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A Study of Environmental Awareness of Teachers Teaching In Primary and Secondary Schools of Allahabad District

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ABSTRACT

This paper titled "A study of environmental awareness of teachers teaching in primary and secondary schools of Allahabad district" is a descriptive study to find out the present status of environmental awareness in primary and secondary teachers teaching in primary and secondary schools of Allahabad. The population of the study was all the teachers teaching in primary and secondary schools of Allahabad. 134 primary and secondary teachers are selected by using stratified random sampling techniques to achieve the objective of the study. Environmental awareness test by Vipinder Nagra has been used to assess the environmental awareness among teachers. SPSS software was used to analyze the data of the study. On the basis of analysis of data important conclusions are: There is difference in the awareness towards the environment in primary and secondary teachers and the direction of difference was in favour of primary teachers of Allahabad. No significant difference in the awareness towards the environment in below 30 years and above 30 years primary and secondary teachers of Allahabad. There is no significant difference in the awareness towards the environment in male and female primary and secondary teachers of Allahabad. There is no significant difference in the awareness towards the environment in rural and urban primary and secondary teachers of Allahabad. There is significant difference in the awareness towards the environment in government and private primary and secondary teachers. The direction of awareness is in favour of private teachers teaching in primary and secondary school teachers of Allahabad

INTRODUCTION

Over the last 50 years, environmental education (EE) has been one of the main interests of school organizations, local communities, the private sector, and local governments. These organizations demand that schools include EE in the curriculum of K-12 education, but due to lack of a plan to establish an environmental education curriculum that unifies an effective approach to teaching environmental education. Most programs, according to the North American Association of Environmental Educators (NAAEE) (Ballard & Pandya, 1990), rely on a series of environmental activities that can be incorporated into any course within an existing curriculum. Such approaches are called "an interdisciplinary infusion of environmental topics" and as add-ins or add-ons crowd an already full curriculum (Disinger, 1997). The Intergovernmental Conference on Environmental Education (UNESCO, 1978) recommended the primary categories of environmental education curriculum goals and objectives of: (a) awareness, (b) knowledge, (c) attitudes, (d) skills, and (e) participation.

While these components have been cited in many documents, articles, and books in the last decade (Athman & Monroe, 2000; Callicott & Rocha, 1996; Day & Monroe, 2000; Gough, 1997; Palmer, 1998), not all authors agree upon the degree of importance of one objective over the other. The environment is the combination of living things which are closely related to human, animal and vegetation. One of the best ways of preservation is by creating environmental awareness among society especially students as they are future leaders (Thapa, 1999). Environmental awareness is one of components in strengthening sustainable development in any country. Sustainable development can be defined as developments that can be maintained which meet the needs of the present without damaging the environment or compromising the ability of future generations to meet their own needs. (The Bruntland Report 1987, Dale and Hill 2001, Giddings et al. 2002). Ultimately, this process rests in the hands of well-educated communities that can train their new generations toward becoming responsible environmental citizens. Curriculum theorists, including John Dewey, have long advocated the solution of social problems, along with the development of responsible members of a democracy, as the foundations of curriculum (Pinar, Reynolds, Slattery, & Taubman, 2000). Therefore, the role of education system especially teachers is to assume this responsibility. The focus of the current study raises the following questions. How can the concepts of awareness, knowledge, and attitude be used to improve curriculum objectives in environmental education?

OBJECTIVES OF THE STUDY

1. To study the Awareness of Environmental Education of Primary and Secondary School Teachers of Allahabad
2. To find out the Awareness of Environmental Education of below 30 year and above 30 year age groups School Teachers of Allahabad.
3. To compare the awareness of environmental education of Male and Female teachers teaching in primary and secondary schools of Allahabad
4. To find out Awareness of Environmental Education of Rural and Urban Teachers of Allahabad
5. To find out difference on Awareness of Environmental Education of Government and Private School Teachers of Allahabad

HYPOTHESES OF THE STUDY

1. There is no significance difference on Awareness of Environmental Education of Primary and Secondary School Teachers of Allahabad.
2. There is no significance difference on Awareness of Environmental Education of below 30 year and above 30 year age groups School Teachers of Allahabad.
3. There is no significance difference on Awareness of Environmental Education of Male and Female Teachers of Allahabad

4. There is no significance difference on Awareness of Environmental Education of Rural and Urban Teachers of Allahabad.
5. There is no significance difference on Awareness of Environmental Education of Government and Private School Teachers of Allahabad.

