CHAPTER THREE
METHODOLOGY OF THE STUDY

At a Glance
3.0 Introduction
3.1 Types of Research
  3.1.1 Type of the present research
3.2 Methods of Research
  3.2.1 Research methodology of the present research
  3.2.2 Characteristics of Experimental research
    3.2.2.1 Manipulation
    3.2.2.2 Control
3.3 Experimental Design
  3.3.1 Rationale for single group pretest-posttest design
3.4 Population
3.5 Sampling
  3.5.1 Selection of the sample
    3.5.1.1 Sample size
  3.5.2 Characteristic of the selected sample
3.6 Variables
  3.6.1 Independent variable
  3.6.2 Dependent variables
  3.6.3 Controlled variables
3.7 Controlling the threats to internal validity
3.8 Tools for data collection
  3.8.1 Study habits inventory
  3.8.2 Achievement Tests
3.9 Procedure of the study habits programme
  3.9.1 Planning of study habits programme
  3.9.2 Experts’ opinion about the study habits programme
  3.9.3 Pilot study
  3.9.4 Sequence of the various steps in the study habits programme
3.9.5 Assessments of Pre study habits inventory 92
3.9.6 Traditional teaching 92
3.9.7 Science achievement pretest 93
3.9.8 Implementation of study habits programme 93
3.9.9 Science achievement posttest 107
3.9.10 Assessment of Post study habits inventory 108
3.9.11 Working hours of teaching of study habits techniques 108
3.10 Feedback about the programme 109
3.11 Statistical tools 109
3.12 Programme schedule 110
3.13 Schedule of the present research work 110
CHAPTER THREE

METHODOLOGY OF STUDY

3.0 INTRODUCTION

After taking the review of related literature, the next step is to plan research methodology. In this chapter, researcher has discussed research methodology in detailed and has given description of preparation and implementation of study habits programme, schedule for the programme and for research work as well.

As per the definition by P.M. Cook, “Research is an honest, exhaustive, intelligent searching for facts and their meanings or implications with reference to a given problem” (Sidhu, 1995, p1)

According to Best J.W., “Research is considered to be the more formal, systematic, intensive process of carrying on the scientific method of analysis. It involves a more systematic structure of investigation usually resulting in some sort of formal record of procedures and a report of results or conclusions.” (Sidhu, 1995, p1-2)

Educational research is considered to be a ‘Prominent Key’ which is essential to the opening of new doors in education. According to Travers, “Educational research is that activity which is directed towards the development of a Science of behavior in educational institutions. The ultimate aim of such a Science is to provide knowledge that will permit the educator to achieve his goals by the most effective methods.” (Sidhu, 1995, p2)

Clifford Woody defines research as “Research is a careful inquiry or examination in seeking fact or principles, a diligent investigation to ascertain something.” (Sidhu, 1995, p2)

A research method is determined on the basis of the nature and type of the problem. Research is an intellectual activity. It is responsible to correct the present mistakes, remove exiting misconception and add learning to the existing fund of knowledge.
3.1 TYPES OF RESEARCH

There are 3 types of research.

1. Fundamental or Basic research.
2. Applied research
3. Action research

![Diagram showing types of research]

**Figure: 3.1 Types of research**

1. **Fundamental or Basic research**

   Fundamental research is usually carried on in a laboratory or some other sterile environment, sometimes with animals. This type of research which generally has no immediate or planned application may later result in further research of an applied nature. It gives its results in the form of broad generalizations or principles and theories.

2. **Applied research**

   Applied research has most of the characteristics of fundamental research, including the use of sampling techniques and subsequent inferences about the target population. However, its purpose is improving a product or a process - testing theoretical concepts in actual problem situations. Most educational researches are applied researches.

3. **Action research**

   Action Research is focused on immediate application, not on the development of theory or on generalisation of applications. Its purpose is to improve school practices,
habits of thinking ability to work harmoniously with others and professional spirit. Its findings are to be evaluated in terms of local applicability, not in terms of universal validity.

### 3.1.1 TYPE OF THE PRESENT RESEARCH

The present research was **Applied research**. As in the present research, no new theories or laws are generalized, it was not fundamental. Action research is generally conducted to find out immediate solution to the problem in the field of service. In the present research it was not done.

