A Study on Higher Secondary Students Achievement in Chemistry in Relation to Certain Selected Variables

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Abstract

The secondary education commission has devoted an entire chapter in its report to the dynamic methods of teaching, discussing the objectives the right technique the value of various activity method and techniques could be adapted to suit different levels of intelligence. Good social maturity brings satisfaction to the individual concerned and social maturity also becomes the means by which the society can advance. The social maturity of a child is now being recognized as precious sources of development and survival of man. This study may also help teachers to understand socio economic students and there by the teachers can conduct guidance and counseling for better social maturity. Many adjustment problems more or less peculiar to the college students contribute to the forces which interfere with adjustment.

Key Words: academic, assessing, processes, unreliability, achievement.

Introduction

In order to be sure that adjustment is really present, one must be able to identify the adjustment, a version is experiencing and what he is worried about. Obviously infants and very young children cannot talk about their feelings, but their behaviour in certain situations often makes it clear that they are indeed anxious. The marks scored at the eleventh standard common examination have been taken as the basis to measure the academic achievement. Essay type (subjective type) examinations constitute the traditional, popular and the most commonly used, if not the only, means of assessing student's performance in schools. They are of great value in test in mental processes such as formulating hypotheses, organizing and evaluating ideas. Critics point to the unreliability, lack of objectivity, inadequacy of sampling and under stress placed upon memory as significant drawbacks of the essay type tests.

Factors affecting Achievement in Chemistry

Achievement in Chemistry has been studied in relation to a number of variables, both cognitive and affective. Studies in the past decade have confirmed that intelligence and socioeconomic background are major contributors to achievement in science. Factors responsible for poor achievement for failure have also caught the attention of researchers. Factor analysis of abilities having to bearing on Chemistry achievement was also undertaken by a number of researchers. Achievement in Chemistry as a whole and that in algebra, arithmetic and geometry and in some specific topics in algebra, concepts of sets and functions

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were also factor analyses. Number of correlates, arithmetic operational sequence and numbers group property were the best predictors of achievement in Chemistry.

Objectives of the Study

On the basis of the present study the investigator has formulated the following objectives for verification

1. To find out the achievement in Chemistry of higher secondary school students in Perambalur Educational District.
2. To find out the social maturity of higher secondary school students Perambalur Educational District.
3. To find out the school environment of higher secondary school students Perambalur Educational District.
4. To find out if there is any significant difference between achievement in Chemistry in respect of their the sub samples on the basis of Sex, type of the management, type of schools, Medium ect,.
5. To find out the relationship between achievement in Chemistry and Demographic characters of higher secondary school students in Perambalur Educational District.
6. To find out the relationship between social maturity and demographic characters of higher secondary school students in Perambalur Educational District.
7. To find out the relationship between school environment and demographic characters of higher secondary school students in Perambalur Educational District.

Hypothesis of the study

1. Students do not differ in their achievement in Chemistry on the basis of sex.
2. Students do not differ in their achievement in Chemistry on the basis of type of school.
3. Students do not differ in their achievement in Chemistry on the basis of location.
4. Students do not differ in their achievement in Chemistry on the basis of type of management.
5. Students do not differ in their achievement in Chemistry on the basis of parent's education.
6. Students do not differ in their achievement in Chemistry on the basis of community.

Method of the Study

Normative survey method has been used in this study. The detailed description of the method is given in the chapter III of this dissertation.

Sample of the present Study

340 Higher Secondary School Students had been selected as the sample for this study and the detailed description and distribution of the sample were given in the chapter-Ill of this dissertation.

Statistical Techniques Used

- Descriptive analysis
- Differential analysis and
- Correlational analysis

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Delimitations of the Study

The study is delimited to the students studying in the higher secondary school also the study is delimited to the Perambalur Educational District only.

Methodology

Location of the study

The present investigation was conducted in the Perambalur educational district. The list of schools selected for the study is given.

List of School

S.No.	Name of the School	Place of the School
1	Eden Gardens Hr. Sec. School	Udumbiam
2	Govt. Hr. Sec. School for Girls	Kunnam
3	Dhanalakshmi Srinivasan Hr. Sec. School	Perambalur
4	Thanthi Hans Roever Hr.Sec.School	Perambalur
5	Govt. Hr. Sec. School	Veppur
6	Moulana Hr. Sec. School	Perambalur
7	Govt Hr.Sec.School for Boys	Kunnam
8	Govt. ADW Hr. Sec. School	Kalarampatti

Population of the study

The Perambalur Education District contains higher secondary schools out of which 8 schools were selected randomly for the present investigation.

Sample of the Study

- The sample selected from the total population was **340**, first year higher secondary students.
- The sample was selected according to the principle of random sampling technique.

