

Attitude Towards Science Among Secondary School Students in Aizawl District

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Abstract

A descriptive study was conducted with an objective to find out the attitude towards science among secondary school students. The study was conducted with a sample of 367 students from government and private secondary schools within Aizawl district, Mizoram. The tool used was Attitude Towards Science Scale (ATSS) developed by Dr. Anuradha Agnihotri, Lecturer, Dev Samaj College of Education, Chandigarh in 2009. The findings of the study showed that the overall attitude of students towards science is low. The result of the study showed that female secondary students have a more positive attitude towards science than their male counterpart. The result also revealed that there is no difference in the attitude towards science between government and private secondary school students. The result also showed that there is no significant difference in the attitude towards science between class-ix and class-ix students. It was concluded that special emphasis and steps may be taken by teachers to motivate their students especially male students in developing scientific and positive attitude towards science. Moreover, keeping in view that science is not only meant for girls, teachers as well as the society cannot escape the responsibility to present science equally to male and female students and to expect students to engage thoughtfully in science activities. Teachers and society should work together in molding the same attitude towards science to both male and female.

Keywords: Attitude, Science, Secondary School, Students.

INTRODUCTION

Attitude is an important component of behaviour of a student. One's behaviour, by and large, depends on one's attitude towards ideas, persons or objects in one's environment. Among the students, formation of attitude starts right from the very beginning in the immediate environment provided by the parents, friends, neighbourhood, school, and society at large.

Science attitude has been understood as the positive and negative feelings than an individual holds about science. In general attitude towards science refers to an interest in science, attitude toward scientists, or attitude towards social responsibility in science. It is clear that science is one of the most important subjects for students in shaping their future. Students who have more interest in science subjects are likely to pursue further scientific education and scientific careers. So in order to succeed in the school and beyond, students must have positive attitude towards science.

NEED OF THE STUDY

The Attitude of students towards Science largely affects the academic performance and achievement of the school and the success of the students. Thus, the present study is vital for the qualitative and quantitative educational development of students and their attitude towards science as a subject and as a discipline for building their future career. And this study attempt to explore the attitude towards Science among secondary school students of Aizawl district.

It has also been observed that there is a significant difference in the academic achievement of boys and girls as is seen from the MBSE results. It is therefore important to ascertain if this difference in academic achievement between boys and girls is due to differences in their attitude towards Science. It is also important to know the status of government and private school students in their attitude towards Science as most of the government school students do not take up science in their further studies. It is also important to know whether there is a difference in the attitude towards Science between the two classes i.e class- ix & class-x at secondary stage. It is important to know the difference in their attitude level as it is a crucial stage to develop a positive Attitude towards Science.

OBJECTIVES OF THE STUDY

1. To study the attitude towards science among secondary school students.
2. To compare the attitude towards science between male and female secondary school students.
3. To compare the attitude towards science between government and private secondary school students.
4. To compare the attitude towards science between Class-IX and Class-X students.

HYPOTHESES OF THE STUDY

1. There is no significant difference in the attitude towards science between male and female secondary school students.
2. There is no significant difference in the attitude towards science between government and private secondary school students.
3. There is no significant difference in the attitude towards science between Class-IX and Class-X students.

MATERIALS AND METHODS

Descriptive survey method was adopted for the study. The study was conducted in Aizawl district. The target population for the study was all secondary school students within Aizawl district. Sample of 367 students from private and government secondary schools were selected. The tool used for data collection was Attitude Towards Science Scale (ATSS) developed by Dr. Anuradha Agnihotri. The analysis of data was done by using descriptive statistics like measures of central tendency and variability and inferential statistics like t-test for testing the hypothesis.

ANALYSIS AND INTERPRETATION OF THE DATA COLLECTED

Objective 1. To study the attitude towards science among secondary school students.

