and science stream may be that they were studied environmental science subjects in his/her primary level as the values and significance of the environment and their importance for the human beings.

The 't' test results of arts and science stream higher secondary students with regard to gender (male and female), locality (urban) and school nature (government) reported that there was significant difference in their environmental awareness. While comparing the mean scores science stream students were higher in their environmental awareness than their arts counterpart. The reason behind that science stream students have more scientific temperament compared to arts students, also the science stream students attitude about environment is high because their science knowledge more useful to interact their environment and getting knowledge about environmental problems and their causes. The findings of the study conducted by **Danielraja (2019)** found that there was significant difference in the mean scores of environmental awareness between the students belonging to science group and arts group. Also, the findings of the study conducted by **Rajvir Singh (2016)** found that significant difference was found in the level of environment awareness of undergraduate students studying in arts and science stream. Similarly, **Subashini (2014)** revealed that there exists significant difference in the mean scores in Environmental awareness between the students belonging to science group

and arts group. The study conducted by **Hassan and Paul Ratnakar (2012)** found that Arts and Science students do differ significantly in their environmental awareness. The mean score of science students is higher which shows that they have more environmental awareness. Also the finding of the study conducted by **Prashant Kumar Astalin (2011)** concurred with this finding that science stream students had more environmental awareness in comparison to arts stream students.

On the other hand, the study conducted by **Arup Bhowmik and Anju Verma (2019)** found that there was no significant difference between students from science and non-science stream with regards to their awareness about the environment.

According to the correlation analysis there was significant positive relationship between environmental awareness and eco-club participation of higher secondary students. It implies that, if high level of active participation of eco-club has increases the environmental awareness.

According to the regression analysis there was significant positive influence of arts and science stream higher secondary students on their environmental awareness. While comparing the beta score of coefficient of correlation analysis the science stream significantly influence environmental awareness than the arts stream of higher secondary students. The study conducted by **Hassan and Paul Ratnakar (2012)** found that environmental awareness has positive relationship with scientific attitude among students and science students were found more aware about their environment as compared to arts students.

EDUCATIONAL IMPLICATIONS OF THE STUDY

The present study discloses that the environmental awareness of higher secondary students have got an effect on their environment. The environmental awareness of higher secondary students was commendable. In the light of these findings, educational implications of the present study are self-evident. A few of them are listed below.

1. The teachers and students of the higher secondary school may be greatly benefited by the findings of the present study.
2. Seeking insight from the findings, the school education programmes may incorporate certain measures in the curriculum to boost up the environment and their importance to the students so that they can still improve their day to day life.
3. The students of the rural schools should be given some orientation to improve their environment related problems.
4. The school curriculum should incorporate certain measures to enhance the environmental awareness of the students.

CONCLUSION

Human endurance relies on accessibility of clear air to breath, new water to drink and food as grains products of the soil and so forth, every one of these are met through utilization of at least one of the normal assets. Yet, there is a genuine test made by the unfavorable impact of exhaustion of planetary assets, blacksmith's iron contamination, populace blast and harm to the delicate eco-framework through which life on

earth can endure. With the idea of practical improvement there is an inborn clash between protection of climate and our current way of advancement. In this examination tracked down that moderate, positive and critical relationship exists between natural mindfulness and expressions and science floods of higher auxiliary school understudies.

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