

A Study of Scientific Aptitude Among Government High School Students Of Raipur

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Abstract: This paper studied the level of scientific aptitude among the government boys and girls of high school. A sample of 100 students (50 girls and 50 boys) was selected through random sampling method from government high school of Raipur, Chattisgarh state. For the data collection researcher used the Scientific Aptitude Test Battery (SATB) designed by Dr. K. K. Agrawal and Dr. Saroj Aurora was used. Mean, SD and t-test used for analyze the data. Finding of the study shows that the level of scientific aptitude is more in boys compare to girls of high school and the study also shows that there is significant difference in different area/part of scientific aptitude like Reasoning Test, Numerical ability and there is no significant difference between boys and girls in Scientific Information and science vocabulary test.

Index Terms: Scientific Aptitude, Government, High school student

I. INTRODUCTION

Science learning is not only important for the two reasons, as mentioned. In fact, it is also considered as a symbol of recognition of a learner in his/her surrounding environment i.e. school; home and society according to (Ganguli and vashistha, 1991).

The term scientific aptitude is related to different factor like scientific knowledge (this knowledge significantly correlate with the student learning), Science skill (ability to learn the new concept and knowledge of science), motivation and satisfaction (come from school environment and teacher learning), socio-economic and aesthetic factor (influence by parental background and care, science is innovation and beauty of world so, it is possible when student can learn the aesthetic value), Scientific temper (comes from soul of the student when the student has cognitive, affective and psychomotor domain and process to analyse itself) are most important valuable factor for a scientific aptitude. Science is branch of development, growth and power where all stream increase the knowledge and skill of each student. The study focuses and encourages the student to choose the science subject by checking their scientific aptitude by SATB Inventory scale because high school level student are in adolescent stage and their understanding level just high to accept the thing positively or negatively as they understand. So teacher can play to inculcate the student to think positively because school and teacher play very important role to enhance the quality of science, motivate the student, remove the fear and frustration and tell the importance of science how it valuable in our life and environment.

1.1 OPERATIONAL DEFINITION

Scientific Aptitude:

According to Rao 1996, "Scientific aptitude is a complex of interacting hereditary and environmental determinants producing predisposition or ability in science .through these abilities, it is possible to predict future accomplishment of a person in science"

II NEED OF THE STUDY:

Science is playing a vital role in education and in human life and Activities. Science is only subject that provides numerous information, ideas and values which not provides any other subject other subject are some useful in education but inclusion of other subject in the school curriculum should satisfy the vocational, cultural, Aesthetic, Social, Moral, Political, Utilitarian, Intellectual, Theoretical values. But besides this methodology of science implement training of pedagogy of scientific method and develops scientific aptitude, scientific aptitude and scientific attitude play important role education of science .Science study is needed for the all school going student main purpose for the study to motivate and increase the level and confidence of students towards science. It is very important our children to achieve the goal of science and win the race of today education. Create a history in 21 st century.

III METHODOLOGY

3.1 OBJECTIVES:

- To study the mean score of scientific aptitude of Government High school student of Raipur.
- To study the mean score of different part of scientific aptitude of Government High school student of Raipur.

3.2 HYPOTHESIS:

- There is no significant difference in the mean score of scientific aptitude of Government high school students of Raipur.
- There is no significant difference in the mean score of different part of scientific aptitude of Government High school student of Raipur.

3.3 DELIMITATIONS:

This study is limited to Raipur city only. The study is conducted only on 10th class students of Government school. Both boys and girls are students taken for study.

3.4 RESEARCH DESIGN:

It was a Descriptive survey method applied for this study and used to find the results of study objectives.

3.5 SAMPLE OF THE STUDY

In present study researcher has chooses 100 students (50 boys and 50 girls).

3.6 TOOL FOR THE STUDY

Dr.K.K. Agrawal and Dr.Saroj Aurora designed Scientific Aptitude Test Battery scale with four different part of scale; Reasoning Test, Numerical ability, scientific Information and Science Vocabulary Test.

IV. RESULTS AND CONCLUSION

4.1.1 Hypothesis 1: There is no significant difference in the mean score of scientific aptitude of Government High school students of Raipur.

Table 4.1.1

Variable	N	DF	Total score	Mean
Female	50	98	4664	23.32
Male	50		5283	26.41

From table 4.1.1 shows that Mean score of scientific aptitude test of male is more than female .It shows that scientific aptitude was more towards male students

4.1.2 Hypothesis 2: There is no significant difference in the mean score of different part of scientific aptitude of Government High school student of Raipur.

Table 4.1.2

Area of SATB	Reasoning Test		Numerical Ability Test		Scientific Information Test		Science Vocabulary Test	
	Male	Female	Male	Female	Male	Female	Male	Female
Variable								
N	50	50	50	50	50	50	50	50
Mean	31.56	23.88	26.72	22.88	23.8	22.88	23.58	23.64
Sd	8.24	9.74	11.66	9.87	9.68	9.81	9.95	10.03
Df	98		98		98		98	
T-value	4.25		1.77		0.47		0.02	
Significance	Significant		Significant		Not significant		Not significant	

From table 4.1.2 shows that Reasoning test part of scientific aptitude test battery scale found that the result vide a table 1, reasoning test is more in boys compare to girls students .That means the boys student score significantly differ from girls student .It means there is significant difference between boys and girls of government high school in reasoning test. Hence, the null hypothesis is rejected.

Numerical ability part of scientific aptitude test battery scale found the result vide a table numerical ability is more in boys compare to girls students .That means the boys student score significantly differ from girls student .It means there is significant difference between boys and girls of government high school in numerical ability area.Hence,the null hypothesis is rejected.

Scientific Information Test part of scientific aptitude test battery scale found the result vide a table scientific information test shows the least difference between male and female students .That means the boys score not significantly differ from girls student .It means there is no significant difference between boys and girls of scientific Information test part. Hence, the null hypothesis is not rejected.

Science vocabulary test part of scientific aptitude test battery scale found the result vide a table Science vocabulary test shows the least difference between boys and girls students .That means the boys student score not significantly differ from girls student .It means there is no significant difference between boys and girls of Science vocabulary test area. Hence, the null hypothesis is not rejected.

4.2 CONCLUSION

On the basis of result it concluded that boys have done their performance very well and their result positive towards scientific aptitude compare to girl's performance. The purpose of the study is to find out the level of scientific aptitude between boys and girls. As per previous record shows that, in government school girls were take admission mostly in arts and commerce and the ratio of science stream is below 55 percent. After finding and discussion of the study revealed that girls has phobia, fear frustration, parental expectation and anxiety about science and they thought that science is very hard subject and we are not able to do it very well. That is the reasons to girl's students are not curious and focussed in class. So there is needed to sensitize, motivate, inspire, encourage the girls and raise the power, ability and capacity toward science and told them the importance of science.

4.3 SUGGESTION

1. It is suggested that increase the level of knowledge towards science.
2. Motivate the student and developed the curiosity in field of science
3. Responsibility of school to establish a perfect environment of science and give chance to each student to participate science exhibition and science fare in school, district and state level.
4. School should organize the science Olympiad with fewer fees.
5. To establish rapport with student while teaching, learning and examination.
6. Increase the ratio of girls' student in government by conducting workshop on science.
7. To give different examples of ladies those have done India's future bright in field of science.
8. Take classes on goal setting and achievement in school.
9. To develop the scientific attitude towards girls by using specific aim of science.
10. To develop the interest towards science innovation and their use in our daily life and how the science make things possible for living easily.
11. It is possible when teacher play a creative role and to mould the student as per society and education need.

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