



Awareness on Solid Waste Material Pollution and Global Warming Among Higher Secondary Students in Krishnagiri

KEYWORDS

Awareness, Solid Waste Material Pollution, Global Warming.

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ABSTRACT A survey was conducted to find the awareness of solid waste material pollution and global warming among higher secondary students. The sample for the present study consisted of five hundred and thirty one standard eleventh students selected randomly from thirteen higher secondary schools in Krishnagiri district. The objectives were, to find out whether there is any significant difference in solid waste material pollution and global warming among higher secondary students on the basis of their demographic and institutional variables. The findings of the study were (ii) Higher secondary students from urban areas have more awareness of global warming than the students from rural areas. (iv) The higher secondary science, mathematics history and computer science students differ significantly in their global warming awareness. (v) There was a significant relationship between the awareness of solid waste material pollution and their global warming. (vi) The higher secondary students have more awareness in global warming than solid waste material pollution.

INTRODUCTION

Solid waste means any garbage, refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded materials including solid, liquid, semi-solid, or contained gaseous material, resulting from industrial, commercial, mining and agricultural operations, and from community activities. Solid waste is one of the most visible, immediate and serious environmental problems, such as inadequate waste disposal creates serious environmental problems that affect health of humans and animals and cause serious economic and other welfare losses. The environmental degradation as well as health impact of people caused by inadequate disposal of waste can be expressed by the contamination of surface and ground water through direct waste contacts or leachate, air pollution by burning of wastes, spreading of diseases by different vectors like birds, insects and rodents, or uncontrolled release of methane by anaerobic decomposition of waste. Global warming is considered as a burning problem and it is being a challenge to the entire world and its scientific society. Global warming is a worldwide environmental problem by which there is an abnormal increase to the level of temperature, particularly in a natural environment. Global warming is not only affecting the nature, but it affects the life and homes of millions of people. The changes of global warming are visible from the highest mountains to deep in the oceans and it extinguished different parts of the earth and it also creates rich bio-diversity. Now, the investigator has selected to study such a serious problem "awareness on solid waste material pollution and global warming among higher secondary students.

OBJECTIVES OF THE STUDY

- i. To find out the level of awareness in solid waste material pollution and global warming among higher secondary students.
- ii. To find out whether there is any significant difference in solid waste material pollution and global warming among higher secondary students with respect to select demographic variables.

- iii. To find out whether there is any significant correlation between awareness in solid waste material pollution and global warming among higher secondary students.

METHOD USED AND SAMPLE SELECTED

Survey method was adopted in the study; Five hundred and thirty one standard XI students were randomly selected from thirteen higher secondary schools.

RESEARCH TOOLS EMPLOYED

The following tools were employed to find the awareness level of higher secondary students in solid waste material pollution and global warming.

- i. Solid Waste Material Pollution
- ii. Global Warming

Establishing Validity and Reliability of the Tools

Solid waste material pollution and global warming scales were prepared and validated by Neelamegam, and Vakkil (2013). The draft scales consisted of 56 items in solid waste material pollution and 37 items in global warming. The tools were given to the experts in the field of environmental education for finding face validity. Some of the items in the tool changed and modified according to the suggestions given by them. Thus, the face validity of the tools were found out.

Were the investigator used split-half method to establish the reliability of the tools. The test was administered among 30 first year higher secondary students studying in keelkuppam government school, in Krishnagiri. Pearson's product moment co-efficient correlation was used to find the reliability of the tool and it was found to be 0.69 and another tool 0.7 respected.

HYPOTHESIS TESTING

(H₀ 1) There is no significant difference in solid waste material pollution among higher

Secondary Students with respect to subject

Table: 1 Difference in awareness of solid waste material pollution among higher secondary students with respect to their subject

Dimensions	Source of variation	Sum of squares	df =2,530	Calculated 'F' value	Re-remarks at 5% Level
			Mean square		
Solid Waste Material Pollution	Between	579.887	193.296	2.534	S
	Within	66419.72	126.033		

S- Significant

It is inferred from the above table that the calculated value of 'F' (2.534) is greater than the table value of 'F' (3.00) for df (2,529) at 5% level significance. Hence null hypothesis is rejected. Thus, there is significant difference among higher secondary students whose major subject is science, mathematics, history and computer science in their of solid waste material pollution.

