

**ENVIRONMENT AWARENESS AMONG SECONDARY SCHOOL TEACHERS IN CHITTOOR DISTRICT**

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**ABSTRACT**

*This study sought to determine the Environmental awareness in the bases of Gender, Residence, Qualification and Type of service Among Secondary Grade school teachers in Chittoor district. Four hundred and eighty teachers took part in the study. Teachers were chosen using stratified random sampling technique. A 3-point scale questionnaire was used to collect data. Means, standard deviations, t-test, were used to analyze the results. The t- test showed no significant differences in teachers' bases of gender in male and female school teachers except in Thermal component. Similarly, the t test showed no significant differences in teachers' bases of Gender Residence, Qualification and Type of service.*

**Keywords**

*Environmental awareness, Secondary Grade School teachers, Chittoor*

**Introduction**

Environment is the vital component of society. Nature provides everything that all living being need, not only for self-sustenance but also for making their life fully comfortable. Nature is composed of five elements, air, land, water, flora and fauna which are interconnected and interrelated with each other. If there is disturbance in any one, it affects the other elements and entire environment. Nature allows all living beings free access to valuable resources. However, man's desire for joy and comfortable life, he exploits nature's free goods to the extent of reducing its natural capacities for self-stabilization. With the global acceleration of industrialization, use of technology and deforestation, indiscriminate constructions, use of chemical weapons lead to environmental problems and resources storage is reaching to critical point. Man has exploited the natural environment as per his will, which results several environmental disorders ever growing. Pollution is making the earth unsuited to healthy life and rivers and lakes to dry.

Decades ago, when environment was not a buzz word, Mahatma Gandhi said, "The earth provides enough to satisfy everyman's needs, but not everyman's greed". All the efforts of the government are targeted towards "Sustainable Development" of economics, societies, institutions and industries. Time has come to ensure that the concepts and education for sustainability in the broadest sense are discussed. Environment protection starts by creating awareness among the people so that it becomes part of their lifestyle. The key to achieving this goal lies in environmental education and its related program. The objective of environmental education includes awareness, knowledge, attitudes, skills and participation of people in protecting the environment. The future generations shall have to reap the harvest of unplanned and insensitive approach that has irreparably damaged the relationship and harmony of human beings with the nature. The evil-effect is evident and future potentialities of destruction are immense. As is always the case, education is supposed to provide the solution. Consequently, educational pressures world over are now focusing on environment, its conservation and protection in their curricular (Sarla Rajput, 2004). The modern perception with respect to education about environment started way back in 1899 in small way by a Scottish Professor of Botany. He was of the opinion that interconnecting the child with his environment can help him know the realities of environment and develop a positive attitude towards it. The message got spread to other countries too. But it was accepted at the

international level only in 1972 when United Nations made efforts at the large scale by involving different countries.

According to this Charter the purpose, of this kind of education is 'to develop a world population that is aware of and concerned about the environment and its associated problems, and which has the knowledge, skills, attitude, motivations and commitment to work individually' and collectively towards solutions of current problems and prevention of new ones' (Singh, 1999). Environmental awareness and understanding among the people are, at once, consequences of environmental education and influences on the environmental educational process. Curriculum in educational institutions would necessarily change with the support of well-informed people. Common information and shared understandings are therefore important not only for mobilizing public support, but also for carrying out consultative work and participatory approaches in all fields (Sharma, 2003).

The rest of the paper is organised as follows. Section 2 describes the review of related literature; Section 3 describes the research methodology; Section 4 presents and discusses the findings and Section 5 concludes the paper

### **Literature Review**

#### **Gender**

Dhillon and Sandhu (2005) conducted a study to assess environmental education awareness among elementary school teachers and found that there was no significant difference was observed in the environmental education awareness between male and female teachers

Patel and Patel (1994) examined the environmental awareness of 120 primary school teachers of standards I to IV and found that male teachers with long school experience, in urban areas, are more aware about the environmental education.