RESEARCH METHODOLOGY AND DESIGN

The present study comes under the category of descriptive research. The population of the study is all the teachers teaching in primary and secondary schools of Allahabad. 134 primary and secondary teachers are selected by using stratified random sampling techniques. The description of samples is given in the following table 1.

Table1: Sample Distribution of Selected Teachers of Schools in Allahabad District

Type of School	Type of Institutions	Gender	Locality				Total	
			Rural		Urban			
			No.	%	No.	%	No.	%
Primary School	Government	Male	4	3.0	6	4.5	10	7.5
		Female	2	1.5	2	1.5	4	3.0
		Total	6	4.5	8	6.0	14	10.4
	Private	Male	15	11.2	7	5.2	22	16.4
		Female	4	3.0	23	17.2	27	20.1
		Total	19	14.2	30	22.4	49	36.6
	Total	Male	19	14.2	13	9.7	32	23.9
		Female	6	4.5	25	18.7	31	23.1
		Total	25	18.7	38	28.4	63	47.0
Secondary School	Government	Male	9	6.7	13	9.7	22	16.4
		Female	7	5.2	21	15.7	28	20.9
		Total	16	11.9	34	25.4	50	37.3
	Private	Male	9	6.7	6	4.5	15	11.2
		Female	2	1.5	4	3.0	6	4.5
		Total	11	8.2	10	7.5	21	15.7
	Total	Male	18	13.4	19	14.2	37	27.6
		Female	9	6.7	25	18.7	34	25.4
		Total	27	20.1	44	32.8	71	53.0
Total	Government	Male	13	9.7	19	14.2	32	23.9
		Female	9	6.7	23	17.2	32	23.9
		Total	22	16.4	42	31.3	64	47.8
	Private	Male	24	17.9	13	9.7	37	27.6
		Female	6	4.5	27	20.1	33	24.6
		Total	30	22.4	40	29.9	70	52.2
	Total	Male	37	27.6	32	23.9	69	51.5
		Female	15	11.2	50	37.3	65	48.5
		Total	52	38.8	82	61.2	134	100.0

DATA ANALYSIS AND RESULT DISCUSSION:

Objective 1: To study the Awareness of Environmental Education of Primary and Secondary School Teachers of Allahabad

Hypothesis1: There is no significance difference on Awareness of Environmental Education of Primary and Secondary School Teachers of Allahabad.

The first objective of the study was to study the awareness of environmental education of primary and secondary school teachers of Allahabad. To achieve this objective data was analyses with the help of SPSS. The description is given in the following table1A.

Table 1A: School-wise Distribution of Environmental Awareness of Teachers of Schools in Allahabad

Category of Environmental Awareness	Type of School				Total	
	Primary School		Secondary School			
	No.	%	No.	%	No.	%
Very High Environmental Awareness	44	69.8	19	26.8	63	47.0
High Environmental Awareness	7	11.1	6	8.5	13	9.7
Above Average Awareness	5	7.9	11	15.5	16	11.9
Average Awareness	6	9.5	11	15.5	17	12.7
Below Average Awareness	1	1.6	3	4.2	4	3.0
Low Awareness	0	0.0	8	11.3	8	6.0
Very Low Awareness	0	0.0	13	18.3	13	9.7
Total	63	100.0	71	100.0	134	100.0

The descriptive analysis of the data was categorized in seven categories. Viz; Very High Environmental Awareness, High Environmental Awareness, Above Average Awareness, Average Awareness, Below Average Awareness, Low Awareness and Very Low Awareness. The above description indicates that 69.8% of primary teachers have Very High Environmental Awareness, 11.1% have High Environmental Awareness, 7.9% have above average Environmental Awareness, 9.5% have average Environmental Awareness, 1.6% have below average Environmental Awareness, no teachers have low and very Environmental Awareness.

It can be also revealed from the above table that 26.8% of secondary teachers have Very High Environmental Awareness, 8.5% have High Environmental Awareness, 15.5% have above average Environmental Awareness, 15.5% have average Environmental Awareness, 4.2% have below average Environmental Awareness, 11.3% teachers have low Environmental Awareness and 18.3% teachers have very low Environmental Awareness. From the above description and analysis it can be concluded that environmental awareness of primary and secondary teachers have different level of awareness towards environment. In order to

confirm it, we further analyses the data by applying inferential statistics and results are described the table 1B.