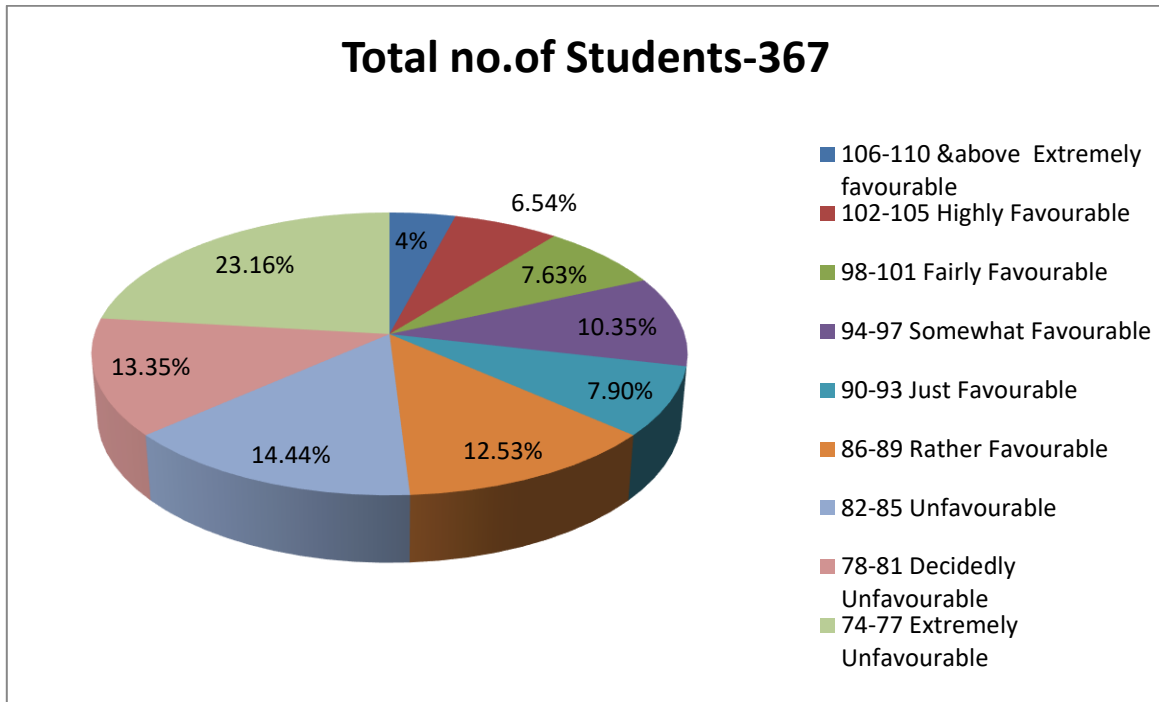


Figure 1.0. Chart showing the Attitude towards Science among Secondary School students

From percentage distribution shown in the above chart, it is clear that many of the students showed Attitude interpretation of Extremely Unfavourable. So according to the norms of the ATSS Scale, the overall Attitude towards Science among Secondary School students can be considered Extremely Unfavourable or Low.

Objective No.2. To compare the attitude towards science between male and female secondary school students.

Table.1. t-test for attitude towards science between male and female secondary school students.

Gender	No. of Students	Mean	SD	t-value	Df	Significant Level
Male	188	84.03	13.09	2.36	365	0.05
Female	179	87.07	11.56			

