RELATIONSHIP BETWEEN DIFFICULTIES IN LEARNING CHEMISTRY AND CLASSROOM CLIMATE OF HIGHER SECONDARY STUDENTS

D. Vetrivel[1] and Dr. G. Arumugam[2]

[1] **Research Scholar, Department of Education, Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu**
[2] **Associate Professor, Department of Education, Annamalai University, Annamalai Nagar, Chidambaram, Tamil Nadu.**

ABSTRACT:

In this study, an attempt has been made to study the relationship between difficulties in learning chemistry and classroom climate of higher secondary students. Difficulties in learning chemistry tool constructed and validated by the investigator and Classroom climate scale (CCS) constructed and validated by Shefali Pandyawere used to collect the data from a sample of 800 higher secondary students in Cuddalore district of Tamilnadu, India. The survey method has been followed and random sampling technique was used in administration of the research tools. The result of the analysis reveals that the higher secondarystudentsdifficulties in learning chemistry is average and classroom climate is high. There is asignificant difference in the difficulties in learning chemistry of higher secondary students with regard to gender and locality of the school;there is significant difference in the classroom climate of higher secondary students with regard to gender and there is significant difference in the classroom climate of higher secondary students with regard to locality of the school; there is significant and positive relationship between difficulties in learning chemistry and classroom climate of higher secondary students .

KEYWORDS*: Difficulties in Learning Chemistry, Classroom Climate, Higher Secondary Students.*

1. INTRODUCTION

The difficulties in Learning Chemistry referred in the present study are the difficulties faced by higher secondary school students in learning chemistry as an academic subject.Chemistry includes the inorganic, organic and the physical chemistry prescribed for XI and XII class students in the state syllabus. At the beginning of any course, the students start their study with a set of beliefs about the nature of learning and what they intend to achieve while learning chemistry. These beliefs are derived from earlier school and learning experiences as well as their current goals and motives.

2. NEED AND IMPORTANCE OF THE STUDY

This study is considered an important as it understands the learning difficulties, experienced by the students of Chemistry, analyzing them and clearing the difficulties. The study aims at not only in removing the hurdles on in the learning process, but also in improving the quality of learning. It helps to recognize the basic learning difficulties of the higher secondary students. It aims at sowing the seeds of curiosity in learning the concepts of Chemistry in the minds of the young learners. The impediments, which can be removed by sincere efforts of the teachers, should not stand as obstacles in the learning process of the higher secondary students. It aims at making Chemistry subject very close to the learners.

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3. OBJECTIVES OF THE STUDY

1. To find out the level of difficulties in learning chemistry of higher secondary students.
2. To find out the level of classroom climate of higher secondary students.
3. To find out whether there is any significant difference in the difficulties in learning chemistry of higher secondary students with regard to sub-samples a) Gender and   b) Locality of the School.
4. To find out whether there is any significant difference in the classroom climate of higher secondary students with regard to sub-samples a) Gender and b) Locality of the School.
5. To find out whether there is any significant relationship between difficulties in learning chemistry and classroom climate of higher secondary students.

4. HYPOTHESES OF THE STUDY

1. The level of difficulties in learning chemistry of higher secondary students is low.
2. The level of classroom climate of higher secondary students is low.
3. There is no significant difference in the difficulties in learning chemistry of higher secondary students with regard to sub-samples a) Gender and b) Locality of the School.
4. There is no significant difference in the classroom climate of higher secondary students with regard to sub-samples a) Gender and b) Locality of the School.
5. There is no significant relationship between difficulties in learning chemistry and classroom climate of higher secondary students.

5. METHOD AND SAMPLE OF THE STUDY

The normative survey method has been adopted in this study. The random sampling technique has been used in the selection of a sample consisting800Higher Secondary Students in Cuddalore District in Tamilnadu State.

6. SCORING PROCEDURE

For this purpose the difficulties in learning chemistrywas constructed and validated by the Investigator was used the high range is 26 andabove, average range is 20-25 and low range is 19 and below. Classroom climatescale was used the maximum score is 360 and minimum score is 90.Therefore a score below 225 was considered low classroom climate and above 225 was viewed as high classroom climate.

7. ANALYSIS AND INTERPRETATION DATA

The following statistical techniques have been used in the present study
(i) Descriptive Analysis
(ii) Differential Analysis
(iii) Correlation Analysis
The analysis and interpretation are given the following tables

Hypothesis 1

The level of difficulties in learning chemistry of higher secondary students is low.