Pradhan (2002) analyzed the environmental awareness among secondary school teachers and found that teachers working in secondary schools had low awareness about environmental problems. There was no significant difference in environmental awareness between male and female teachers showed no such differences.

Shaila (2003) studied the effect of background variables on the environmental attitude of secondary school teachers and found that there is no significant difference between male and female teachers with regard to their environmental awareness

Larijani and Yeshodhara (2008) studied the environmental attitude of Indian and Iranian higher primary school teachers in various components and found Male and female teachers differed significantly in most of the factors except population explosion, and total attitude scores.

Nagra (2010) identified the environmental education awareness among school teachers in relation to level of school, residential background, gender and subject specialization. Analysis of variance results revealed significant variation in the environmental education awareness level of school teachers in relation to their level, residential background and subject specialization. However, no significant variation was observed in relation to the gender of school teachers.

#### **Residence**

Sabhlok Rou (1995) found that urban teachers differed significantly from rural and tribal teachers on their awareness of environmental problems. No difference was observed between rural teachers and the tribal teachers whereas (Dinakara, 2000) reported significant difference them.

Pradhan (2002) analyzed the there was a significant difference in environmental awareness between social science, language and science teachers, and rural and urban teachers.

Dhillon and Sandhu (2005) conducted a study to assess environmental education awareness among elementary school teachers and found that there was significant difference in environmental education awareness between urban and rural school teachers

**Qualification**

Badr Hel, S. (2003) assessed the level of environmental awareness among high school teachers in Kuwait; to study the extent of their environmental worry; and to evaluate the relationship between their environmental awareness and worry, and how they vary with different socio-demographic variables. A cross sectional study of 461 high school teachers was conducted using a random multistage cluster sample design. The target population comprised public high school teachers (males and females) in 2 governorates, Hawalli and Ahmadi. Data collection was performed using a structured anonymous self-administered questionnaire covering the environmental awareness and environmental worry checklists. The sample involved 499 teachers. About 60% of the teachers had high level of environmental awareness and almost half of them had high level of environmental worry. Both scores increased with increasing age, years of experience, level of education of the spouse, presence of children and being non-Kuwaiti.

**Type of Service**

Maryam Larijani(2010) studied the environmental awareness of higher primary school teachers of Mysore City in India showed teachers working in private schools found to have significantly higher environmental awareness than teachers working in government schools. Implications of environmental education were also stressed.

**Research Methodology**

**Sample Design**

The study was conducted on a random sample of 480 secondary school teachers selected randomly from the detailed list of all the government and private secondary schools of the Chittoor district

**Table 1:Variable wise Sample Distribution of Teachers**

Variable	Category	Number	Total
Gender	Male	240	480
	Female	240	
Residence	Urban	218	480
	Rural	262	
Qualification	Degree	264	480
	PG	216	
Type of Service	Permanent	434	480
	Temporary	46	

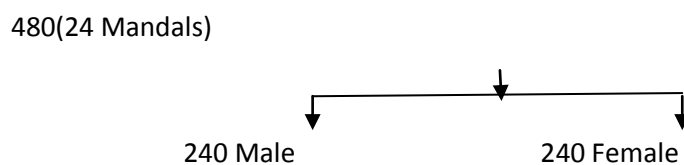
Source:Author’s computations

Table 1shows the total sample consists of 480 subjects of which 240 are men and 240 are women that is 50% are males and 50% are females, 218(45.40%) members belongs to urban area and remaining 262(54.60%) belongs to rural place, 55.0% have Degree Qualification and 45.0% of people have Post Graduation as their Qualification and 90.40% of subjects have permanent type of service and 9.60% of subjects are in temporary service

### Sample Selection

A sample may be constituted any number of persons, units or objects selected to represent the population according to a fixed rule or plan. In the present study, it is aimed to study environmental awareness on various types of components-General, Air, Water, Industrial, Sound and Thermal

The researcher confined the study only to Chittoor district of Andhra Pradesh consists of 24 mandals. All the teachers working in secondary school level including Permanent Government and Private schools constitute the population. By adopting stratified random sampling technique the investigator selected from each mandal of the district. In the second stage from the teachers working in each of the school, ten teachers male and female were selected. From the population, 480 teachers teaching only secondary schools were selected for the present study. The sample also includes 240 male and 240 female teachers. Thus the sample is selected by following stratified random sampling procedure. The same is shown below.