table value of t at 0.05 level=1.97 and at 0.01 level= 2.59

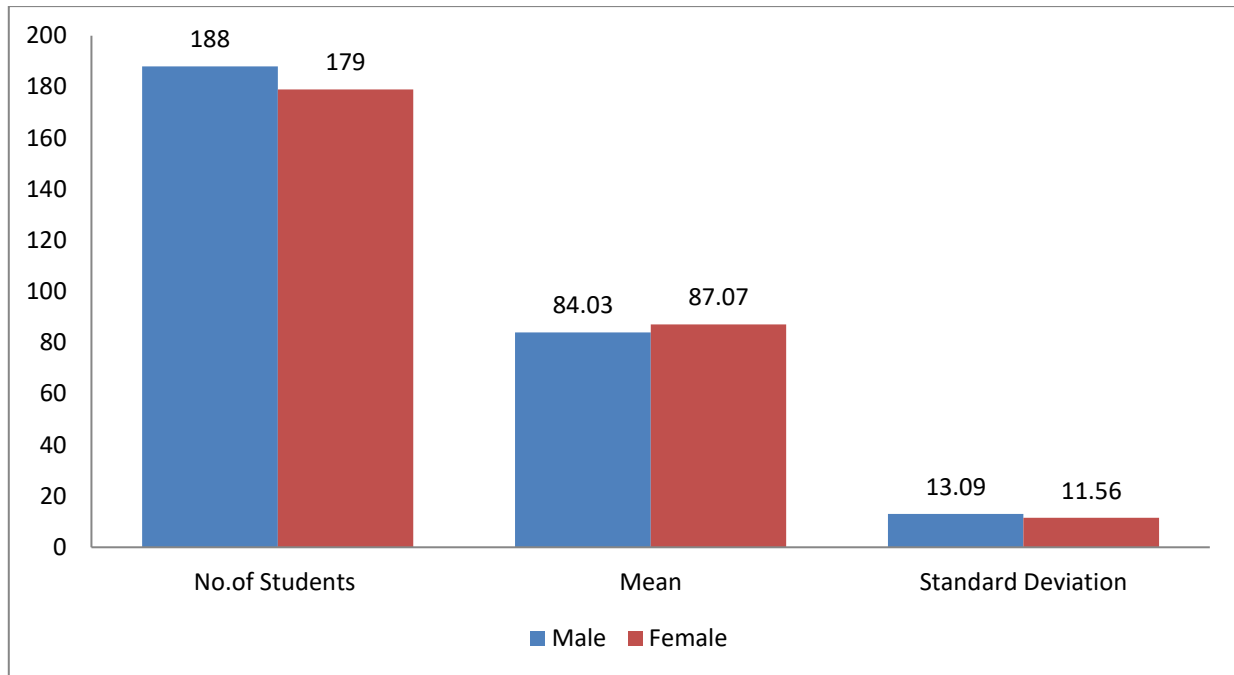


Figure 1.1. Graphical presentation of the Attitude towards Science between Male and Female Secondary School students.

Table 1 shows that the calculated value of ‘t’ is more than the table value of ‘t’ at 0.05 level. So, the null hypothesis no.1 stating ‘there is no significant difference in the attitude towards science between male and female secondary school students’ is rejected.

From Figure 1.1, The mean score of male is found to be 84.03 which indicated that the attitude towards science is Unfavourable or Below Average. While, the mean score of female is 87.07 which indicated that the attitude towards science is Rather Favourable or Average. The result indicated that female students have more positive Attitude towards Science as compared to male students.

Objective No. 3. To compare the attitude towards science between government and private secondary school students.

Table.2. t-test for attitude towards science of government and private secondary school students

School Type	No. of Students	Mean	SD	t-value	Df	Significant Level
Government	174	86.04	11.29	0.98	365	Not Significant
Private	193	84.76	13.79			

