

“A STUDY OF SCIENTIFIC APTITUDE OF SECONDARY SCHOOL STUDENTS IN CONTEXT OF CERTAIN VARIABLES”

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Abstract

Present Study has been done to know about scientific aptitude of secondary schools students context of certain variables. For the present study gender, area and standard consider as variables. Total 3154 students were selected from all over the secondary schools. To know about scientific aptitude of students standardized scientific aptitude test prepared by kiran patel was used as tool. On the basis of the score obtain by the students mean, standard deviation, standard error of mean and t-values were calculated for data analysis.

Key Word: Scientific aptitude, secondary school

INTRODUCTION

That development of any country is always based upon the standards of education of the citizens. Education is a continuous lifetime process. The main aim of the education is to make overall development of the citizens. Each person carries general and special qualities. Such qualities are lying since their birth. Proper environment is always required to develop such inner qualities. After knowing interest, hobbies, capabilities and qualities of the students, proper education system should be required to apply. As per the opinion of R. L. Thorndike,

“One of the first practical matters and discuss with which psychological were concerned was guiding young people into the types of work in they would be happy, successful and selecting for an employer those men who would be efficient and satisfied in the job that he was trying to fulfill.”

The main power of human beings is not in their hands but is lying in their head. The inventions and science of 21st century are only because of such logical powers of human head. Initially, travel toward Moon planet and now towards Mars is resulted only because of logical power of human mind. From MACRO to MICRO means from sky to atomic nuclear and even smaller than that like small nucleus having God Particle invented only because of logical power of human mind. Despite accepting reality, human brains are raising questions like “why or how?” while observing; which resulted in impossible to possible only because of logical power of human mind. To find the solution of any problem, human has to think logically. Logical thinking starts with question and ends with answer.

Such kind of guidance should be provided to students during their SECONDARY education so accordingly he may come to conclusion that he is having interest or aptitude in Science Stream, having positive attitude towards Science. Even today superstition is wide spread social problem like drinking milk by goddess Ganesha, sea water converted in sweat water, God found on wall. The same is not thinking logically or scientifically. At the SECONDARY level, if students are getting such guidance then they defiantly decide for science stream and become successful.

In the present atomic age, students are eligible to complete various activities and having distinctions; which required to be settled among them. Psychological test are the effective solution. To become professionals like successful scientist, successful doctor or successful engineer, it is important to be scientific view.

It is important to develop entire capabilities of child. As per the capabilities child should be guided and to know the capabilities of the child this study is conducted.

OBJECTIVES OF THE STUDY

The objectives of the present study were as follows:

- i. To study Scientific Aptitude of Secondary School students.
- ii. To know the level of Scientific Aptitude of Secondary School students.
- iii. To study Scientific Aptitude of Secondary School students in context to their gender.
- iv. To study Scientific Aptitude of Secondary School students in context to their area.
- v. To study Scientific Aptitude of Secondary School students in context to their standard.

VARIABLES OF THE STUDY

Table-1
Variables of the study

Sr. No	Type of Variable	Variable	Level	Category
1	Independent	Gender	2	❖ Male ❖ Female
2	Independent	Area	2	❖ Rural ❖ Urban
3	Independent	Standard	2	❖ Stdandard-9 ❖ Stdandard-10
4	Dependent	Scientific Aptitude	-	

HYPOTHESIS OF THE STUDY

Hypothesis in the present study were as follows:

- Ho₁ There will be no significant difference between average score of boys and girls of secondary schools on the Scientific Aptitude Test.
- Ho₂ There will be no significant difference between average score of students of secondary schools from urban area and rural area on the Scientific Aptitude Test.
- Ho₃ There will be no significant difference between average score of students of std. IX and std. X of secondary schools on the Scientific Aptitude Test.
- Ho₄ There will be no significant difference between average score of boys and girls of std. IX of secondary schools on the Scientific Aptitude Test.
- Ho₅ There will be no significant difference between average score of boys and girls of std. X of secondary schools on the Scientific Aptitude Test.
- Ho₆ There will be no significant difference between average score of boys and girls of secondary schools from rural area on the Scientific Aptitude Test.
- Ho₇ There will be no significant difference between average score of boys and girls of secondary schools from urban area on the Scientific Aptitude Test.
- Ho₈ There will be no significant difference between average score of boys from rural area and urban area of secondary schools on the Scientific Aptitude Test.
- Ho₉ There will be no significant difference between average score of girls from rural area and urban area of secondary schools on the Scientific Aptitude Test.
- Ho₁₀ There will be no significant difference between average score of boys of Std. IX and Std. X of secondary schools on the Scientific Aptitude Test.
- Ho₁₀ There will be no significant difference between average score of girls of Std. IX and Std. X of secondary schools on the Scientific Aptitude Test.

