

A STUDY OF SCIENTIFIC ATTITUDE OF IX CLASS STUDENTS

Mr. Y. Varaprasada Reddy¹, Dr.P.Harinath²

¹Research Scholar, Department of Education, Sri Venkateswara University, Tirupati (AP), India.

[E-mail: prasadreddy.edu@gmail.com](mailto:prasadreddy.edu@gmail.com)

²Principal, Sri Rajeswari.College of Education, Nandyal, Kurnool Dist., (A.P), India.

ABSTRACT:

One widening realization of the last few decades has been that knowledge is a continuum and the boundaries between disciplines are increasingly becoming blurred, tenuous and indefinable. India has merely 119 researchers, whereas Japan has 5287 and the US has 4484 researchers per million of population (Pavan, 2006).

Science education should take the responsibility to produce the researchers in our country. Science education should be for all up to secondary level in order to develop scientific temper amongst the masses. Science education provides field to a person to create something new, for the society and for the nation. Although creativity is not related to any particular subject area, but science education has much wider scope of fostering and encouraging creativity.

Keywords: IX Class Students, Scientific Attitude, Need and Variables.

1. INTRODUCTION:

Science education has generally involved teaching not only a body of knowledge but also the processes and activities of scientific work. This view has linked the scientific uses of technology with hands-on experiences. The term "hands-on science" was descriptive of the major curriculum reform projects of the 1960s and became a label for a revolution in teaching science through the next two decades (Flick, 1993).

Fifth survey of research in education (1988) on science education "If we throw a bridge between science and education, with psychology, we arrive at the concept of science education; bluntly speaking is an integrated concept. If so, it is within the sphere of possibility to link the most powerful concepts of science to the growing minds of children through active experimental pedagogy. In that case, science education need no longer remain a single-dimension activity. It would be our job then to develop the scientific and technical capabilities of our school going pupils".

Indian scientists made significant contributions to the advancement of science and technology in the 1950s and '60s. This was possible because of the support extended to science education and research by the successive governments. Numerous research and development institutions were established across the country. However, over the years, in spite of continuing government support, both the quality and quantity of the research output from India has been on the decline as has been pointed out by Prof. C.N.R. Rao. It is necessary to examine the reasons for this decline and implement remedial measures.

2. STATEMENT OF THE PROBLEM:

The problem taken by the investigator for investigation is "A STUDY OF SCIENTIFIC ATTITUDE OF IX CLASS STUDENTS".

3. NEED FOR THE STUDY :

All the countries are demanding for good quality of science teachers because they understood the link between scientific advancement and development of the nation. But the research work on the qualities and abilities of the teacher is not yet taken place. Good teaching will flow with good teachers only. Who should be the teacher in the school? Any one can give the list of all positive qualities of the best human being in the world. The qualifications of the secondary teacher are graduation with professional degree. With the degree and one year professional qualifications is there any possibility of earning all the qualities of the good teacher. In these days students are depending on tuitions to understand the subject. And all the students are interested to go for tuitions and majority of these tuition masters are not trained teachers. If they are able to understand better with

the tuition master than the trained teacher than what is the use of this qualification. In some cases top students in the class are also handling tuitions for their classmates. There is a need for the research in this area to identify the suitable qualities of the teacher.

The main focus of the present study was, “**A STUDY OF SCIENTIFIC ATTITUDE OF IX CLASS STUDENTS**”.

4. SCOPE OF THE STUDY :

The main intention of the study is to find the relation of scientific attitude of IX class students with locality, sex and management.

5. OBJECTIVES OF THE STUDY :

The following are the main objectives of the present study.

1. To study the influence of management on the scientific attitude of IX class students.
2. To study the influence of locality on the scientific attitude of IX class students.
3. To study the influence of sex on the scientific attitude of IX class students.

6. HYPOTHESES OF THE STUDY :

Based on the above objectives the following hypotheses are formulated.

1. There would be no significant influence of management on the scientific attitude of IX class students.
2. There would be no significant influence of locality on the scientific attitude of IX class students.
3. There would be no significant influence of sex on the scientific attitude of IX class students.

7. VARIABLES STUDIED :

The following variables were taken into consideration in this study.

Independent Variables : Management, Locality and sex.

Dependent Variable: Scientific attitude of IX class students.

8. TOOLS USED :

- Scientific attitude of IX class students test
- The Board of District Common Examination Board half yearly marks were taken as the indices of the level of academic achievement of the IX class pupils.
- Socio – Demographic scale

9. SAMPLE SELECTED :

The sample for the investigation consisted of 300 IX class pupils in Kurnool district. The stratified random sampling was applied in three stages. The first stage is management i.e. Government, Private and aided the second stage is locality i.e. rural and urban and third stage is sex i.e. male and female. It is a 3X2X2 factorial design with 300 sample subjects.

10. COLLECTION OF DATA AND ANALYSIS :

The investigator personally visited secondary schools with the permission of the head masters of the schools. The students who attended to the school on the day of collection of data are considered for the purpose of the investigation. It was provided to the concerned students of the school. The students were given necessary instructions about the instruments and motivated to respond genuinely to all the items. The Errors committed by IX class pupils in scientific attitude of IX class students test and personal data sheet were administered.

The data on each variable in the investigation is properly coded to suit for computer analysis.

The analysis was carried out on the basis of objectives of the investigation and hypotheses formulated by employing appropriate statistical techniques.

Measures of central tendency, measures of dispersion, skewness, kurtosis and standard error of mean were computed wherever necessary. The inferential statistical techniques such as ‘t’ test (critical ratio) and ‘F’ test were employed to test different hypotheses.