table value of t at 0.05 level=1.97 and at 0.01 level =2.59

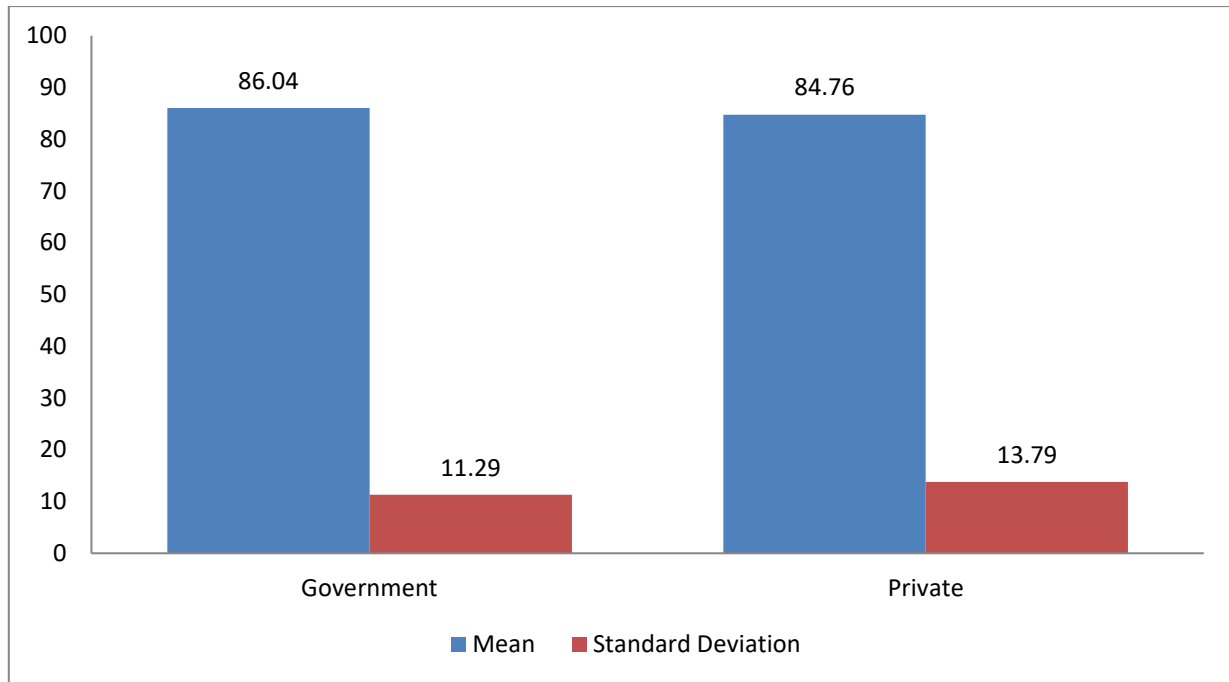


Figure 1.2. Graphical presentation of the Attitude towards Science between Government and Private Secondary School students.

As shown in table..., the calculated value of ‘t’ i.e 0.98 is lesser than the table value of ‘t’ at 0.05 level. Thus, the null hypothesis no.2 stating ‘There is no significant difference in the attitude towards science between government and private secondary schools students’ is accepted.

From the above graph, it is seen that the attitude score of government students is Rather Favourable or Average while the score of private students is Unfavourable or Below Average according to the norms of the scale.

Objective No. 4. To compare the Attitude towards Science between Class-IX and Class-X students.

Table.3. t-test for attitude towards science of Class-IX and Class-X students.

Standard	No. of Students	Mean	SD	t- value	Df	Significant Level
Class-IX	162	85.93	12.46	0.52	365	Not Significant
Class-X	205	85.25	12.57			