(H₀) There is no significant difference in global warming among higher secondary

Students with respect to (i) Location of School, (ii) Types of School

Table: 2 Difference in awareness of global warming among higher secondary Students with respect to (i) Location of School, (ii) Types of School

Dimension	Demo-graphic Variables	N	Mean	Std. Deviation	Calculated 't' value	Remarks
Global warming	Rural	248	69.74	6.732	2.638	S
	Urban	283	70.11	7.222		
	Government	241	69.56	7.296	2.367	S
	Self Finance	289	70.28	6.707		

S- Significant

It is inferred from the above table that the calculated value 't' (2.638) is greater than the table value of 't' (1.96) at 5% level of significance for df 530. Hence the null hypothesis is rejected. Thus, there is significant difference in awareness of global warming between higher secondary students from schools located in rural and urban areas. From the mean value, it is found that the higher secondary students studying in schools located in urban areas have more awareness in global warming than higher secondary students studying in schools located in rural areas.

It is inferred from the above table that the calculated value of 't' (2.367) is greater than table value of 't' (1.96) at 5% level of significance for df (530). Hence the null hypothesis is rejected. Thus, there is significant difference in awareness of global warming between higher secondary students studying in government and self finance schools. From the mean value it is found that the higher secondary students studying in self finance schools have more aware-

ness in global warming than the higher secondary students studying in government schools.

CORRELATION BETWEEN AWARENESS OF SOLID WASTE MATERIAL POLLUTION AND GLOBAL WARMING

Correlation between awareness of solid waste material pollution and global warming among higher secondary students

Σx	Σy	Σx^2	Σy^2	Σ	r	Table value
61888	37136	3830124	1379082	22982727	0.5691	0.139

It is inferred from the above table that the calculate of 'r' value (0.5691) is greater than the table value of 'r' (0.139) at 5% level of significance for 530(df). Hence the null hypothesis is rejected. It shows that there is significant correlation between the awareness of solid waste material pollution and global warming among higher secondary school students

Findings of the study

- i. 24.3% of boys and 28.6% of girls in standard XI students have average level of awareness in solid waste material pollution.
- ii. 34.8% of students studying standard XI in the schools located in rural areas and 36.9% of students studying standard XI in the schools located in urban areas have average level of awareness in solid waste material pollution.
- iii. 29.6% of students studying standard XI in government schools and 38 % of students studying standard XI in Self finance schools have average level of awareness in solid waste material pollution.
- iv. 21.3% of students studying standard XI in science group, 19 % of students studying standard XI in maths group, 17.1% of students studying standard XI in history group and 14.3 % of students studying standard XI in computer science group have average level of awareness in solid waste material pollution.
- v. 39.6% of boys and 31% of girls studying standard XI students have average level of awareness in global warming.
- vi. 33.3% of students studying standard XI in the schools located in rural areas and 35.3% of students studying standard XI in the schools located in urban areas have average level of awareness in global warming.
- vii. 21.6% of students studying standard XI in government schools and 38 % of students studying standard XI in Self finance schools have average level of awareness in global warming.
- viii. 19.4 % of students studying standard XI in science group, 16.2% of students studying standard XI in maths group, 13.4 % of students studying standard XI in history group and 18.6 % of students studying standard XI in computer science group have average level of awareness in global warming.
- ix. Higher secondary students studying in rural and urban schools differ in their awareness in global warming. When their mean scores are compared, the higher secondary students studying in schools located in urban areas have

more awareness than higher secondary students studying in schools located in rural areas.

x. Higher secondary students studying in governments and private schools differ in the awareness in global warming. When their mean scores are compared, the higher secondary students studying in self finance schools have more awareness than government higher secondary schools students.

xi. Higher secondary students have significant relationship between awareness in solid waste material pollution and global warming.

EDUCATIONAL IMPLICATION OF THE STUDY

It was found from the study, that this was a significant relationships exist between awareness in solid waste material pollution and global warming. Hence, it can be said that, the global warming and climate change may be reduced by decreasing the use of solid wastes, which are already mentioned. The authors suggest that the techniques for reducing the solid waste material may be taught to the teacher, parents and the state holders in the field of education. So that they may impact knowledge about the usages of solid materials among students. When this knowledge was imparted among there, ultimately awareness among students about global warming will be developed, because both the components are interlinked and have very close relationships with the environments.

CONCLUSION

The authors of the article conclude that an efficient management of solid waste material may cause conservation of land resources, protection of natural resources, production of energy resources and so on. They also strongly recommend that people should manage and use their natural as well as man-made resources efficiently for avoiding the unwanted creation of solid wastes. Keeping these things in mind, people should follow the eco-friendly practices and solid waste management techniques for the betterment of the upcoming generation.

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