Abstract
Science is one of the important and compulsory subjects in the school curriculum. A science student engaged in a human activity is directed towards seeking new knowledge about living and non-living things. And physical science is the branch of science which deals with nature and natural phenomena. A student tries to acquire new concepts of nature through practicing or passing through the process of observation. During the process of teaching, the school will inculcate the higher virtues of science teaching such as critical thinking, accurate observation, scientific method and particularly arousing scientific curiosity. It paves way to the career deciding courses at +2 stage. The acquisition of the knowledge of scientific terms, principles and concepts, a clear understanding of them, the ability to use such knowledge in different situations in the life and in the development of skills should be the outcomes of teaching and learning of science. There is a need for awareness in science for the full fledged development of a child. Considering the importance of science “A Study of achievement in physical science of Secondary School Students in West Tripura District” was conducted. For this purpose Descriptive survey method of research was used. A sample of 130 secondary school students were selected randomly from six schools located in West Tripura district. The methodology includes ‘t’ test.
I. INTRODUCTION

The effect of science is quite obvious all around us. Science has brought about a change in our life style and also tremendous changes in our way of thinking, attitudes, outlook, etc. Science has become a part of our daily lives: all day, every day, and also where ever we go. Science is playing a major role in the present age to satisfy the needs and desires of the people and it has also become one of the human activities. Study of science develops our ability to generate many questions, collect information, organize and test our ideas, problem solving and apply what we learn. Not only these but also science has built a platform for building confidence, developing communication skills, and making science of the world around. Science is a way of knowing and thinking about the natural and physical world. Science covers the broad field of knowledge that deals with observed facts and the relationship among those facts. Observing, measuring, inferring, classifying, predicting, and communicating are some of the skills fundamental to science. They are not only integral to science investigations, solving problems, and making decisions; but also they contribute to science as a body of knowledge and a way of knowing. For the same reason teaching of science has become an unavoidable part of general education. In addition, science inculcates intellectual, cultural, aesthetic, moral, utilitarian as well as vocational values peculiar to it. The qualities imbibed by the learner through science are of great value to the citizen living in the society.

Science helps in satisfying the natural curiosity with which we all are born. And it is only with science we can find how nature is operated. It also specifies new natural laws through experimental work and using chain of evidence. And all these can be learned in a systematic, logical, thought oriented process through study of science. Specific observations, logical thinking, spirit of investigation, enquiry, and skill of asking questions are promoted through study of science only.

These can be developed among children through science teaching and learning in the classrooms. Science has been recognized as a compulsory subject right from the elementary stage and as one of the core subjects at secondary and higher secondary stages. It has taken a good many years of active and persistent effort to reach this position, because of its multifarious values gifted to the individual as well as to the society. The students can become more independent or self directive in their learning. These learning help children to meet their basic needs and also give a kind of satisfaction that cannot be achieved in any other way. If properly taught, science can and will help all children understand how to learn. Considering science from the intellectual point of view, it is the most inexhaustible storehouse of knowledge. Since nature is an inexhaustible source of knowledge, science as a subject, offers the widest range of knowledge to the learners.

The teaching of science is generally divided into two main categories:

1) Biological Sciences or Life Sciences, and 2) Physical Sciences.

Physical Sciences: Physical Sciences i.e., Physics and Chemistry - include those branches of science which are related with the study of non-living material. Physics is the branch of science which deals with nature and natural phenomena. It is the science which explains natural phenomenon or the behaviour of a natural system on the basis of
the established laws of nature. Physics is the study of the properties of matter and energy and concerns both, the macroscopic and microscopic state of the matter. Since the word achievement implies a value judgment, it is understood that any particular learning or behaviour that is learned may come within the scope of achievement. A science student engaged in a human activity is directed towards seeking new knowledge about living and non-living things. A student tries to acquire new concepts of nature through practicing science or passing through the process of observation. Today, the science students are not concerned with the memorization of facts alone. They are interested in relating facts, to the understanding of a given process. A problem solving attitude prevails among the students. Hence science should be learned and taught as a process of enquiry. The whole society accepts the importance of science. Considering the importance of science, the achievement of secondary school students in science was taken into consideration for a detailed study.

II. OBJECTIVES
1. To find out the level of achievement in physical science of secondary school students.
2. To find out the influence of following variables on achievement in physical science of secondary school students.
   a. Gender
   b. Type of school
   c. Residence
   d. Medium of instruction

III. HYPOTHESIS
1. There is no significant difference in achievement in physical science of boys and girls of secondary schools.
2. There is no significant difference in achievement in physical science of private and government secondary school students.
3. There is no significant difference in achievement in physical science of urban and rural secondary school students.
4. There is no significant difference in achievement in physical science of Bengali medium and English medium secondary school students.

III. DESIGN AND METHODOLOGY
Descriptive survey method of research is been employed for the present study. Through Stratified Random sampling, 130 students of X standard were selected for the study. Sampling was collected through lottery method from six schools of West Tripura District. Sample was collected from government, and private schools consisting of boys and girls of rural and urban students.

IV. SAMPLE DESIGN
Dr. Y. Chakradhara Singh, C. Arundhati Bai :: A Study of Achievement in Physical Science of Secondary School Students in West Tripura District

Sl No: | Name of the School                | No: of Students |
-------|-----------------------------------|-----------------|
       |                                   | Boys | Girls |
1      | Shiksha Nikethan High School      | 5    | 10    |
2      | ShiShu Bihar High School          | 15   | 10    |
3      | Borduali High School              | 15   | 15    |
4      | Mohanpur High School              | 7    | 8     |
5      | Fatikcherra High School           | 8    | 7     |
6      | Tarapur High School               | 15   | 15    |

Tools:
To measure the achievement in physical science, marks of board examination is taken into consideration. It is done so as, there is no standardized achievement test, and the board examination is conducted by a state level committee constituted by the Government of Tripura.

