

AWARENESS ON UTILIZATION OF COMMUNITY RESOURCES AND THEIR ACHIEVEMENT IN TEACHING CHEMISTRY AT SECONDARY SCHOOL LEVEL

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ABSTRACT

The main objective of the study was to find out whether there is any significant relationship between utilization of community resources in teaching chemistry and students achievement. The investigator has adopted the survey method. The population of the present study includes all the high and higher secondary school chemistry handling teachers and their students of Thoothukudi district. Four tools were developed by the investigators were used to study the variables. t-test, F-test were used for analysis of data. The findings of the study were: there is a significant difference between rural and urban secondary level chemistry teachers in environmental resources, there is a significant difference among government, aided and matriculation secondary level chemistry teachers in their utilization of health resources, energy resources, chemical resources, environmental resources, human resources and community resources, there is significant difference between Tamil and English medium standard X students in achievement in Chemistry.

INTRODUCTION

Chemistry is an essential branch of Science. Chemistry deals with the matter that forms our environment and the transformation that the matter undergoes. Chemistry is, therefore, helpful in understanding the changes in the environment's constituents and the resulting advantages. The proper utilization of community resources by the school may prove to be a big helping hand in the education and welfare of the students. Community resources include every community situation where the children apply an intellectual or social skill and every knowledge that allows them to express their feelings and clarify their values (Kaltsounis, 1979).

Rationale of the study

The Kothari commission (1964-1966) states, “ If science is poorly taught and badly learnt, it is little more than burdening the mind with dead information and it could degenerate even into new superstitions”. The latest slogan in education in all the progressive countries is “let us study the community, use the community, serve the community and involve the community in the educational process”. Community resources and experiences can enrich science instruction. Indeed, there are many who feel that there is an unacceptable gap now between the chemistry that is taught in many students and the chemistry that is being pursued, whether it is academic, industrial or environmental. Imagination and creativity in using community resources can help students

connect school chemistry with applications in the community, as well as helping students better learn to basic concepts.

Statement of the Problem

Awareness on Utilization of Community Resources and their achievement in teaching Chemistry at Secondary School level.

Objectives

1. There is significant difference between rural and urban secondary level chemistry teachers in their utilization of health resources, energy resources, chemical resources, environmental resources, human resources, scientific attitude and community resources.
2. There is significant difference among government, aided and matriculation school secondary level chemistry teachers in their utilization of health resources, energy resources, chemical resources, environmental resources, human resources, scientific attitude and community resources.
3. There is significant difference between Tamil and English medium school students of standard X in their achievement in chemistry.

Hypothesis

1. There is no significant difference between rural and urban secondary level chemistry teachers in their utilization of health resources, energy resources, chemical resources, environmental resources, human resources, scientific attitude and community resources.
2. There is no significant difference among government, aided and matriculation school secondary level chemistry teachers in their utilization of health resources, energy resources, chemical resources, environmental resources, human resources, scientific attitude and community resources.
3. There is no significant difference between Tamil and English medium school students of standard X in their achievement in chemistry.

Methodology of the study

The investigator has adopted the survey method for the present study. The population of the study consists of all secondary school chemistry teachers in Thoothukudi district. The sample consists of 200 secondary level chemistry teachers and 550 IX standard students. Multistage random sampling technique was used. A questionnaire and achievement test were used to find the awareness on utilization of community resources and their achievement respectively. The investigators constructed and validated the tools. t-test and F test were used for the present study.

Analysis of the data

TABLE-1 Difference between rural and urban secondary level chemistry teachers in their utilization of health resources, energy resources, chemical resources, environmental resources, human resources, scientific attitude and community resources.

Table 4.29

DIFFERENCE BETWEEN RURAL AND URBAN SECONDARY LEVEL CHEMISTRY TEACHERS IN THEIR UTILIZATION OF HEALTH RESOURCES, ENERGY RESOURCES, CHEMICAL RESOURCES, ENVIRONMENTAL RESOURCES, HUMAN RESOURCES, SCIENTIFIC ATTITUDE AND COMMUNITY RESOURCES

Community Resources and its Dimensions	Locality of the School	Mean	SD	N	Calculated 't' value	Table Value at 5% level	Remark
Health Resources	Rural	11.33	2.59	126	0.25	1.96	NS
	Urban	11.43	2.78	74			
Energy Resources	Rural	14.52	3.47	126	0.29	1.96	NS
	Urban	14.66	3.20	74			
Chemical Resources	Rural	29.17	5.99	126	1.00	1.96	NS
	Urban	28.31	5.89	74			
Environmental Resources	Rural	11.37	2.52	126	3.03	1.96	S
	Urban	12.61	2.96	74			
Human Resources	Rural	15.17	3.22	126	0.64	1.96	NS
	Urban	15.51	3.95	74			
Scientific Attitude	Rural	10.11	2.12	126	1.84	1.96	NS
	Urban	10.81	2.84	74			
Community Resources	Rural	91.67	14.93	126	0.72	1.96	NS
	Urban	93.34	16.32	74			

Since the calculated 't' value is greater than the table value at 5% level of significance, there is a significant difference between rural and urban secondary level chemistry teachers in environmental resources. Hence, the null hypothesis is rejected.

