Research Paper

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Awareness of Atomic Radioactive Pollution and Global Warming among School Teachers in Tirunelveli District.

Education

KEYWORDS : Awareness, Atomic Radioactive Pollution, Global Warming, School Teachers

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ABSTRACT

A survey was conducted to find the awareness of atomic radioactive pollution and global warming among school teachers. The sample for the present study consisted of seven hundred fifty school teachers are selected randomly from sixty primary, secondary and higher secondary schools in Tirunelveli district in Tamil Nadu. The objectives were, to find out whether there is any significant difference in awareness of atomic radioactive pollution and global warming among school teachers on the basis of their demographic and institutional variables. The findings of the study were (i) The male and female school teachers do not differ significantly in their awareness of atomic radioactive pollution. (ii) The government, self-financing and government aided school teachers differ significantly in their awareness of atomic radioactive pollution. (iii) The rural, urban and semi urban school teachers differ significantly in their awareness of atomic radioactive pollution. (iv)The male and female school teachers differ significantly in their awareness of global warming. (v) The boys, girls and co-education school teachers differ significantly in their awareness of global warming. (vi) The rural, urban and semi urban school teachers differ significantly in their awareness of global warming.

INTRODUCTION

Modern society has growing concern about global environmental issues the developing countries are experiencing complex, serious and fast-growing pollution problems of their own. Environmental pollution is more than just a health issue; it is a wider social issue, in that pollution has the potential to destroy homes and communities. Pollution problems are also closely tied to the mode of development in developing countries.

Despite this, many developing countries either have not developed environmental pollution control measures, or have not provided adequate implementation structures to ensure that policies are effective. Radiation is released from the nuclear power plants in the form of liquid, gases, and solid radioactive wastes all of the time. There are nuclear power plants all over the country that have been leaking contaminated water since 1990s. The worst is that it doesn't take a major disaster for these power plants to release radiation into the environment. These high levels of radiation can find its way into the major rivers of India. With the major rivers being so important to the people, it is very dangerous when the radiation is environmental problems, air, water, soil and also including physical, chemistry, biology, geology, meteorology, oceanography, sociology and human health. In this study the awareness of atomic radioactive pollution and global warming among school teacher will be discussed awareness created about the causes of pollutants among teachers then they will direct the student in right direction, towards the preservation of our plant.

OBJECTIVES OF THE STUDY

- To find out the level of awareness in atomic radioactive pollution and global warming among school teachers
- To find out any relationship between awareness of atomic radioactive pollution and global warming among school teachers

HYPOTHESIS OF THE STUDY

To find out whether there is any significant difference in awareness of atomic radioactive pollution and global warming among school teachers with respect to select demographic variables.

METHOD ADOPTED

The present study attempts to explore awareness of atomic radioactive pollution and global warming among school teachers. As far as, the problem and objectives of the study is concerned the investigator selected the survey method for conducting the study. The sample for the present study comprises of 750 school teachers, teaching in different primary, secondary and higher secondary schools in Tirunelveli district in Tamil Nadu. The investigator has selected the sample using simple random sampling technique.

RESEARCH TOOLS EMPLOYED

The following tools were employed to find the awareness level of among school teachers in atomic radioactive pollution and global warming.

i. **Atomic Radioactive Pollution Scale**
ii. Global Warming Scale
Establishing Validity and Reliability of the Tools
Validity of the Tool

The investigator conducted pilot study to the randomly selected 75 school teacher in Tirunelveli district. The tools were given to the experts in the field of environmental education for finding validity. Some of the items in the tool changed and modified according to the suggestions given by them. Thus, the content validity of the tools was found out. The draft form of the ARPAS was consisted of 73 and GWAS was consisted of 62 statements. The scores obtained by the teacher were arranged in descending order, the highest 27% of scores were selected and the lowest 27% of scores were selected. Using "Lickert item wise analysis", the statements which carries the score 1 and above are selected.

Reliability of the Tool

In the present study the reliability coefficient of ARPAS and GWAS was calculated using test-retest method. The scale was administered twice among 75 teachers working in primary, secondary and higher secondary schools with the time of two weeks. Their responses were valued, and the consistency between the scores was analysed using rank correlation. The co-efficient of correlation between the two scores was found to be atomic radioactive pollution 0.86 and global warming 0.84 using test-retest method. Thus tool was found to be reliable.