Table 1B: Mean, SD, SE_M and t-value of 'Environmental Education Awareness' among Primary and Secondary School Teachers

Type of Schools	No.	Mean	SD	SE_M	t	df	p
Primary School	63	70.62	9.94	1.25	6.818	132	0.000*
Secondary School	71	53.14	18.06	2.14			

*** Significance level .05.**

Observation of the table 1B indicates that mean and SD of environmental awareness scores of primary and secondary teachers are 70.62, 9.94; 53.14, 18.06 and standard errors are 1.25 and2.14. The calculated t-value is 6.818 which are greater than the required value (2.63). Thus it can be concluded that there is difference in the awareness towards the environment in primary and secondary teachers and the direction of difference was in favour of primary teachers. Sindhu and Singh (2014) concluded that rural boys and urban boys of secondary schools regarding awareness towards environmental education, it was found that there exists no significant difference between rural boys and urban boy's student regarding awareness towards environmental education Thus the Ho1 is rejected.

Objective 2: To find out the Awareness of Environmental Education of below 30 year and above 30 year age groups School Teachers of Allahabad.

Hypothesis 2: There is no significance difference on Awareness of Environmental Education of below 30 year and above 30 year age groups School Teachers of Allahabad.

The second objective of the study was to find out the awareness of environmental education of below 30 year and above 30 year age groups school teachers of Allahabad. To achieve this objective data was analyses with the help of spss. The description is given in the following table2A.

Table 2A: Age-wise Distribution of Environmental Awareness of Teachers of Schools in Allahabad

Category of Environmental Awareness	Age Groups				Total	
	18 to 30 year		Above 30 year			
	No.	%	No.	%	No.	%
Very High Environmental Awareness	20	57.1	43	43.4	63	47.0
High Environmental Awareness	2	5.7	11	11.1	13	9.7
Above Average Awareness	4	11.4	12	12.1	16	11.9
Average Awareness	6	17.1	11	11.1	17	12.7
Below Average Awareness	2	5.7	2	2.0	4	3.0
Low Awareness	1	2.9	7	7.1	8	6.0
Very Low Awareness	0	0.0	13	13.1	13	9.7
Total	35	100.0	99	100.0	134	100.0

Observation and above description indicates that 57.1% of primary teachers have Very High Environmental Awareness, 5.7% have High Environmental Awareness, 11.4% have above average Environmental Awareness, 17.1% have average Environmental Awareness, 5.7% have below average Environmental Awareness, 2.9% teachers have low and no teachers have very Environmental Awareness.

It can be also revealed from the above table that 43.4% of secondary teachers have Very High Environmental Awareness, 11.1% have High Environmental Awareness, 12.1% have above average Environmental Awareness, 11.1% have average Environmental Awareness, 2.0% have below average Environmental Awareness, 7.1% teachers have low Environmental Awareness and 13.1% teachers have very low Environmental Awareness. From the above description and analysis it can be concluded that environmental awareness of primary and secondary teachers have different level of awareness towards environment. In order to confirm it, we further analyses the data by applying inferential statistics and results are described the table 2B.

Table 2B: ***Mean, SD, SE_M and t-value of 'Environmental Education Awareness' among below 30 year and above 30 year age groups of Teachers***

Age Groups	No.	Mean	SD	SE_M	t	df	p
18 to 30 year	35	66.26	13.76	2.33	1.987	132	0.049*
Above 30 year	99	59.63	17.95	1.80			

*** Significance level .05.**

Observation of the table 2B indicates that mean and SD of environmental awareness scores of below 30 years and above 30 years primary and secondary teachers are 66.26, 13.76; 59.63, 17.95and standard errors are 2.33 and 1.80. The calculated t-value is 1.987 which are less than the required value (2.63). *Thus it can be concluded that there is no significant difference in the awareness towards the environment in* below 30 years and above 30 years *primary and secondary teachers.* Sindhu and Singh (2014) concluded that urban and rural students of secondary schools regarding awareness towards environment education. It was found that there exists significant difference between urban and rural students of secondary schools regarding awareness towards environmental education. Thus the Ho2 is accepted.

Objective 3: To compare the awareness of environmental education of Male and Female teachers teaching in primary and secondary schools of Allahabad

Hypothesis 3: There is no significance difference on Awareness of Environmental Education of Male and Female Teachers of Allahabad.

The third objective of the study is to compare the awareness of environmental education of male and female teachers teaching in primary and secondary schools of Allahabad. To achieve this

objective data was analyses with the help of SPSS. The description is given in the following table 3A.

