# "AN ANALYSIS OF SECONDARY SCHOOL STUDENTS' OPINION ON LEARNING SCIENCE AS A SUBJECT OF STUDY"

**Dr. Malini.L** Principal Hasanamba College of Education Hassan-District ,Karnataka State

**Abstract:**

Learning is mind illuminating activity learner has to be initiated to this learning. Learning not only depends on intelligence but also on the level of interest and attitude of the leaner. So also the sincere efforts made by the teacher to teach the subject in an interesting manner. This study is made to collect student's opinion on their learning of the subject science. Here is an attempt to study students' opinion on learning Science.

**Key terms: Secondary school: –** where they study 8th, 9th and 10th classes in Arsikere, Hassan District , Karnataka state, **Learning science: -** acquisition scientific process and product components as a discipline of knowledge.

## Introduction:

Learning science is an integral part of human civilization and culture. Scientific knowledge has expanded and refined due to unquenched curiosity in the human endeavour. Scientific knowledge is useful to the development of knowledge which seeks proof of experimentation.

There is always scope for modification of knowledge as there are additions to the present knowledge. There are abundant values developed due to the learning of science like intellectual, utilitarian, cultural, disciplinary, recreational aesthetic etc. They not only provide basis for human thinking and development but also to improve our individual and social life through economic development.

Hence it is evident that science has to be taught to the student at an early age to the children as they are curious to know and experience. Their urge to grow intellectually can be satisfied through the concrete experiences which help in the development of cognitive aspects as they grow.

Here is the major role of parents and teachers to initiate inclination towards science teaching. It need not be restricted to chalk and talk only. Ample varied experiences help in the development scientific knowledge with proper basis of science. Children develop interest in science as a subject. It seeks logical thinking based on cause and effect relationships. Observation, measurement, tabulation, analysis and interpretation are some of the process skills. In order to be interested in science learning one has to discipline himself academically. So schools are to play an important role in promoting learning science.

To observe the present condition of science learning in schools and also the opinion of 14 to 15 years students on learning science, a survey is conducted to the students from 3 different secondary schools of Arsikere Taluk , Hassan District including 250 students.

## Review of literature

Some Studies about the science learning as follows,

Awasthi (1989) Developed a fruitful strategy for science teaching. Using the concept attainment model. Awasthi further said that thinking can be taught if appropriate teaching strategies are used.

Malviya (1991) examined attitude towards science and interests in science. The study showed that high scorers on attitudes towards science favour higher scientific interest. Age, sex, professions and socio- economic status have no effect on attitudes towards science.

Sood (1992) and his students have studied attitude towards science and scientist among students and teachers for years. His study revealed significant relationships between the public understanding of science and attitudes towards science.

 

**Objectives**

- To study the interest of secondary school students in learning science.
- To study whether science is being learnt through experiments and activities
- To identify weather students find cause effect relationships.
- To study whether students know the contribution of scientists to day-to-day events.
- To study whether students are interested to pursue science as a subject.
- To study whether students know the uses and problems of science.

**Sample:**

The sample consisted of 250 students from 3 secondary school of Arsikere, Hassan District ,Karnataka State who are studying IX standard 232 boys and 118 girls.

**Tool**:

Tool used is a questionnaire constructed by the author for the purpose of survey which consisted of 8 questions having reply by indicating yes, no and don't know and 2 having openend which require students to respond by giving in writing their opinion.

This tool prepared is administered by the author to collect opinion from students. There are 132 boys and 118 girls. Each sheet of response was tabulated by 1 for 'yes' response, 1 for 'no' response and 1 for 'don't know' response. The total for each item is made and the percentages of all three ratings are calculated. The following table gives the number of 'yes' 'no' and 'don't know' and there percentages. Some students have not responded to the items. (They have not given responses).

**Tabulation and analysis**

Out of the 10 questions in the questionnaire, 8 were closed questions and 2 were open ended. The following table gives the tabulation of the score of 8 closed questions response with the percentages for 132 boys and 118 girls.

**Table-1 showing the responses of the students "yes", "no" and "don't know" with percentages**

| Sl No | Items | Ratings | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Yes | | | | No | | | | Don't Know | | | |
| | | Boys | % | Girls | % | Boys | % | Girls | % | Boys | % | Girls | % |
| 1 | Do you find the learning of science interesting? | 100 | 75 | 91 | 77 | 26 | 19 | 30 | 16 | 6 | 4 | 7 | 5 |
| 2 | Do you find that learning science is useful? | 120 | 90 | 100 | 84 | 2 | 1 | 8 | 6 | 10 | 7 | 10 | 8 |
| 3 | Will there be learning of science through experiments? | 110 | 83 | 42 | 35 | 30 | 22 | 65 | 55 | 2 | 1 | 9 | 0 |
| 4 | Do you conduct activities while learning science? | 102 | 77 | 72 | 61 | 30 | 22 | 39 | 33 | 0 | 0 | 7 | 5 |
| 5 | Will teachers conduct activities in the class? | 80 | 60 | 71 | 60 | 50 | 37 | 46 | 38 | 2 | 1 | 1 | 0 |
| 6 | Do you observe cause-effect relation in science learning? | 110 | 83 | 84 | 71 | 22 | 16 | 20 | 16 | 0 | 0 | 14 | 11 |
| 7 | Have the contributions of scientists useful to us? | 100 | 75 | 100 | 84 | 12 | 9 | 15 | 12 | 20 | 15 | 3 | 2 |
| 8 | Do you wish to select science as your future option? | 60 | 45 | 50 | 42 | 60 | 45 | 66 | 50 | 12 | 9 | 2 | 1 |

 