Statistical Analysis:
The mean scores are considered to compare the sub-sample variation in achievement levels. The values of standard deviation are applied to identify the dispersion of scores in each case. The data was analyzed using ‘t’ test.

V. ANALYSIS AND INTERPRETATION

To study achievement in physical science of secondary school students.

Table-1: Level of achievement in physical science possessed by the Whole Sample

<table>
<thead>
<tr>
<th>Sample size</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>47.9</td>
<td>23.21</td>
</tr>
</tbody>
</table>

It is evident from the above table-1, that the students of secondary schools hold average level of achievement in physical science.

Hypothesis-1: There is no significant difference in achievement in physical science of boys and girls of secondary schools.

Table -2: Comparison of achievement in physical science of Boys and Girls

<table>
<thead>
<tr>
<th>S.No</th>
<th>Category</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>‘t’ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Boys</td>
<td>65</td>
<td>50.66</td>
<td>22.49</td>
<td>0.66NS</td>
</tr>
<tr>
<td>2.</td>
<td>Girls</td>
<td>65</td>
<td>45.14</td>
<td>23.77</td>
<td></td>
</tr>
</tbody>
</table>

P at 0.01 level is 2.58 ,
# Not significant at 0.01 level

From the above table-2, it can be seen that there is no significant difference between the level of achievement in physical science possessed by both boys and girls. The difference is not significant as the obtained ‘t’ value (0.66) is less than ‘t’ table value (2.58) at 0.01 level of significance. Both the boys and girls are with average achievement. The achievement in physical science is average in both the groups.

Hypothesis-2: There is no significant difference in achievement in physical science of private and government secondary school students.
Table -3: Comparison of achievement in physical science in the Students of Private and Government Schools

<table>
<thead>
<tr>
<th>S.No</th>
<th>Category</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>‘t’ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Private</td>
<td>40</td>
<td>67.15</td>
<td>22.4</td>
<td>6.94$</td>
</tr>
<tr>
<td>2.</td>
<td>Govt</td>
<td>90</td>
<td>39.34</td>
<td>17.91</td>
<td></td>
</tr>
</tbody>
</table>

$ Significant at 0.01 level

According to table-3, there is a significant difference in the level of achievement of physical science possessed by the students studying in private and government schools. The students studying in private schools are found far better in holding achievement in physical science than those of government schools. Students of government schools are found to be with below average in physical science achievement. Medium of Instruction in government schools is Bengali medium and private schools were instructed in English medium.

**Hypothesis-3:** There is no significant difference in achievement in physical science of rural and urban secondary school students.

Table- 4 : Comparison of achievement in physical science in the Students of Rural and Urban Schools

<table>
<thead>
<tr>
<th>S.No</th>
<th>Category</th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>‘t’ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rural</td>
<td>60</td>
<td>35.65</td>
<td>14.65</td>
<td>4.62$</td>
</tr>
<tr>
<td>2.</td>
<td>Urban</td>
<td>70</td>
<td>58.4</td>
<td>24.1</td>
<td></td>
</tr>
</tbody>
</table>

$ Significant at 0.01 level

From the above table, it can be seen that there is significant difference between the level of achievement in physical science possessed by both rural and urban school students. It can be seen that urban students are relatively better in holding physical science achievement than rural students.

**VI. FINDINGS**

From the present study it is observed that the students studying in secondary schools hold an average level of achievement in physical science. No significant difference is found between the levels of achievement in physical science possessed by boys and girls. But the variables-Residence, Medium of Instruction and Type of school had significant difference in the level of achievement in physical science, and thus hypothesis is rejected. It can be seen that the students of urban secondary schools and English medium schools hold high achievement in physical science than those of rural secondary schools and Bengali medium schools.

**VII. SUGGESTIONS**

Based on the findings of the study some suggestions are worth mentioning. Science is one of the important and compulsory subjects in the school curriculum and it occupies
important place in the secondary schools. It helps the students to decide their study subjects at +2 stage. So there must be a good achievement in science at secondary school level itself. And this achievement depends on students’ interest in science, class environmental, usage of laboratories and libraries, use of audio – visual aids in teaching learning situations etc. If these are provided and implemented properly, then there will be a good and higher achievement. It is a known fact that facilities in urban areas and private schools are better than those of rural and government schools. If the above requirement is implemented in well mannered way by government schools and also in rural areas it will definitely be helpful in gaining higher achievement. It is found that boys are holding higher achievements in physical science than girls, so teachers must help girls in achieving well in science examinations. Good library, laboratories, teaching and learning aids, must be provided for better results in all schools irrespective of their location.

VIII. SUGGESTIONS FOR FURTHER RESEARCH

Based on the present study, a good number of new areas can be studied by the future researchers. The areas, variables and other factors which are not covered by this study may be put to test associating with achievement. Critical observations can also be taken up at different levels, students studying in state and central schools, to identify the influence of educated and uneducated parents on students’ achievement, to find the effect of digital classrooms on achievement of the students, etc.

IX. REFERENCES


Dr. Y. Chakradhara Singh, C. Arundhati Bai :: A Study of Achievement in Physical Science of Secondary School Students in West Tripura District