ORIGINAL RESEARCH PAPER

Education

KEY WORDS:

GENDER DIFFERENCE IN ACHIEVEMENT IN CHEMISTRY AND SCIENTIFIC APTITUDE OF HIGHER SECONDARY SCHOOL STUDENTS'

Dr. S. Kalaivani Assistant Professor, Department Of Education, Annamalai University

ABSTRACT

The aim of the study is to examine gender difference in the level of achievement in chemistry and scientific aptitude of higher secondary students studying in XI standard for which the survey method has been adapted. Random sampling technique has been used for the present study for the selection of sample.The present study consists of 300 higher secondary school students' in Cuddalore District of Tamil Nadu. The samples were selected by using simple random sampling technique.Half yearly marks secured by XI standard students in December 2016 examination and the scientific aptitude test battery developed by Agarwal K.K. (1986). The present study reveals that there is significant difference found between male and female students in the achievement in chemistry and scientific aptitude. The higher secondary school students have high level of Achievement of Chemistry and they have average level of Scientific Aptitude. There is significant difference between Male and Female students with respect to their Achievement in Chemistry. There is significant difference between Male and Female students with respect to their Scientific Aptitude.

1. INTRODUCTION

The progress of any country depends upon many factors and the educational status bringing about enlightened citizens is the most significant one among them. Education in general as well as school education in particular plays a pivotal role in shaping the personality of children. To bring out all round development in children, school education is a must because it is during this period that children will be able to learn and understand things properly.

School paves the way for a strong academic achievement. Scientific Aptitude of the human being also facilitates for Aptitude of the individual and to develop a better understanding not only about oneself but also about the others. To children, home is the first school and its environment significantly contributes for the academic pursuit in addition to creating an atmosphere favorable for the children to gain a lot of life-oriented experiences. The home also greatly extends its services to the school, the formal education institution. Schools also provide necessary opportunity to children not only to grow academically strong but also create chances to the children to experiment their emotional outbursts and modify their behaviour. Even though every subject of studyhas its unique aims and objectives, science learning promotes rational knowledge and sharpens the mental abilities of the learners.

2. NEED FOR CHEMISTRY EDUCATION

Chemistry is considered as an important subject in the school curriculum as many professional and applied courses, directly or indirectly uses the knowledge of chemistry. Moreover, the present age is the era of science and more number of peoples is being employed in scientific pursuits which require knowledge of chemistry. Chemistry education is also necessary because of its immense value in the students' individual life as well as in society. In the Indian education context, at the secondary stage of education, chemistry is taught as a subject in its own right or as part of a broader science course identified by a variety of titles, integrated science, general science and modular science, etc. The discipline may also feature as a component of courses in physical or biological sciences. The most significant aspect of modern science is the impact it has had in solving a variety of problems of practical and technological importance as well as those related to the pressing problems of mankind. A large number of these problems require a proper understanding and application of chemical principles and processes on the part of learners.

Everybody needs sufficient knowledge of chemistry to function effectively in the present day society as the modern society is being much influenced by new drugs, synthetic materials, green revolutions in agriculture, micro-computers, microelectronics, etc.

3. OBJECTIVES OF THE STUDY

1. To study the level of Achievement in Chemistry and scientific aptitude of higher secondary school students.
2. To examine the gender difference in the level of achievement in chemistry and scientific aptitude of higher secondary school students'.

4. METHOD OF THE STUDY

The steps of procedure in research are an element, common to all methods of research while, different methods of research have different distinguishing features. In this present study, the investigator applied normative survey as a method. The normative survey method studies, describes and interprets what exists at present.

5. ANALYSIS OF THE DATA AND INTERPRETATIONS

The 't' test has been applied to test the significance of difference between male and female students studying in higher secondary schools to achievement in chemistry and scientific aptitude. The result of the analysis given in Table-1.

The Table-1 shows the result of the 't' test carried out to compare the mean achievement in chemistry scores of male and female students. The 't' value is found to be 2.230 which is significant at 0.05 level. Hence, it is concluded that the male and female students differ significantly in the achievement in chemistry.The mean value indicates that the achievement is high for the female students than the male students.

The Table-1 shows the result of the 't' test carried out to compare the mean scientific aptitude scores of male and female students. The 't' value is found to be 3.386, which is significant at 0.05 level. Hence, it is concluded that the male and female students differ significantly in the scientific attitude. The mean value indicates that the scientific aptitude is high for the female students than the male students.

Table-1: 't' Value Of Mean Difference Between Male And Female Students In The Achievement In Chemistry And Scientific Aptitude Of Higher Secondary School Students

Variables	Sub sample	N	Mean	SD	t-value	Level of significance at 0.05 level
Achievement in chemistry	Male	134	124.14	30.282	2.230	Significant
	Female	166	132.86	37.434		
Scientific aptitude	Male	134	21.61	5.736	3.386	Significant
	Female	166	23.80	5.350		

6. RESULT AND DISSCUSSION

The higher secondary school students have high level of Achievement of Chemistry and they have average level of Scientific Aptitude.There is significant difference between Male and Female students with respect to their Achievement in Chemistry.There is significant difference between Male and Female students with respect to their Scientific Aptitude.On the basis of this study following recommendations are made: Reviewing past performance on tests to improve and learn from experience. There is positive magnitude and high relationship between students' aptitude and achievement scores. Hence, At the time of admission in Higher Secondary classes in science education, favorite subjects

of the students should be seriously considered with other factors.Aptitude must be tested at the time of admission at secondary level education and students must be guided to choose subjects according to their aptitude.

7. CONCLUSION

From this investigation it can be inferred that the Achievement in Chemistry of male and female Higher Secondary Students are high and the Scientific Aptitude of male and female Higher Secondary Students are average. To enhance the observed positive nature of the variables among the Higher Secondary Students, the relevant recommendations are made in this study. This will help the Higher Secondary Students community for their development in achievement particularly in Chemistry subject.Particularly, since chemistry is to be treated as a laboratory oriented subject instead of more theoretical subject, the teacher should provide the maximum chances to the students to make use of laboratories and should correlate with day to day utilization also. Further, instead of compelling the students to do regular laboratory works, they may be allowed to implement their creative inventions through various scientific experiments.

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