- For the question (1), do you find science learning interesting? 75% of boys, 77% girls say 'yes' and 19% boys 16% girls as 'no'. Only 4% boys and 5% of girls indicated as 'don't know'
- For the question (2), do you find that science learning is useful to you? 90% of boys, 84% girls say 'yes' and 1% boys 6% girls as no. But 7% boys and 8% of girls indicated as 'don't know'
- For the question (3), will the science learning of is through experiments? 83% of boys, 35% girls say 'yes' and 22% Boys 55% girls as 'no'. Only 1% boys and 0% of girls indicated as 'don't know'
- For the question (4), do you conduct activities while learning science? 77% of boys, 61% of girls say 'yes' and 22% Boys 33% girls as 'no'. No boy indicated it 'don't know' but 5% of girls.
- For the question (5), will teachers conduct activities in the class? 60% of both boys and girls have said 'yes' and 37% of boys and 38% of girls said 'no'. Negligible percentage boys (1%) say 'don't know'
- For the question (6), do you observe cause –effect relation in science? 83% of boys, 71% girls said 'yes' and 16% each of boys and girls said 'no' while 11% of girls said 'don't know'
- For the question (7), have the contributions of scientist useful to us? 75% of boys, 84% girls said 'yes' and 9% boys 12% girls as 'no' but 15% boys and 1% of girls said 'don't know'
- For the question (8), do you wish to select science as a subject in future? 45% of boys, 42% girls say 'yes' and 45% boys 50% girls as 'no'. While only 9% boys and 1% of girls said they 'don't know'

After analysis of 8 questions, the remaining 2 questions were carried. They are open ended questions. Students have responses.
For the question (9), will learning of science bring prosperity in our life's? The student responses as below in table-2,

**Table-2 showing the responses of boys and girls about uses of science with percentages**

| 9 | **Will the learning of science bring prosperity in our life? Write 4 of them** | **Boys** | **%** | **Girls** | **%** |
|---|---|---|---|---|---|
| A | Help communication | 130 | 98.4 | 118 | 100 |
| B | Converting nature for human use | 128 | 96.6 | 116 | 98.3 |
| C | Work is easy with inventions of machines | 126 | 95.4 | 115 | 97.4 |
| D | Helpful for transportation | 132 | 100 | 116 | 98.3 |
| E | Improvement of medical facility | 129 | 97.7 | 114 | 96.6 |
| F | Helpful for entertainment | 132 | 100 | 118 | 100 |
| G | Helpful for Industries | 126 | 95.4 | 110 | 93.2 |
| H | Use of technical equipment and electronic gadgets | 130 | 98.4 | 116 | 98.3 |
| I | Easy to carry out domestic work | 128 | 96.9 | 118 | 100 |
| J | Progress of the Nation | 130 | 98.4 | 114 | 96.6 |
| K | Improvement / Modernisation of Society | 130 | 98.4 | 115 | 97.4 |
| L | Enhancing agricultural products. | 128 | 96.9 | 114 | 96.6 |
| M | Generation of Electricity | 130 | 98.4 | 112 | 94.9 |

Students of 14.15 years have given 13 uses of science in our life. It has brought prosperity in our life. Some of the major uses of science are listed by them. The list may not be very exhaustive. Depending on their maturity level and exposure they have responded. It is clearly evident that they are aware of the uses of sciences.

For the question (10), are there problem due to science? The students both boys and girls have responded. Number of responses and percentages are listed in the following table -3

**Table-3 showing the items indicating problems of science shown by students with number and percentages**

| Sl. No | **Item** | Rating with percentages | | | |
|---|---|---|---|---|---|
| | Are there problem due to science? | Boys (N=132) | | Girls (N=118) | |
| | Problems of science | Number | % | Number | % |
| 1. | Environmental pollution | 128 | 96.8 | 102 | 86.4 |
| 2. | Effects of chemicals | 120 | 90.9 | 115 | 97.4 |
| 3. | Using nuclear weapons | 126 | 96.3 | 98 | 83 |
| 4. | Industrial waste | 128 | 96.8 | 110 | 93.2 |
| 5. | Health problems | 130 | 98.4 | 114 | 96.6 |
| 6. | Death of species due to radiations | 100 | 75.7 | 110 | 93.2 |
| 7. | Electric shocks | 110 | 83.3 | 102 | 86.4 |
| 8. | Lack of concentration due to electronic gadgets | 128 | 96.8 | 110 | 93.2 |

The above table-3 indicates the 8 problems of science. Their age is 14-15 years. Some of the major problems of using science are referred by them. This is appreciated, because students know the significant problem of science.

**Interpretation:**

This attempt to study the interest of students in learning science has revealed that through the responses of 250 (132 boys and 118 girls) have some of the meaningful details. Science has to be learnt through activities and experiments. Teachers have to help student to find the cause and effect relationship in the scientific process which have resulted to the products of science. Student have realised the uses of science. But it implied by responses of the students for the question (8) that many of the boys (60) and girls (66) have indicated that they do not pursue science as a subject in future. This may be due to logical thinking expected of the subject. When the concrete concept may not be developed, the difficulty of the subject also poses problems. Hence less number of takers for science as a subject on later stage / higher stages of education.

**Conclusion:**

Here is an attempt to seek the responses of 250 secondary school students of 3 schools of Arsikere, Hassan District, Karnataka State. Effective learning is possible only when curriculum, teaching and learning of students go together smoothly. Otherwise, gaps / difficulties may be faced by students. Hence, the responses favourable as well as unfavorable , their age is with maturity not up to date. So, there is this finding. This is an important study to be considered as the author was interested to make this attempt as a teacher of science.

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