Table-1
Showing the Mean and Standard Deviation scores of Difficulties in Learning Chemistry of Higher Secondary Students

Variable	Total Number of Sample	Mean	Standard Deviation
Difficulties in Learning Chemistry	800	22.27	3.34

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From table 1, the calculated mean and standard deviation for difficulties in learning chemistry scores of the entire sample is found to be 22.27 and 3.34 respectively. The mean score is average value 20-25, Hence,the framed hypothesis (1) is rejected and it is concluded that higher secondary school students difficulties in learning chemistryis average.

Hypothesis 2
The level of classroom climate of higher secondary students is low.

Table-2
Showing the Mean and Standard Deviation scores of Classroom Climate of Higher Secondary Students

Variable	Total Number of Sample	Mean	Standard Deviation
Classroom Climate	800	270.18	60.86

From table 2, the calculated mean and standard deviation for classroom climate scores of the entire sample is found to be 270.18 and 60.86 respectively. The mean score is higher than the mid value (225). Hence, the framed hypothesis (2) is rejected and it is concluded that higher secondary school students'classroom climate is high.

Hypothesis 3
There is no significant difference in the difficulties in learning chemistry of higher secondary students with regard to sub-samples a) Gender and b) Locality of the School.

Table-3
Showing the Mean and Standard Deviation scores of Difficulties in learning Chemistryof higher secondary students withregard to the sub-samples

Variable	Sub-Samples	N	M	SD	't' value	Level of Significance at 0.05 level
Difficulties in Learning Chemistry	Male	400	22.70	3.43	2.73	Significant
	Female	400	20.12	3.28		
	Rural	489	22.85	3.36	2.91	Significant
	Urban	311	24.12	3.34		

It is evident from the Table 3, that the calculated 't' valuesare found to be 2.73 and 2.91 for gender and locality of the student respectivelywhich are significant at 0.05 level. Hence, the framed null hypothesis 3(a) and 3(b)isrejected and it is concluded that the gender and locality of the school of higher secondary students differ significantly in their difficulties in learning chemistry.

Hypothesis 4
There is no significant difference in the classroom climate of higher secondary students with regard to sub-samples a) Gender and b) Locality of the School.

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Table-4
Showing the Mean and Standard Deviation scores of classroom climate of higher secondary students with regard to the sub-samples

Variable	Sub-Samples	N	M	SD	't' value	Level of Significance at 0.05 level
Classroom Climate	Male	400	272.26	59.11	3.80	Significant
	Female	400	268.80	62.61		
	Rural	489	269.16	61.38	3.20	Significant
	Urban	311	275.21	59.03		

It is evident from the Table 4, that the calculated 't' valuesare found to be 3.80 and 3.20 for gender and locality of the student respectivelywhich are significant at 0.05 level. Hence, the framed null hypothesis 4(a) and 4(b)isrejected and it is concluded that the gender and locality of the school of higher secondary students differ significantly in their classroom climate.

Hypothesis-5
There is no significant relationship between difficulties in learning chemistry and classroom climate of higher secondary students.

Table - 5
Showing the correlation values between difficulties in learning chemistry and classroom climateof higher secondary students

Variables	N	'r' value	Level of Significance
Difficulties in Learning Chemistry and Classroom climate	800	0.215	Significant

The co-efficient of correlation between difficulties in learning chemistry and classroom climateof higher secondary students isfound to be 0.215 at 0.01 level, which indicates that there is a significant correlation between difficulties in learning chemistry and classroom climatescores. Hence, it is concluded that there is a significant and positive relationship between difficulties in learning chemistry and classroom climate of higher secondary students.

8. FINDINGS OF THE STUDY
1. Higher secondary student's difficulties in learning chemistry is average.
2. Higher secondary student's classroom climate is high.
3. The gender of higher secondary students differ significantly in their difficulties in learning chemistry.
4. The locality of the school of higher secondary school students differ significantly in their difficulties in learning chemistry.
5. The gender of higher secondary students differ significantly in their classroom climate.
6. The locality of the school of higher secondary school students differ significantly in their classroom climate.
7. There is a significant and positive relationship between difficulties in learning chemistry and classroom climate of higher secondary students.

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9. CONCLUSIOON

The higher secondary school students'difficulties in learning chemistryare average and classroom climate is high. There exists significant and positive relationship between difficulties in learning chemistry and classroom climateof higher secondary students.

10. REFERENCES

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