### Research Tool

Research tools are many kinds of collecting the required data. Each tool is particular1y appropriate for certain sources of data, yielding information of the kind and in the form that would be most effectively used. Many of the tools of research have been designed to yield quantitative measures.

Though many tools are available the researcher developed instrument namely Environmental Awareness Scale to collect data from different environmental components regarding Environmental awareness among secondary school teachers

The preliminary form of the Environmental awareness tool broadly covers 6 major areas namely(1) General awareness-43 items (2) Air Pollution-16 items (3)Water Pollution -9 items (4) Industrial Pollution-4 items (5) Sound Pollution-4 Items and (6)Thermal Pollution-3 items. Thus the total number of the items in the tool is 79 items. It is a 3 point scale with three alternatives viz. Agree, Undecided and Dis Agree.The Items are given in the form of statements. **Validity:**

In order to validate the items for their comprehension, structure, grammar and the clarity of their meaning, the inventory was presented to a panel of 15 experts consists of experienced secondary school teachers. The experts were requested to go through the items and suggest the modifications to be carried out if any. Their suggestions were incorporated and modified the items accordingly. Thus both the content validity and face validity of the Environmental Awareness Scale were established.

### Reliability

The most indispensable characteristic of any measuring instrument. A test is reliable if it measures efficiently what it purports to measure or what it does measure. Reliability is expressed as a coefficient of correlation which is called reliability coefficient. The coefficient was estimated using Kuder Richardson Formula. The calculated reliability is 0.986 From this it can be understood that the Environmental Awareness Scale is a reliable one.

**Pilot Study**

The selection of the items was based on the results of item analysis, which provides an index of item discrimination. Since the discriminative power of each item was to be determined, the sample was classified into high group and low group.

First, the total scripts (370) were arranged in an ascending order on the basis of the total score obtained by the teachers on the Environmental Awareness Scale. The upper 25 percent of the papers were considered as the high group and the lower 27 percent of the papers were considered as the low group. The rest were excluded from the analysis. These two groups provide criterion groups from which to evaluate the individual item. Calculation of t-value for all the items was carried out by using SPSS package. Out of 79 items 9 which were having the discrimination value less than 3.3424 were deleted from the preliminary form and retained 70 items for the final form of the tool. Thus, the tool was standardized before administering to the respective group of subjects.

**Results and Discussions**

This section presents and discusses the results of the study.

**Table 2:Significance of the Differences between Male and Female Teachers on the Environmental awareness among secondary school teachers**

	Gender	N	Mean	S.D	t-value	
Total Awareness	Male	240	219.710	14.617	3.321**	0.001
General	Female	240	224.120	14.439	2.890**	0.004
	Male	240	131.460	8.544		
Air	Female	240	133.730	8.637	2.826**	0.005
	Male	240	24.990	2.146		
Water	Female	240	25.520	1.951	3.593**	0.000
	Male	240	29.700	3.069		
Industrial	Female	240	30.670	2.847	1.990*	0.047
	Male	240	11.190	1.194		
Sound	Female	240	11.390	1.000	2.444*	0.015
	Male	240	16.760	1.603		
Thermal	Female	240	17.080	1.294	1.779@	0.076
	Male	240	5.620	0.710		
	Female	240	5.730	0.675		

@Not significant at 0.005 level \*\*Significant at 0.005 level \* significant at 0.001 level

