A STUDY ON ACHIEVEMENT IN CHEMISTRY AND LEARNING ENVIRONMENT AMONG HIGHER SECONDARY STUDENTS

Dr. S. Anuruba
Assistant Professor, NMS S. Vellaichamy Nadar College of Education
Nagamalai, Madurai, Tamil Nadu

Abstract

The present study is an attempt to find out the Achievement in Chemistry and Learning Environment among higher secondary students in Pondicherry. Simple random sampling technique has been used in the selection of the sample. As many as 600 higher secondary students were selected for this purpose and Achievement test in Chemistry and Learning Environment scale were distributed to them and their responses were collected and computed according to the objectives framed. Results found that majority of the higher secondary students showed positive and significant relationship of Achievement in Chemistry and Learning Environment and the same trend has been seen in respect of the sub-samples too.

Keywords: Achievement in Chemistry, Learning Environment, higher secondary students.

Introduction

Human activities are changing the composition as well as behaviour of the atmosphere at an unprecedented rate. The pollutants from a wide range of human activities are increasing the global atmospheric concentration of certain heat trapping gases, which act like a blanket trapping heat close to surface that would otherwise escape through atmosphere to outer space. So the gases such as CO2, N2O, CH4, O3 present in atmosphere are also capable of absorbing long wave radiation and radiate energy back to earth. When these gases and CFC's increase in the atmosphere as result of air pollution or human activities, more energy is radiated back and consequently temperature of earth increases. This is known as global warming.

Significance of the Study

Achievement is a task oriented behaviour that allows the individual's performance to be evaluated according to some internally or externally imposed criterion that involves the individual in competing with others or otherwise some standard of excellence-(Smith). Dwivedi, R. D. (2005) defines Learning Environment, "students from schools of enriched environment has better academic environment". Learning Environment is influenced by a number of factors. With reference to the various factors influenced the Learning Environment, it is obvious that the Higher Secondary students' Learning Environment is a major determinant of Achievement in Chemistry that are related to their future career.

Objectives of the Study

1. To find out the significant relationship between Achievement in Chemistry and Learning Environment among Higher Secondary Students.

2. To find out the significant difference between Achievement in Chemistry and Learning Environment among Higher Secondary Students with respect to their sub-samples.

Hypotheses of the Study

1. There is no significant difference between Achievement in Chemistry and Learning Environment among Higher Secondary Students.
2. There is no significant difference between the Achievement in Chemistry and Learning Environment among Higher Secondary Students with respect to their sub-samples.

Methodology

In the present study Normative Survey Method has been used, since it deals with present condition.

Sampling Technique used in this Study

Simple Random Sampling Technique has been used in this study. Among the various regions in the Union Territory of Pondicherry, only Pondicherry region has been fixed as the field for this study.

Tool

- An achievement test in Chemistry for XI standard students was constructed and standardized by the researcher.
- Learning Environment Scale by S. Rajasekar.

Statistical Techniques used in this Study

In the present study Correlation Analysis has been used.

Data Analysis and Findings

Table No. 1 Correlation Co-efficient between the Scores of Achievement in Chemistry and Learning Environment of Higher Secondary Students

Variables	N	Correlation Co-efficient ('r')	Level of Significance
Achievement in Chemistry	600	0.159**	Significant
Learning Environment	600		

The correlation coefficient is 0.159 found between Achievement in Chemistry and Learning Environment among the Higher Secondary students, which is significant at 0.05 level for 599 df. It is concluded that there is a positive and significant relationship between Achievement in Chemistry and Learning Environment among the Higher Secondary students.