HYPOTHESIS TESTING

Null hypothesis- 1

There is no significant difference in awareness of atomic radioactive pollution and global warming among school teachers with respect to gender.

Table -1
Difference in Awareness of Atomic Radioactive Pollution and global warming among school teachers with respect to gender

Dimension	Male N=370		Female N=380		Calculated value of 't'	Remarks at 5% level
	Mean	SD	Mean	SD		
Atomic Radioactive Pollution	160.75	22.558	162.18	22.134	0.87	NS
Global Warming	193.64	28.535	197.64	26.971	1.97	S

NS- Not significant, S- Significant

(At 5% level of significance, the table value is 1.96)

It is inferred from the above table that the calculated value of 't' (0.86, 1.48, 1.00, 0.25, 1.12 and 0.87) is less than the table value of 't' (1.96) at 5% level of significance for degree of freedom 748 . Hence the null hypothesis is ***accepted***. Thus, the male and female school teachers do not differ significantly in their awareness of atomic radioactive pollution.

It is inferred from the above table that the calculated value of 't' (2.45, 2.25 and 1.97) is greater than the table value of 't' (1.96) at 5% level of significance for df 748 .Hence the null hypothesis is ***rejected*** . Thus, the male and female school teachers differ significantly in their awareness of global warming. While, comparing means scores of female school teachers is better than male school teachers in their awareness of global warming.

Null hypothesis- 2
There is no significant difference in awareness of atomic radioactive pollution and global warming among school teachers with respect to (i) Types of the School, (ii) Nature of the School and (iii) Location of the School.

Table -2
Difference in Awareness of Atomic Radioactive Pollution and global warming among school teachers with respect to (i) Types of the School, (ii) Nature of the School (iii) Location of the school

Variables	Demographic Variables.	Sources of variation	Sum of square	Mean square of variance	Calculated value of 'F'	Remark at 5% level
Atomic Radioactive Pollution	Types of the School	Between	3439.683	1719.84	3.469	**S**
		Within	370379.47	495.823		
	Nature of the School	Between	993.866	496.93	0.996	**NS**
		Within	372825.29	499.09		
	Location of the School	Between	8772.056	4386.02	8.975	S
		Within	365047.10	488.68		
Global Warming	Types of the School	Between	2335.531	1167.76	1.512	NS
		Within	576809.13	772.168		
	Nature of the School	Between	5818.59	2909.29	3.791	S
		Within	573326.07	767.505		
	Location of the School	Between	7025.845	3512.92	4.587	S
		Within	572118.82	765.889		

NS- Not significant, S- Significant
(At 5% level of significance, for (2,747) df the table the table value 'F' is 3.00)

It is inferred from the above table that the calculated value of 'F' (3.469) is greater than the table value of 'F' (3.00) for df (2, 747) at 5% level significance. Hence null hypothesis is ***rejected.*** Thus, the government, self- financing and government aided school teachers differ significantly in their awareness of atomic radioactive pollution

It is inferred from the above table that the calculated value of 'F' (0.996) is less than the table value of 'F' (3.00) for df (2,747) at 5% level significance. Hence null hypothesis is ***accepted.*** Thus, the boys, girls and co-education school teachers do not differ significantly in their awareness of atomic radioactive pollution.

It is inferred from the above table that the calculated value of 'F' (8.975) is greater than the table value of 'F' (3.00) for df (2,747) at 5% level significance. Hence null hypothesis is rejected. Thus, the rural, urban and semi urban school teachers differ significantly in their awareness of atomic radioactive pollution.

It is inferred from the above table that the calculated value of 'F' (1.512) is less than the table value of 'F' (3.00) for df (2,747) at 5% level significance. Hence null hypothesis is ***accepted.*** Thus, the government, self- finance and government aided school teachers do not differ significantly in their awareness of global warming.

It is inferred from the above table that the calculated value of 'F' (3.71) is greater than the table value of 'F' (3.00) for df (2,747) at 5% level significance. Hence null hypothesis is ***rejected.*** Thus, the boys, girls and co-education school teachers differ significantly in their awareness of global warming.

It is inferred from the above table that the calculated value of 'F' (4.587) is greater than the table value of 'F' (3.00) for df (2,747) at 5% level significance. Hence null hypothesis is rejected. Thus, the rural, urban and semi urban school teachers differ significantly in their awareness of global warming.

