

# A STUDY OF SCIENTIFIC APTITUDE OF SECONDARY SCHOOLS STUDENTS IN CONTEXT OF CERTAIN VARIABLES

Dr. Vanraj P. Vyas

Assistant Professor  
MGLI, Ahmedabad.

## Abstract

*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."*

## 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."*<sup>1</sup>

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 PRESENT RESEARCH

1. To Study the scientific aptitude of students studying in secondary school.
2. To Study the category of scientific aptitude of students studying in secondary school.
3. To Study the scientific aptitude of students studying in secondary school in context of their cast.
4. To Study the scientific aptitude of students studying in secondary school in context of their area.
5. To Study the scientific aptitude of students studying in secondary school in context of their standard.

### RESEARCH VARIABLES

In the present study, gender, area and Standard were independent variables and Scientific aptitude were considered as dependent variable.

### HYPOTHESIS

- Ho1 There will be no significant difference between mean score of boys and girls of secondary schools on the Scientific Aptitude Test.
- Ho2 There will be no significant difference between mean 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 mean score of students of standard-IX and standard-X of secondary schools on the Scientific Aptitude Test.
- Ho4 There will be no significant difference between mean score of boys and girls of standard-IX of secondary schools on the Scientific Aptitude Test.
- Ho5 There will be no significant difference between mean score of boys and girls of standard-X of secondary schools on the Scientific Aptitude Test.
- Ho6 There will be no significant difference between mean score of boys and girls of secondary schools from rural area on the Scientific Aptitude Test.
- Ho7 There will be no significant difference between mean score of boys and girls of secondary schools from urban area on the Scientific Aptitude Test.
- Ho8 There will be no significant difference between mean 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 mean 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 mean score of boys of Standard-IX and Standard-X of secondary schools on the Scientific Aptitude Test.
- Ho11 There will be no significant difference between mean score of girls of Standard-IX and Standard-X of secondary schools on the Scientific Aptitude Test.

### LIMITATION OF THE STUDY

Limitations of present research are 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.

### RESEARCH METHOD

In the present study survey method was used for data collection

#### Sample of 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.

#### Research Tool

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.

#### Data Analysis Technique

The investigator had computed Mean, Standard Deviation, Critical ratio, Quartile Deviation and percentage using classified score of obtained data in relation to various decided variables for testing of null hypotheses. Whole calculation was made with the help of Microsoft Excel programme on a computer.

### FINDINGS

1. Students of entire sample having medium level of Scientific Aptitude.
2. Effect of gender was not found on the Scientific Aptitude. Boys and girls were equal as far as their Scientific Aptitude concern.

3. Effect of area was not found on the Scientific Aptitude of secondary school students. Students from rural and urban area were equal as far as their Scientific Aptitude concern.
4. Effect of standard was found on Scientific Aptitude of the secondary school students. Students of Standard-X were more superior than students of Standard-IX. as far as their scientific aptitude concern.
5. Effect of gender was not found on Scientific Aptitude of Standard-IX. Students. Thus, Boys and girls of Standard-IX were equal as far as their Scientific Aptitude concern.
6. Effect of gender was not found on Scientific Aptitude of Standard-X. Students. Thus, Boys and girls of Standard-X were equal as far as their Scientific Aptitude concern.
7. Effect of gender was not found on Scientific Aptitude of rural area students. Thus, Boys and girls of rural area were equal as far as their Scientific Aptitude concern.
8. Effect of gender was not found on Scientific Aptitude of urban area students. Thus, Boys and girls of urban area were equal as far as their Scientific Aptitude concern.
9. Effect of area was found on Scientific Aptitude of boys. Boys of urban area were more superior than boys of rural area. as far as their scientific aptitude concern.
10. Effect of area was not found on Scientific Aptitude of Girls. Thus, Girls of urban and rural area were equal as far as their Scientific Aptitude concern.
11. Effect of standard was not found on Scientific Aptitude of Boys. Thus, Boys of Standard-IX and Standard-X were equal as far as their Scientific Aptitude concern.
12. Effect of standard was found on Scientific Aptitude of Girls. Girls of Standard-X were more superior than girls of Standard-IX. as far as their scientific aptitude 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 cannot 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.

## REFERENCES

- [1] Agrawal, R. N. (1964). Education and Psychological Measurement, Vikas Pustak Mandir, Agra.
- [2] Desai, H. G. and K. G. Desai (1984), Research Methods and Techniques, Ahmadabad: University Granth Nirman Board, Gujarat State.
- [3] Mangal S. K. (2003). Advanced Educational Psychology, Second edition, Prentice-Hall of India Private Limited, New Delhi.
- [4] Parekh, B. U and M. D. Trivedi (1994), Statistics in Education (4<sup>th</sup> edit.), Ahmedabad: University Granth Nirman Board, Gujarat State.
- [5] Sidhu, K. S. (1996). Methodology of Research in Education, New Delhi, Sterling Publications Pvt. Ltd.