Table 3A: Gender-wise Distribution of Environmental Awareness of Teachers of Schools in Allahabad

Category of Environmental Awareness	Gender				Total	
	Male		Female			
	No.	%	No.	%	No.	%
Very High Environmental Awareness	31	44.9	32	49.2	63	47.0
High Environmental Awareness	7	10.1	6	9.2	13	9.7
Above Average Awareness	9	13.0	7	10.8	16	11.9
Average Awareness	11	15.9	6	9.2	17	12.7
Below Average Awareness	2	2.9	2	3.1	4	3.0
Low Awareness	3	4.3	5	7.7	8	6.0
Very Low Awareness	6	8.7	7	10.8	13	9.7
Total	69	100.0	65	100.0	134	100.0

Observation and above description indicates that 44.9% of male teachers have Very High Environmental Awareness, 10.1% have High Environmental Awareness, 13.0% have above average Environmental Awareness, 15.9% have average Environmental Awareness, 2.9% have below average Environmental Awareness, 4.3% teachers have low and 8.7% male teachers have very Environmental Awareness.

It can be also revealed from the above table that 49.2% of female teachers have Very High Environmental Awareness, 9.2% have High Environmental Awareness, 10.8% have above average Environmental Awareness, 9.2% have average Environmental Awareness, 3.1% have below average Environmental Awareness, 7.7% teachers have low Environmental Awareness and 10.8% female teachers have very low Environmental Awareness. From the above description and analysis it can be concluded that environmental awareness of primary and secondary teachers have different level of awareness towards environment. In order to confirm it, we further analyses the data by applying inferential statistics and results are described the table 3B.

Table 3B: Mean, SD, SE_M and t-value of 'Environmental Education Awareness' among Male and Female Teachers

Gender	No.	Mean	SD	SE_M	t	df	p
Male	69	61.84	16.87	2.03	0.334	132	0.739
Female	65	60.85	17.58	2.18			

Observation of the table 3B indicates that mean and SD of environmental awareness scores of male and female primary and secondary teachers are 61.84, 16.87; 60.85, 17.58 and standard errors are 2.03 and 2.18. The calculated t-value is 0.334 which are less than the required value (2.63). *Thus it can be concluded that there is no significant difference in the awareness towards the environment in male and female primary and secondary teachers.* Contrary results were found by Astalin (2011) which indicates that The CBSE students had more environmental awareness in comparison to UP Board students. Parent's group of students

belonging to literate, undergraduate, post graduate and research had more environmental awareness in comparison to parent's group of students belonging to high school and intermediate and the male students had also more environmental awareness in comparison to female students. Sindhu and Singh (2014) concluded that making the comparison between rural boys and girls of secondary level regarding awareness towards environmental education, it was found that there exists no significant difference between girls and boys student of secondary level. Thus the Ho3 is accepted.

Objective 4: To find out Awareness of Environmental Education of Rural and Urban Teachers of Allahabad

Hypothesis 4: There is no significance difference on Awareness of Environmental Education of Rural and Urban Teachers of Allahabad.

The fourth objective of the study is to find out awareness of environmental education of rural and urban teachers of Allahabad. To achieve this objective data was analyses with the help of SPSS. The description is given in the following table 4A.

Table 4A: Area-wise Distribution of Environmental Awareness of Teachers of Schools in Allahabad District

Category of Environmental Awareness	Area				Total	
	Rural		Urban			
	No.	%	No.	%	No.	%
Very High Environmental Awareness	28	53.8	35	42.7	63	47.0
High Environmental Awareness	4	7.7	9	11.0	13	9.7
Above Average Awareness	5	9.6	11	13.4	16	11.9
Average Awareness	10	19.2	7	8.5	17	12.7
Below Average Awareness	2	3.8	2	2.4	4	3.0
Low Awareness	1	1.9	7	8.5	8	6.0
Very Low Awareness	2	3.8	11	13.4	13	9.7
Total	52	100.0	82	100.0	134	100.0

Observation and above description indicates that 53.8% of male teachers have Very High Environmental Awareness, 7.7% have High Environmental Awareness, 9.6% have above average Environmental Awareness, 19.2% have average Environmental Awareness, 3.8% have below average Environmental Awareness, 1.9% teachers have low and 3.8% rural primary and secondary teachers have very Environmental Awareness.

It can be also revealed from the above table that 42.7% of female teachers have Very High Environmental Awareness, 11.0% have High Environmental Awareness, 13.4% have above average Environmental Awareness, 8.5% have average Environmental Awareness, 2.4% have below average Environmental Awareness, 8.5% teachers have low Environmental Awareness and 13.4% urban teachers have very low Environmental Awareness. From the above description and analysis it can be concluded that environmental awareness of primary and

secondary teachers have different level of awareness towards environment. In order to confirm it, we further analyses the data by applying inferential statistics and results are described the table 4B.