Management :

The relationship of scientific attitude of IX class students with their management is studied in the present investigation. On the basis of management, the IX class students are divided into three groups. The Government school students form with the Group – I, Group – II forms with the Private school students and Group – III forms with Aided students. The corresponding scientific attitude of IX class students of the three groups were analyzed accordingly. The mean values of scientific attitude of IX class students for the three groups were tested for significance by employing 'F' - test. The following hypothesis is framed.

Hypothesis – 1

There would be no significant impact of 'management' on the scientific attitude of IX class students.

The above hypothesis is tested by employing 'F' - test. The results are presented in **Table – 1**.

Table – 1 : Influence of management on the scientific attitude of IX class students

S. No.	Management	N	Mean	S.D.	'F' – Test
1.	Government	100	227.69	35.93	34.749**
2.	Private	100	192.00	15.04	
3.	Aided	100	196.33	41.53	

** Indicates significant at 0.01 level

It is found from the Table – 1 that the computed value of 'F' (34.749) is greater than the critical value of 'F' (4.68) for 2 and 297 df at 0.01 level of significance. Hence the Hypothesis – 1 is rejected at 0.01 level. Therefore it is concluded that the management has significant influence on the scientific attitude of IX class students.

Locality :

The relationship of scientific attitude of IX class students with their locality is studied in the present investigation. On the basis of locality, the IX class students are divided into two groups. The rural students form with the Group – I and Group – II forms with the urban students. The scientific attitude of IX class students of the two groups were analyzed accordingly. The scientific attitude of IX class students for the two groups were tested for significance by employing 't' - test. The following hypothesis is framed.

Hypothesis – 2

There would be no significant impact of 'locality' on the scientific attitude of IX class students.

The above hypothesis is tested by employing 't' - test. The results are presented in **Table – 2**.

Table – 2 : Influence of locality on the scientific attitude of IX class students

S. No.	Locality	N	Mean	S.D.	't' - Test
1.	Rural	150	207.04	35.43	0.807@
2.	Urban	150	203.64	37.50	

@ Indicates not significant at 0.05 level

It is found from the Table – 2 that the computed value of 't' (0.807) is less than the critical value of 't' (1.97) for 1 and 298 df at 0.05 level of significance. Hence the Hypothesis – 2 is accepted at 0.05 level. Therefore it is concluded that the locality has not significant influence on the scientific attitude of IX class students.

Sex :

The relationship of scientific attitude of IX class students with their sex is studied in the present investigation. On the basis of sex, the IX class students divided into two groups. The boys form with the Group – I and Group – II forms with the girls. The scientific attitude of IX class students of the two groups were analyzed accordingly. The scientific attitude of IX class students for the two groups were tested for significance by employing 't' - test. The following hypothesis is framed.

Hypothesis – 3

There would be no significant impact of 'sex' on the scientific attitude of IX class students.

The above hypothesis is tested by employing 't' - test. The results are presented in **Table – 3**.

Table – 3 : Influence of sex on the scientific attitude of IX class students

S. No.	Sex	N	Mean	S.D.	't' - Test
1.	Boys	150	199.25	33.79	2.931**
2.	Girls	150	211.43	38.10	

** Indicates significant at 0.01 level

It is found from the Table – 3 that the computed value of 't' (2.931) is greater than the critical value of 't' (2.59) for 1 and 298 df at 0.01 level of significance. Hence the Hypothesis – 3 is rejected at 0.01 level. Therefore it is concluded that the sex has significant influence on the scientific attitude of IX class students.

11. CONCLUSIONS :

In the light of the findings presented in preceding pages, the following conclusions are drawn.

1. Sex has significant influence on the scientific attitude of IX class students.
2. Management has significant influence on the scientific attitude of IX class students.
3. Locality has not significant influence on the scientific attitude of IX class students.

12. EDUCATIONAL IMPLICATIONS:

1. Management is highly influence on the scientific attitude of IX class students. The administrators to provide physical facilities for various types of managements.
2. Sex is highly influence on the scientific attitude of IX class students. The administrators to provide facilities for Girls.
3. The Science teachers should create interest in students thorough their effective teaching.
4. The teachers should encourage the students on doing practical in science by giving sufficient number of demonstrations.
5. The school management should take care in providing proper infrastructure sufficient materials for the Science laboratories etc.
6. The students should be given correct and proper knowledge about the objectives of learning Science.
7. Relevant science books and reference books should be purchased for the school library for ready reference.
8. Science exhibitions should be conducted at school level district level and state level to inculcate creative ability and interest in students in science field.

References:

- [1] Freedman M.P. (1997). Relationship among laboratory instruction, attitude toward science, and achievement in science knowledge. *Journal of Research in Science Teaching* 34(4), 343-357.
- [2] George R. & Kaplan D (1998). A structural model of parent and teacher influence on science attitudes of eight graders : evidence from NELS : 88. *Science Education*, 82(1), 93
- [3] Lewy and W.W.Welch – 'Science attitude towards' *The International Encyclopedia of Education* – 1985.
- [4] J.M.G. Howe. A & Rua M.J. (2000). Gender differences in student's experiences, interests, and attitudes toward science and scientists. *Science Education*, 84(2), 180-192.
- [5] Nagarjuna (2002), "A study of scientific attitude of IX class students", M.Ed. dissertation, S.V.University, Tirupati. -109.
- [6] Osborne, J. Simon S. & Collins, S. (2003). Attitudes towards science: a review of the literature and its implications. *International Journal of Science Education*, 25(9), 1049-1079.
- [7] Vali (2005) "A study of scientific attitude of primary school teachers", M.Ed. dissertation, S.V.University, Tirupati.