Distribution of Sample According to School Management

Sl.No.	Sex	Sample Size	Percentage
1	Boys	24	7.1
2	Girls	112	32.9
3	Co-education	204	60.0
	Total	**340**	**100.0**

Table reveals that the distribution of sample on the basis of school management. Out of **340** school students, **24** from boys school, **112** from girls school and **204** from co-education school.

Distribution of Sample According to Type of School

Sl.No.	Sex	Sample Size	Percentage
1	Government	180	52.9
2	Private	160	47.1
	Total	**340**	**100.0**

Table reveals that the distribution of sample on the basis of type of school. Out of **340** school students, **180** from government school and **160** from private school.

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Distribution of Sample According to Location

Sl.No.	Sex	Sample Size	Percentage
1.	Rural	139	40.9
2.	Urban	201	59.1
	Total	**340**	**100.0**

Table reveals that the distribution of sample on the basis of school place. Out of **340** school students, **139** from rural family and **201** from urban family.

Distribution of Sample According to parent's education

Sl.No.	Sex	Sample Size	Percentage
1.	Educated	96	28.2
2.	School Education	224	65.9
	College Education	19	5.6
	Total	**340**	**100.0**

Table reveals that the distribution of sample on the basis of fathers education. Out of **340** school students, **97** from educated group, **224** from school group and **19** from college group.

Distribution of Sample According to Community

Sl.No.	Sex	Sample Size	Percentage
1.	OC	27	7.9
2.	BC	119	335.0
3.	MBC	108	31.8
4.	SC/ST	86	25.3
	Total	**340**	**100.0**

Table reveals that the distribution of sample on the basis of community. Out of **340** school students, **27** from OC community, **119** from BC community, **108** from MBC community and **86** from SC/ST community.

Distribution of Sample According to Religion

Sl.No.	Sex	Sample Size	Percentage
1.	Hindu	240	70.59
2.	Islam	20	5.88
3.	Christian	80	23.53
	Total	**340**	**100.0**

Table reveals that the distribution of sample on the basis of religion. Out of 340 school students, **240** from Hindu, **20** from Islam group and **80** from Christian group.

Distribution of Sample According to Parent's Income

Sl.No.	Sex	Sample Size	Percentage
1.	Below 5000	220	64.7
2.	5001 - 10000	100	29.4
3.	Above 10000	20	5.9
	Total	**340**	**100.0**

Table reveals that the distribution of sample on the basis of parent's income. Out of **340** school students, **220** from below 5000 group. **100** from 5001 - 10000 and **20** from above 10000 group.

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Dependent variable

The dependent variable selected for this study is achievement in Chemistry of higher secondary school students.

Independent variable

The independent variables selected for the present study are:

- Social maturity and School environment
- Demographic variable -Gender
- School related variable - Type of management and locality of school
- Family variable - Community, Religion, Parents Income and Parents occupation.

Tools used in the present study

1. The study Social Maturity inventory **Dr.Nalini Rao**

2. Achievement in Chemistry score in higher secondary school students for used in this study.

Delimitations of the study

The following are the delimitations of the study. The investigator restricts the present study in the following manner.

- The present study is limited only to the higher secondary school students.
- The present study is limited to Perambalur District.
- The study measures social maturity; school environment as described in the tool used in the study.

Method of study

Normative survey method was used in this study as it is considered to be appropriate one to measure the achievement in Chemistry of higher secondary school students in Perambalur District.

ANALYSIS AND INTERPRETATION

Hy:1 Students do not differ in their achievement in Chemistry of higher secondary school students on the basis of sex

The t-value is found to be 2.18 and it is greater than the table value of 1.96. Hence it is significant at 5% level. Here null hypothesis is rejected and research hypothesis is accepted. To sum up boys and girls differ significantly in their achievement of Chemistry among higher secondary school students.

't' Test value for the achievement of Chemistry among higher secondary school students on the basis of type of school

Type of School	N	Mean	SD	t-value	Significant at 0.05 level
Government	180	105.73	29.23		
Private	160	117.70	33.01	3.52	S

Hy: 2 Students do not differ in their achievement in Chemistry among higher secondary school students on the basis of type of school.

The t-value is found to be 3.52 and it is higher than the table value of 1.96. Hence it is significant at 1% level. Here null hypothesis is rejected and research hypothesis is accepted.

To sum up government and private differ significantly in their achievement of Chemistry among higher secondary school students.

't' Test value for the achievement of Chemistry among higher secondary school students on the basis of location

Location	N	Mean	SD	t-value	Significant at 0.05 level
Rural	139	110.53	28.20	0.42	NS
Urban	201	111.95	33.80		

Hy: 3 Students do not differ in their achievement in Chemistry among higher secondary school students on the basis of location.

The t-value is found to be 0.42 and it is less than the table value of 1.96. Hence it is not significant. Here null hypothesis is accepted and research hypothesis is rejected. To sum up village and town do not differ significantly in their achievement of Chemistry among higher secondary school students.