Source: Author’s computation

From Table 2: the above mean values it is very clear that in all the components female teachers reported higher than male teachers. It may be because they are socialized to take care of their environment. The graphical representation shows the mean score of the male and female Secondary school Teachers. The t-test was carried out to see the significance gender wise differences with regard to environment. The above table shows gender wise differences with regard to awareness about the environment, the component of awareness includes general, air,

water, industrial, sound and thermal etc., the means and standard deviation and t values with regard to different components were analysed and presented in table. There are significant gender wise differences with regard to different components of environment. There are significant differences in the components like awareness (t= 3.321); general (t=2.890 ); air(t= 2.826), water(t= 3.593 ), industrial(t=1.990), sound (t=2.444) except in the thermal component (t=1.779). These findings shows that there is no significant difference between male and female teachers with respect to the Environmental awareness except in the Thermal component.The findings supports with the results of Dhillon and Sandhu (2005) ,Patel and Patel (1994), Pradhan (2002) , Shaila (2003),Larijani and Yeshodhara (2008) and Nagra (2010)

**Table 3:Significance of the Differences between Urban and Rural teachers on the Environmental awareness among Secondary school teachers**

Residence wise Difference								
	Place	N	Mean	Std. Deviation	Std. Error Mean	t-value	p value	sig
Total Awareness	Urban	218	221.57	15.025	1.018	0.464	0.643	@
	Rural	262	222.2	14.408	0.89			
General	Urban	218	132.66	8.515	0.577	0.148	0.882	@
	Rural	262	132.54	8.788	0.543			
Air	Urban	218	25.2	2.134	0.145	0.530	0.596	@
	Rural	262	25.3	2.01	0.124			
Water	Urban	218	29.9	3.245	0.22	1.884	0.060	@
	Rural	262	30.42	2.757	0.17			
Industrial	Urban	218	11.19	1.265	0.086	1.803	0.072	@
	Rural	262	11.37	0.945	0.058			
Sound	Urban	218	16.9	1.659	0.112	0.234	0.815	@
	Rural	262	16.94	1.283	0.079			
Thermal	Urban	218	5.72	0.628	0.043	1.374	0.170	@
	Rural	262	5.64	0.744	0.046			

@Not significant at 0.005 level \*\*Significant at 0.005 level \* significant at 0.001 level

Source: Author's computation

From the above table 3- it can be understand that the mean scores of rural background (222.2) teachers with respect to the environment awareness is slightly higher compared to urban teachers (221.5) .The graphical representation shows the mean values of Urban and rural secondary school teachers. The t-test was carried out to see the residence wise differences with regard to environment. The table shows residence wise differences with regard to awareness about the environment, the component of awareness include general, air, water, industrial, sound and thermal etc., the means and standard deviation and t values with regard to different components were analysed and presented in table. There are significant gender wise differences with regard to different components of environment. There are no significant differences in the components like total awareness (t=0.464 ); general (t=0.882 ); air (t=0.596), water (t= 0.060 ), industrial (t=0.072), sound (t=0.0815) and thermal component (t=0.170). From this we can conclude that there is no significant difference between urban and female teachers with respect to the Environment awareness.Our findings does not support the results of Sabhlok Rou(1995),Dinakara(2000) ,Pradhan(2002) and Dhillon and Sandhu(2005)



**Table 4:Significance of the Differences between Degree and Post graduation Qualification on the Environmental awareness among secondary school teachers**

Qualification wise Difference								
	Qualification	N	Mean	Std. Deviation	Std. Error Mean	t-value	p value	sig
Total Awareness	Degree	264	221.96	15.256	0.939	0.072	0.943	@
	PG	216	221.86	13.978	0.951			
General	Degree	264	132.48	9.019	0.555	0.320	0.749	@
	PG	216	132.73	8.211	0.559			
Air	Degree	264	25.3	2.045	0.126	0.597	0.551	@
	PG	216	25.19	2.095	0.143			
Water	Degree	264	30.32	3.101	0.191	1.073	0.284	@
	PG	216	30.02	2.862	0.195			
Industrial	Degree	264	11.3	1.081	0.067	0.257	0.797	@
	PG	216	11.27	1.135	0.077			
Sound	Degree	264	16.9	1.464	0.09	0.319	0.750	@
	PG	216	16.94	1.468	0.1			
Thermal	Degree	264	5.66	0.733	0.045	0.627	0.531	@
	PG	216	5.7	0.645	0.044			