table value of t at 0.05 level=1.97 and at 0.01 level=2.59

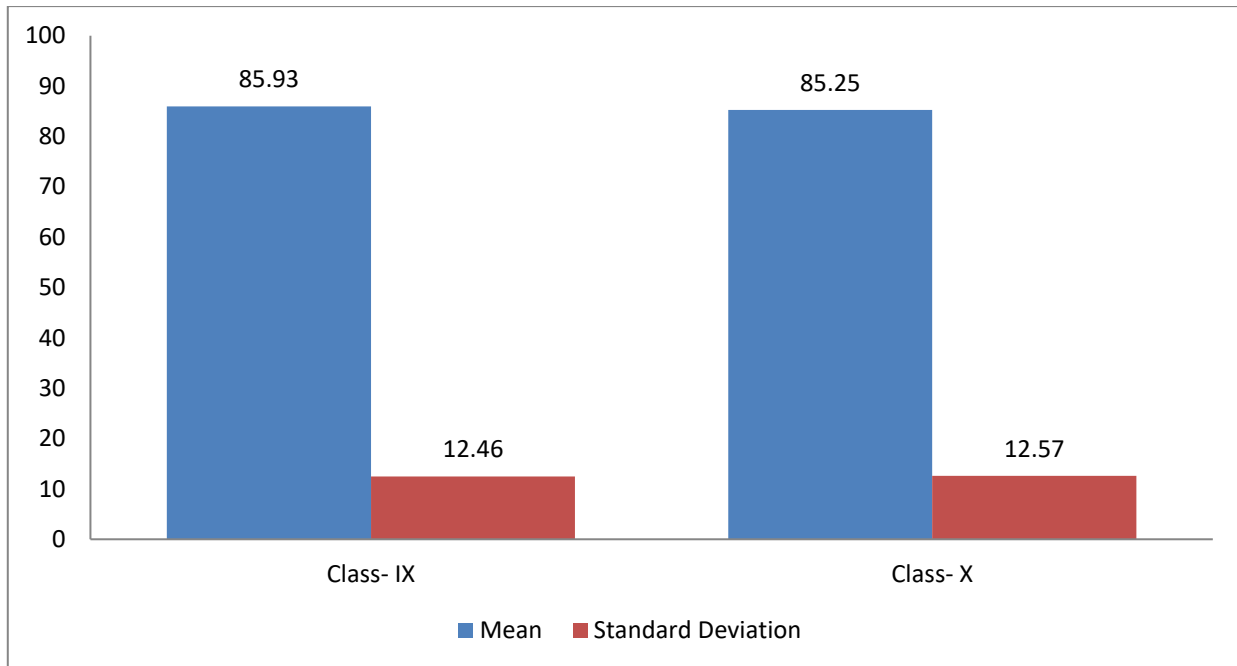


Figure 1.3. Graphical presentation of the Attitude towards Science between Class-IX and Class-X students.

As shown in Table 3, the calculation of values of mean and standard deviation of attitude scores gives the ‘t’ value of 0.52. Therefore, the null hypothesis no.3 stating ‘There is no significant difference in the attitude towards science between Class-IX and Class-X students’ is accepted.

Figure 1.3 indicated that Class-IX student’s attitude towards science fell on the category of Rather Favourable or Average and Class-X student’s attitude towards science fell on the category of Unfavourable or Below Average according to the norms of the scale.

RESULTS AND DISCUSSIONS

The present study deals with 367 students of different schools in Aizawl District. From percentage distribution it was found that most of the student’s attitude score fell on the category of ‘Low’ which means that the overall attitude towards science of secondary school students is Extremely Unfavourable or Low according to the Norms of the ATSS Scale.

The negative attitude towards science can be due to many reasons and may influence in low enrollment in science subject or choosing of different subjects other than science in higher education.

The result of the study regarding student’s attitude towards science in terms of gender revealed that female students have a higher level of attitude towards science as compared to male students which means that female have a more favourable attitude towards science than male.

The reason for the low attitude scores of male students towards science can be explained by lack of commitment in education. Female students are found to be more hardworking and sincere in their studies compared to their male counterpart. This may explain the fact that the Attitude of male students towards Science is relatively low.

The study of student’s attitude towards science in relation to type of school revealed that there is no significant difference between government and private secondary school students.

The reason why there is no significant difference in the attitude towards science among secondary school students with reference to their school type of management may be because the approach in teaching science is same both in government and private schools.

The study of student's attitude towards science in relation to their class/standard revealed that there is no significant difference in the attitude towards science between class-ix and class-x students.

The fact that there is no significant difference in the level of attitude towards science with reference to their class i.e class-ix and class-x, in this study is that both the classes are at secondary level and there is not much difference in their age gap. So, the attitude level cannot variate much between the two consecutive class.

CONCLUSION

1. The overall attitude towards science among secondary school students of Aizawl district is found to be low. This means that the students had no or little interest in science and science subject.

The decrease in interest of science among the learners obviously results in the decrease of students who take up science subject which will further result in low enrollment rate of science subject in higher education. Due to this, steps may be taken by teachers to motivate their students in developing scientific and positive attitude towards science. More research may also be conducted to find out the factors that influence student's attitude towards science.

2. The result showed that female students have more positive attitude towards science than male students. This indicated that male students need to improve in their Attitude towards Science and take help from their teachers, parents and by taking steps by themselves with the help of various materials to improve their attitude towards science.

Teachers need to engage young students especially male with exciting materials and experiences that will motivate them to learn and pursue science throughout their school.

Students studying in government and private schools showed no difference in their attitude towards science. This indicated that the type of school management had no influenced in shaping and developing student's attitude towards science. However, the school must realize the needs and interest of the child in developing scientific attitude and promote science learning.

3. Students of Class-IX and Class-X showed no difference in their attitude towards science. This clearly shows that standard of learning or age does not have an effect on the students Attitude towards Science.

The evidence from this study showed that the gender issue in the attitude towards science cannot be ignored. Hence, teachers and society should work together in molding the same attitude towards science to both male and female.

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