LIMITATIONS OF THE STUDY

Limitations of the present study were as follows:

1. Present study is limited to the schools of five district of central Gujarat.
2. Present study is limited up to Gujarati medium schools only.
3. Present study is having limitation up to the limitation of research equipment.

POPULATION OF THE STUDY

The researcher had decided to study of Scientific Aptitude of Secondary schools students. Therefore, Students of std. IX and std. X, studying in Gujarati medium Secondary Schools of Central Gujarat in academic year 2019-20, were considered in the population of the present study.

SAMPLE OF THE STUDY

Total 3154 students were selected using stratified systematic sampling method and cluster sampling method for the present study, in which 1565 students (780 boys and 785 girls) were selected from rural area where as 1589 students (800 boys and 789 girls) were selected from urban area.

METHOD OF THE STUDY

Descriptive Survey Method was selected since the research was dealt with the data collection and analysis for measurement of spiritual intelligence.

TOOL OF THE STUDY

The present study was aimed to study Scientific Aptitude of students in relation to some variables, so the Scientific Aptitude Test constructed and standardized by Dr Kiranben J. Patel was used in this study.

METHOD OF DATA ANALYSIS

The investigator had computed Mean, Standard Deviation, t-value, Quartile Deviation and percentage using classified score of obtained data in relation to various decided variables for testing of null hypotheses and Presentation of graphs as required per group. Whole calculation was made with the help of Microsoft Excel Programme with the Computer

FINDINGS OF THE STUDY

1. Effect of intelligence found on Spatial ability. Students having high level of IQ is more superior than students having low level of IQ as far as their spatial ability concern.
2. Effect of gender not found on spatial ability of students of high level of IQ. Thus, boys and girls of high level IQ found equal as far as spatial ability concern.
3. Effect of gender not found on spatial ability of students of low level of IQ. Thus, boys and girls of low level IQ found equal as far as spatial ability concern.
4. Effect of intelligence found on Spatial ability of boys. Boys having high level of IQ is more superior than boys having low level of IQ as far as their spatial ability concern.
5. Effect of intelligence found on Spatial ability of girls. girls having high level of IQ is more superior than girls having low level of IQ as far as their spatial ability concern.
6. Effect of intelligence found on Spatial ability of standard-9th students. Students of Standard-9th of high level of IQ is more superior than standard-9th students of low level of IQ as far as their spatial ability concern.
7. Effect of intelligence found on Spatial ability of standard-10th students. Students of Standard-10th of high level of IQ is more superior than standard-10th students of low level of IQ as far as their spatial ability concern.
8. Effect of intelligence found on Spatial ability of urban area students. Students of urban area having high level of IQ is more superior than students of urban area having low level of IQ as far as their spatial ability concern.
9. Effect of intelligence found on Spatial ability of rural area students. Students of rural area having high level of IQ is more superior than students of rural area having low level of IQ as far as their spatial ability concern.
10. Effect of educational achievement found on Spatial ability. Students having high level of educational achievement is more superior than students having low level of educational achievement as far as their spatial ability concern.
11. Effect of gender not found on spatial ability of students of high level of educational achievement. Thus, boys and girls of high level educational achievement found equal as far as spatial ability concern.
12. Effect of gender not found on spatial ability of students of low level of educational achievement. Thus, boys and girls of low level educational achievement found equal as far as spatial ability concern.
13. Effect of educational achievement found on Spatial ability of boys. Boys having high level of educational achievement is more superior than boys having low level of educational achievement as far as their spatial ability concern.
14. Effect of educational achievement found on Spatial ability of girls. girls having high level of educational achievement is more superior than girls having low level of educational achievement as far as their spatial ability concern.
15. Effect of educational achievement found on Spatial ability of standard-9th students. Students of Standard-9th of high level of educational achievement is more superior than standard-9th students of low level of educational achievement as far as their spatial ability concern.

16. Effect of educational achievement found on Spatial ability of standard-10th students. Students of Standard-10th of high level of educational achievement is more superior than standard-10th students of low level of educational achievement as far as their spatial ability concern.
17. Effect of educational achievement found on Spatial ability of urban area students. Students of urban area having high level of educational achievement is more superior than students of urban area having low level of educational achievement as far as their spatial ability concern.
18. Effect of educational achievement found on Spatial ability of rural area students. Students of rural area having high level of educational achievement is more superior than students of rural area having low level of educational achievement as far as their spatial ability concern.

CONCLUSION

Each and every research work suggests new direction for future researches and indicates limitation of that completed work. The present study is a humble effort to study Scientific Aptitude of students studying in secondary schools of Central Gujarat. This study is limited for students of Gujarati medium secondary schools of Central Gujarat so it can not be applied to the whole universe. In spite of this fact, the present study will be useful to teachers and parents to know Scientific Aptitudes of children and to increase the Aptitudes at higher level. Then only this effort will be proved to be significant. This theses is like a small work conducted by the investigator. If there is any defect or imperfection, it is kindly requested to consider it pardonable.

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