'F' Test value for the achievement in Chemistry among higher secondary school students on the basis of school management

School Management	N	Mean	SD	F-value	Significant at 0.05 level
Boys	24	121.799	30.87	3.00	NS
Girls	112	106.33	30.77		
Co-education	204	112.90	31.81		
Total	340	111.36	31.59		

Hy: 4 Students do not differ in their achievement in Chemistry among higher secondary school students on the basis of school management.

The F-value is found to be 3.00 and it is less than the table value. Hence it is not significant. Here null hypothesis is accepted and research hypothesis is rejected. To sum up nature of school do not differs significantly in their achievement in Chemistry among higher secondary school students.

T' Test value for the achievement in Chemistry among higher secondary school students on the basis of parent's education

Parent's Education	N	Mean	SD	F-value	Significant at 0.05 level
Educated	96	102.60	27.01	3.73	S
School	224	114.67	32.38		
College	19	115.11	36.75		
Total	**340**	**111.36**	**31.59**		

Hy: 5 Students do not differ in their achievement in Chemistry among higher secondary school students on the basis of printer's education.

The F-value is found to be 3.73 and it is greater than the table value. Hence it is significant at 5% level. Here null hypothesis is rejected and research hypothesis is accepted. To sum up parent's education differs significantly in their achievement in Chemistry among higher secondary school students.

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'F' Test value for the achievement in Chemistry among higher secondary school students on the basis of community

Community	N	Mean	SD	F-value	Significant at 0.05 level
OC	27	100.78	25.29		
BC	119	113.25	30.99		
MBC	108	111.78	.34.18	1.16	NS
SC/ST	86	111.56	30.66		
Total	**340**	**111.36**	**31.59**		

Hy: 6 Students do not differ in their achievement in Chemistry among higher secondary school students on the basis of community.

The F-value is found to be 1.16 and it is less than the table value. Hence it is not significant. Here null hypothesis is accepted and research hypothesis is rejected. To sum up community do not differs significantly in their achievement in Chemistry among higher secondary school students.

't' Test value for the social maturity among higher secondary school students on the basis of location

Location	N	Mean	SD	t-value	Significant at 0.01 level
Rural	139	250.30	24.58		
Urban	201	256.44	16:31	2.58	S

Hy: 7 Students do not differ in their social maturity among higher secondary school students on the basis of location.

The t-value is found to be 2.58 and it is greater than the table value of 1.96. Hence it is significant at 1% level. Here null hypothesis is rejected and research hypothesis is accepted. To sum up village and town differ significantly in their social maturity higher secondary school students.

Summary, Findings, Conclusions, Recommendations and Suggestion

Summary

As described earlier the relation between achievements in Chemistry. and social maturity of higher secondary school students has been studied. Social maturity and achievement scores of the students were collected from first higher secondary school students. Pupils responses were analysed using the various statistical techniques namely t-test, F-ratio and co-efficient correlation.

Findings

- To sum up boys and girls differ significantly in their achievement of Chemistry among higher secondary school students.
- To sum up government and private differ significantly in their achievement of Chemistry among higher secondary school students.
- To sum up village and town do not differ significantly in their achievement of Chemistry among higher secondary school students.

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- To sum up parent's income do not differs significantly in their achievement in Chemistry among higher secondary school students.
- To sum up village and town differ significantly in their social maturity higher secondary school students.
- To sum up community differs significantly in their social maturity among higher secondary school students.
- To sum up parents monthly income do not differs significantly in their school environment among higher secondary school students.
- The result shows that students Sex, Type of School and Parent's Education other activities are significantly correlated with level of achievement in Chemistry.
- The result shows that students Sex, Type of School, Location, Parent's Education and Community other activities are significantly correlated with level of social maturity.

Recommendation

- The analysis of data of the study shows that the whole set of the higher secondary students both boys and girls seem to have good social maturity.
- Gender, type of the management, locality, community, religion, parent's income and parent's occupation seems to play a significant role in the school environment of the higher secondary students.
- The findings of this investigation will help teachers, policy makers and all those who are interested in the field of education, to give proper attention and guidance to these students. Based on the findings of the study the researcher suggests the following remedies to improve the social maturity level of higher secondary students.
- Students who are brilliant in sports, games and arts should get proper training in these activities so that they can build an identity of their own through these activities.
- So teachers and parents should encourage their children by providing those opportunities for expression of their talents in sports, games and arts.

Conclusions

The present study aims to find out the social maturity of higher secondary students as related achievement. The researcher framed objectives and hypotheses on the basis of the above context. The research was carried out in 340 samples based randomly. A questionnaire constructed by R was used to collect the relevant data. After collecting the data they were analyzed using statistical tools such as t-test, ANOVA and Correlation. The result concluded that students have more social maturity, achievement and school environment at high school level.

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