But, the calculated 't' value is lesser than the table value at 5% level of significance, there is no significant difference between rural and urban secondary level chemistry teachers in their utilization of health resources, energy resources, chemical resources, human resources, scientific resources and community resources. Hence, the null hypothesis is accepted.

TABLE-2 Difference among government, aided and matriculation school secondary level chemistry teachers in their utilization of health resources, energy resources, chemical

resources, environmental resources, human resources, scientific attitude and community resources.

Table 4.36
DIFFERENCE AMONG GOVERNMENT, AIDED AND MATRICULATION SCHOOL SECONDARY LEVEL CHEMISTRY TEACHERS IN THEIR UTILIZATION OF HEALTH RESOURCES, ENERGY RESOURCES, CHEMICAL RESOURCES, ENVIRONMENTAL RESOURCES, HUMAN RESOURCES, SCIENTIFIC ATTITUDE AND COMMUNITY RESOURCES

Community Resources and its Dimensions	Source	Sum of Squares	Df	Mean Square value	Calculated value	Remarks at 5% level
Health Resources	Between	150.728	2	75.364	11.691	S
	Within	1269.892	197	6.446		
Energy Resources	Between	734.775	2	367.388	6.841	S
	Within	6388.020	197	32.426		
Chemical Resources	Between	71.197	2	35.598	11.330	S
	Within	1449.678	197	7.359		
Environmental Resources	Between	104.545	2	52.273	4.838	S
	Within	2357.050	197	11.965		
Human Resources	Between	104.545	2	52.273	4.369	S
	Within	2357.050	197	11.965		
Scientific Attitude	Between	0.450	2	6.011	0.037	NS
	Within	1184.620	197	2447.030		
Community Resources	Between	4894.060	2	2447.030	11.209	S
	Within	43005.120	197	218.300		

[For 2, 197 degrees of freedom at 5 % level of significance, the table value 'F' is 2.99]

It is inferred from the above table that the calculated 'F' value is lesser than the table value at 5% level of significance, there is no significant difference among government, aided and matriculation secondary level chemistry teachers in their utilization of scientific attitude. Hence, the null hypothesis is accepted.

But it is inferred from the above table that the calculated 'F' value is greater than the table value at 5% level of significance, there is a significant difference among government, aided and

matriculation secondary level chemistry teachers in their utilization of health resources, energy resources, chemical resources, environmental resources, human resources and community resources. Hence, the null hypothesis is rejected and Duncan test is applied to find out the mean difference between different categories.

TABLE-3 Difference between Tamil and English medium school students of standard X in their achievement in chemistry.

Table 4.65

Difference between Tamil and English medium school students of Standard X in their Achievement in Chemistry

Background Variable		Mean	SD	N	Calculated 't' value	Table Value at 5% level	Remark
Medium of Instruction	Tamil	32.08	7.29	328	8.53	1.96	S
	English	39.84	12.17	222			

The calculated 't' value is greater than the table value at 5% level of significance. Therefore, there is significant difference between Tamil and English medium standard X students in achievement in Chemistry. Hence, the null hypothesis is rejected.

Findings of the study

1. The calculated 't' value is greater than the table value at 5% level of significance, there is a significant difference between rural and urban secondary level chemistry teachers in environmental resources. Hence, the null hypothesis is rejected. But, the calculated 't' value is lesser than the table value at 5% level of significance, there is no significant difference between rural and urban secondary level chemistry teachers in their utilization of health resources, energy resources, chemical resources, human resources, scientific resources and community resources. Hence, the null hypothesis is accepted.
2. the calculated 'F' value is lesser than the table value at 5% level of significance, there is no significant difference among government, aided and matriculation secondary level chemistry teachers in their utilization of scientific attitude. Hence, the null hypothesis is accepted. But it is inferred from the above table that the calculated 'F' value is greater than the table value at 5% level of significance, there is a significant difference among government, aided and matriculation secondary level chemistry teachers in their utilization of health resources, energy resources, chemical resources, environmental resources, human resources and community resources. Hence, the null hypothesis is rejected.
3. There is significant difference between Tamil and English medium standard X students in achievement in Chemistry. Hence, the null hypothesis is rejected.

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