Table No. 2 Coefficient of correlation between Achievement in Chemistry and Learning Environment of Higher Secondary Students with Regard to Sub-Samples

S.No	Sub Sample	Number	r	Table value	Level of significance
1	**Gender**				
	Male	291	0.150	4.49	Significant at 0.01 level
	Female	309	0.045	0.03	Not Significant at 0.05 level
2	**Type of Management**				
	Government	301	0.194	16.79	Significant at 0.01 level
	Private	299	0.192	28.52	Significant at 0.01 level
3	**Nature of school**				
	Boys School	90	0.172	11.99	Significant at 0.01 level
	Girls School	90	0.120	22.39	Significant at 0.01 level
	Co-Education School	420	0.224	0.01	Not Significant at 0.05 level
4	**Location of School**				
	Urban	302	0.122	20.49	Significant at 0.01 level
	Rural	298	0.205	0.09	Not Significant at 0.05 level
5	**Type of Family**				
	Nuclear	335	0.091	23.99	Significant at 0.01 level
	Joint	265	0.240	0.09	Not Significant at 0.05 level
6	**Father's Education**				
	Illiterate	215	0.156	19.39	Significant at 0.01 level
	Matriculate	216	0.194	3.19	Significant at 0.01 level
	Degree	118	0.032	0.00	Not Significant at 0.05 level
	Professional Degree	51	0.168	4.79	Significant at 0.01 level
7	**Mother's Education**				
	Illiterate	285	0.190	30.69	Significant at 0.01 level
	Matriculate	212	0.307	9.49	Significant at 0.01 level
	Degree	82	0.095	0.00	Not Significant at 0.05 level
	Professional Degree	21	0.048	0.01	Not Significant at 0.05 level
8	**Community**				
	FC	59	0.196	15.89	Significant at 0.01 level
	BC	205	0.159	10.59	Significant at 0.01 level
	MBC	210	0.106	21.59	Significant at 0.01 level
	SC	108	0.216	0.00	Not Significant at 0.05 level
	ST	18	0.156	9.09	Significant at 0.01 level
9	**Religion**				
	Hindu	519	0.160	9.89	Significant at 0.01 level
	Muslim	44	0.099	19.79	Significant at 0.01 level
	Christian	37	0.198	0.00	Not Significant at 0.05 level

By using the Spearman Brown Prophecy formula, the Zero order Correlation has been computed and the values are given in Table No. 2. It may be inferred from the above Table No. 2 that there is a positive significant relationship between Achievement in Chemistry and Learning Environment among the Higher Secondary students. It is also observed from the obtained results that the following sub samples: Gender (Male), Type of management (Government/ Private), Nature of school (Boys/Girls), Location of the school(Urban), Type of Family (Nuclear), Father's Educational Qualification (Illiterate/ Matriculate/Professional Degree), Mother's Educational Qualification (Illiterate/ Matriculate), Community (FC/BC/MBC/ST), Religion (Hindu/Muslim) are significantly correlated. But the sub samples such as Gender (Female), Nature of school (Co-Education), Location of the school (Rural), Type of Family (Joint), Father's Educational Qualification (Degree), Mother's Educational Qualification (Degree/ Professional Degree), Community (SC), Religion (Christian) are not significantly correlated.

Therefore it may be concluded that there is a significant relationship between Achievement in Chemistry and Learning Environment among sub samples, Gender (Male), Type of management (Government/ Private), Nature of school (Boys/Girls), Location of the school (Urban), Type of Family (Nuclear), Father's Educational Qualification (Illiterate/ Matriculate/Professional Degree), Mother's Educational Qualification (Illiterate/ Matriculate), Community (FC/BC/MBC/ST), Religion (Hindu/Muslim) are significantly correlated. But the sub samples Gender (Female), Nature of school (Co-education), Location of the school (rural), Type of Family (Joint), Father's Educational Qualification (Degree), Mother's Educational Qualification (Degree/ Professional Degree), Community (SC), Religion (Christian) are not significantly correlated.

Conclusion

From the above analysis, it is concluded that there is a positive and significant relationship between Achievement in Chemistry and Learning Environment among Higher Secondary students and the same trend has been seen in respect of the sub-samples too.

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