Null hypothesis-3
There is no significant relationship between awareness of atomic radioactive pollution and global warming among school teachers

Table -5
Relationship between awareness of atomic radioactive pollution and global warming among school teachers

Variable	Correlation "r" value	Remarks at 5% level
Atomic Radioactive Pollution and Global Warming	0.054	S

(At 5% level of significance, for df 748, the table value 'r' is (0.062)

It is inferred from the above table that the calculated value of 'r' (0.054) is greater than the table value of 'r' (0.062) for degree of

freedom 748 at 5% level significance. Hence null hypothesis is ***rejected.*** It shows that there is significant relationship between awareness of atomic radioactive pollution and global warming among school teachers.

FINDING OF THE STUDY

- 50.3% of male and 54.2 % of female school teachers have average level of awareness in atomic radioactive pollution.
- 47.9 % of schools teachers located in rural, 58.8 % of urban and 52.9% of semi urban area school teachers have average level of awareness in atomic radioactive pollution.
- 49.6 % of government, 56.0 % of Self financing and 51.2 % of government aided schools teachers have average level of awareness in atomic radioactive pollution.
- 65.4% of boys, 40.4% of girls and 51.6 % of co-education schools teachers have average level of awareness in atomic radioactive pollution.
- 50.8% of male and 53.9% of female school teachers have average level of awareness in global warming.
- 49.3% of schools teachers located in rural areas, 53.1% of urban and 58.6 % of semi urban area school teachers have average level of awareness in global warming.
- 48.4 % of government, 52.8 % of Self financing and56.0 % of government aided schools teachers have average level of awareness in global warming.
- 50.0% of boys 42.3% of girls and 53.5 % of co-education schools teachers have average level of awareness in global warming.
- The male and female school teachers do not differ significantly in their awareness of atomic radioactive pollution.
- The government, self- financing and government aided school teachers differ significantly in their awareness of atomic radioactive pollution. While comparing means scores of the self- financing school teachers is better than Government and Government aided school teachers in their awareness of atomic radioactive pollution.
- The boys, girls and co-education school teachers do not differ significantly in their awareness of atomic radioactive pollution.
- The rural, urban and semi urban area school teachers differ significantly in their awareness of atomic radioactive pollution. While comparing means scores of the urban school teachers is better than semi urban and rural school teachers in their awareness of atomic radioactive pollution
- The male and female school teachers differ significantly in their awareness of global warming. While, comparing means scores of female school teachers is better than male school teachers in their awareness of global warming.
- The government, self- financing and government aided school teachers do not differ significantly in their awareness of global warming.
- The boys, girls and co-education school teachers differ significantly in their awareness of global warming. While, comparing the means score of the girls' school teachers is better than boys and co-education school teachers in their awareness of global warming.
- The rural, urban and semi urban area school teachers differ significantly in their awareness of global warming. While, comparing the means score of the urban area school teachers is better than rural and semi urban area school teacher in their awareness of global warming.
- There is significant relationship between awareness of atomic radioactive pollution and global warming among school teachers.

RECOMMENATION AND SUGGESTION

- Teachers to be aware of the positive and negative impact of radioactive pollution in environmental especially needed at primary school teachers level.
- To create awareness in causes of radioactive pollution among rural area school teachers.
- To create the interdisciplinary symbiosis between the geological and nuclear sciences for among school teachers.
- Video films, Internet platforms and Educational posters the above-quoted forms can and should obviously be used to train other social groups as well. It is my strong conviction that without direct demonstrations of nuclear phenomena it is impossible to raise public interest and awareness of nuclear science.
- The stakeholders and the public concerned must be involved as early as possible in the management approach for a site polluted by radioactive substances, in order to achieve a management or remediation solution that is jointly defined and, whenever possible, accepted. It is important that this involvement not be limited simply to information or awareness rising measures and that the highest possible level of public involvement be examined as and when necessary.
- Promote ongoing stakeholder/community involvement in decision making regarding climate change education, awareness & training at national and district levels. Stakeholders would include NGOs, private sector, government agencies, community groups, youth, etc.
- Government to provide opportunities for school teachers training for media and other professionals to involved in global problem of global warming, climate change and related issues.

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