@Not significant at 0.005 level \*\*Significant at 0.005 level \* significant at 0.001 level

Source: Author’s computation

From the above table 4- it can be understood that the mean scores of Degree Qualified teachers (221.9) with respect to the environment awareness is slightly higher compared to Post Graduated teachers (221.8) it means that Qualification did not have much impact on Environmental awareness. The graphical representation shows the mean values of Degree and Post Graduated secondary school teachers. The t-test was carried out to see the residence wise differences with regard to environment. The table shows Qualification wise differences with regard to awareness about the environment, the component of awareness include general, air, water, industrial, sound and thermal etc., the means and standard deviation and t values with regard to different components were analysed and presented in table. There are no significant Qualification wise differences with regard to different components of environment. There are no significant differences in the components like total awareness (t=0.072 ); general (t=0.320 ); air(t=0.597), water(t=1.073), industrial(t=0.257), sound (t=0.319) and thermal component (t=0.627). So, there is no significant difference between Degree and Post Graduated teachers with respect to the Environment awareness. Our findings contradict with the results of Badr Hel, S. (2003)

**Table 5:Significance of the Differences between Permanent and Temporary Type of Service the Environmental awareness among secondary school teachers**

Type of Service wise Difference								
	Type of Service	N	Mean	Std. Deviation	Std. Error Mean	t-value	p value	sig
Total Awareness	Permanent	434	221.89	14.77	0.709	0.115	0.908	@
	Temporary	46	222.15	13.952	2.057			
General	Permanent	434	132.58	8.715	0.418	0.103	0.918	@
	Temporary	46	132.72	8.172	1.205			
Air	Permanent	434	25.25	2.048	0.098	0.045	0.964	@
	Temporary	46	25.24	2.253	0.332			
Water	Permanent	434	30.21	2.994	0.144	0.441	0.659	@
	Temporary	46	30	3.048	0.449			
Industrial	Permanent	434	11.27	1.136	0.055	1.233	0.218	@
	Temporary	46	11.48	0.722	0.106			
Sound	Permanent	434	16.9	1.476	0.071	1.021	0.308	@
	Temporary	46	17.13	1.343	0.198			
Thermal	Permanent	434	5.69	0.692	0.033	0.926	0.355	@
	Temporary	46	5.59	0.717	0.106			

@Not significant at 0.005 level \*\*Significant at 0.005 level \* significant at 0.001 level

Source: Author’s computation

From the above table 5- it is examined that the mean scores of Temporary teachers (222.1) with respect to the environment awareness is slightly higher compared to Permanent teachers (221.8) .The graphical representation shows the mean values of Permanent and Temporary school teachers. The t-test was carried out to see the residence wise differences with regard to environment. The table shows Qualification wise differences with regard to awareness about the environment, the component of awareness include general, air, water, industrial, sound and thermal etc., the means and standard deviation and t values with regard to different components were analysed and presented in table. There are no significant Type of Service wise differences with regard to different components of environment. There are no significant differences in the components like total awareness (t=0.115); general (t=0.103); air(t=0.045), water(t=1.223), industrial(t=1.021), sound (t=0.308) and thermal component (t=0.926). Hence,there is no significant difference between Permanent and Temporary teachers with respect to the Environment awareness.Our findings contradicts with Maryam Larijani(2010) results

### Conclusion

The results of this study revealed that there is no significant impact of Residence,Professional Qualification, Subject Handling, Type of Service, teachers on Environmental awareness among secondary grade school teachers in all components. Significant effect was observed with regard to sex only in the Thermal component



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