Table 4B: Mean, SD, SE_M and t-value of 'Environmental Education Awareness' among Rural and Urban Teachers

Area	No.	Mean	SD	SE_M	t	df	p
Rural	52	64.23	14.18	1.97	1.551	132	0.123
Urban	82	59.54	18.66	2.06			

*** Significance level .05.**

Observation of the table 4B indicates that mean and SD of environmental awareness scores of rural and urban primary and secondary teachers are 64.23, 14.18; 59.54, 18.66 and standard errors are 1.97 and 2.06. The calculated t-value is 1.551which are less than the required value (2.63). *Thus it can be concluded that there is no significant difference in the awareness towards the environment in rural and urban primary and secondary teachers.* Gupta (1986) studied attitude of teachers towards environmental education and he found the majority of teachers showed a favourable attitude towards environmental education. Shahnawaj (1990) studied environmental awareness and environmental attitude of secondary and higher secondary school teachers and students. A comparative study of attitude towards population education and environmental education and family planning of different levels of workers in specific occupations was studied by Singh Gulzar (1991). Thus the Ho4 is accepted.

Objective 5: To find out difference on Awareness of Environmental Education of Government and Private School Teachers of Allahabad

Hypothesis 5: There is no significance difference on Awareness of Environmental Education of Government and Private School Teachers of Allahabad.

The fifth objective of the study is to find out difference on Awareness of Environmental Education of Government and Private School Teachers of Allahabad. To achieve this objective data was analyses with the help of SPSS. The description is given in the following table 5A.

Table 5A: Type of Institution (Govt. & Pvt. school)-wise Distribution of Environmental Awareness of Teachers of Schools in Allahabad

Category of Environmental Awareness	Type of Institution				Total	
	Government		Private			
	No.	%	No.	%	No.	%
Very High Environmental Awareness	19	29.7	44	62.9	63	47.0
High Environmental Awareness	5	7.8	8	11.4	13	9.7
Above Average Awareness	7	10.9	9	12.9	16	11.9
Average Awareness	9	14.1	8	11.4	17	12.7
Below Average Awareness	3	4.7	1	1.4	4	3.0
Low Awareness	8	12.5	0	0.0	8	6.0
Very Low Awareness	13	20.3	0	0.0	13	9.7
Total	64	100.0	70	100.0	134	100.0

Observation and above description indicates that 29.7% of government teachers have Very High Environmental Awareness, 7.8% have High Environmental Awareness, 10.9% have above average Environmental Awareness, 14.1% have average Environmental Awareness, 4.7% have below average Environmental Awareness, 12.5% teachers have low and 20.3% government primary and secondary teachers have very Environmental Awareness.

It can be also revealed from the above table that 62.9% of private teachers have Very High Environmental Awareness, 11.4% have High Environmental Awareness, 12.9% have above average Environmental Awareness, 11.4% have average Environmental Awareness, 1.4% have below average Environmental Awareness, no teachers have low Environmental Awareness and no urban teachers have very low Environmental Awareness. From the above description and analysis it can be concluded that environmental awareness of primary and secondary teachers have different level of awareness towards environment. In order to confirm it, we further analyses the data by applying inferential statistics and results are described the table 5B.

Table 5B: Mean, SD, SE_M and t-value of 'Environmental Education Awareness' among Government and Private School Teachers

Type of Institution	No.	Mean	SD	SE_M	t	df	p
Government	64	52.67	18.74	2.34	6.387	132	0.000*
Private	70	69.30	10.62	1.27			

*** Significance level .05.**

Observation of the table 5B indicates that mean and SD of environmental awareness scores of government and private primary and secondary teachers are 52.67, 18.74; 69.30, 10.62and standard errors are 2.34and 1.27. The calculated t-value is 6.387 which are greater than the required value (2.63). *Thus it can be concluded that there is significant difference in the awareness towards the environment in government and private primary and secondary teachers. The direction of awareness is in favour of private teachers teaching in primary and secondary schools of Allahabad.*

RESULTS:

1. There is difference in the awareness towards the environment in primary and secondary teachers and the direction of difference was in favour of primary teachers of Allahabad.
2. There is no significant difference in the awareness towards the environment in below 30 years and above 30 years primary and secondary teachers of Allahabad.
3. There is no significant difference in the awareness towards the environment in male and female primary and secondary teachers of Allahabad.
4. There is no significant difference in the awareness towards the environment in rural and urban primary and secondary teachers of Allahabad.

5. There is significant difference in the awareness towards the environment in government and private primary and secondary teachers. The direction of awareness is in favour of private teachers teaching in primary and secondary school teachers of Allahabad.

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