The present research was applied one, as it tested the results in the actual field setting. It was related only to the study habits and academic achievement of secondary level students.

### 3.2 METHODS OF RESEARCH

There are main three methods of Educational research.

1. Historical method
2. Descriptive method
3. Experimental method

![Figure 3.2 Methods of research](image)
1. **Historical Method**

Historical research is the application of the scientific method of inquiry to historical problems. It gives a clear perspective of the past and the present. The present problems are understandable only on the basis of their past. Historical research describes what was. The process involves investigating, recording, analyzing and interpreting the events of the past.

2. **Descriptive method**

This method is the method of investigation which attempts to determine and interpret what exists at present in the form of conditions, practices, processes, trends, effects, attitudes, beliefs, etc. It describes what is. It involves some type of comparison or contrast and attempts to discover relationships between existing non manipulated variables.

3. **Experimental research**

Experimental research provides a systematic and logical method for answering the question. “What will happen, if this is done under carefully controlled conditions?” It describes what will be. It simply enables the researcher to improve the conditions under which the researcher observes and thus to arrive at a more precise results.

As described by Good and Scates “Experimentation is the name given to the type of educational research in which the investigator controls the educative factor to which a child or a group of children is subjected during the period of inquiry and observes the resulting achievement.” (Good and Scates, 1979, p88)

3.2.1 **RESEARCH METHODOLOGY OF THE PRESENT RESEARCH**

The researcher chose Experimental method for the present research work. Experimental method is systematic and logical method of hypothesis testing. It is a
classical method where in the elements manipulated and effects observed can be controlled.

For the effectiveness of study habits programme the researcher decided to use experimental method for the study. In the present research, researcher wanted to find out the effect of study habits programme on the Science achievement and present study habits of the students. Thus, to fulfill the objectives of the present research, experimental method was the only suitable method.

### 3.2.2 CHARACTERISTICS OF EXPERIMENTAL RESEARCH

There are two major characteristic of Experimental Research

1. **Manipulation**
2. **Control**

#### 3.2.2.1 Manipulation

Direct manipulation by the researcher of at least one independent variable is the one single characteristic that differentiates all experimental researches from other types of research. (Gay, 1996, p344)

It means that the researcher decides what forms or values the independent variable (or course) will take and which group will get which form.

- **Manipulation in the present research**

In the present research ‘The study habits programme’ is the independent variable. The researcher decided the set of activities to be included in the programme to study its effectiveness.

#### 3.2.2.2 CONTROL

Control refers to efforts on the part of the researcher to remove the influence of any variable (other than the independent variable) that might affect performance on the dependent variable. (Gay, 1996, p344)
Control in the present research

In the present research many extraneous variable may have their effect on dependent variables like parental instructions, social background of students, facilities at home, home environment, age, sex, subject, medium of instruction, difficulty level of pretest and posttest, and physical environment of school.

Out of above mentioned variables the following variables were controlled.

Age - All the students included in the study were between 14 to 15 years.

Achievement test – Pre and post achievement tests were based on same blue print.

Physical environment – The same class room was used throughout the programme and for administering the tests.

Seating arrangement – Seating arrangement was done in their own classroom while conducting classes and examination. One bench was allotted to one student during the test.

Subject – The programme was related to Science subject only.

Medium of instruction – The medium of instruction for the programme was English.

3.3 EXPERIMENTAL DESIGN

“The experimental design is the blueprint of the procedures that enable the researcher to test hypothesis by reaching valid conclusions about relationships between independent and dependent variables. Selection of a particular design is based on the purposes of the experiment, the type of variables to be manipulated, and the conditions or limiting factors under which it is conducted.” (Best and Kahn, 2009, p177)

In the present research, the researcher selected the Single group pretest - posttest design

\[ X_1 \ O \ X_2 \]

In this design the effects of the treatment are judged by the difference between the pretest and the posttest scores. In the present research, the effect of study habits programme was judged by
1. Difference between Pre study habits inventory and Post study habits inventory
2. Difference between Science achievement pretest and Science achievement posttest.

3.3.1 RATIONALE FOR SINGLE GROUP PRETEST-POSTTEST DESIGN

The reasons for single group design were as below-

1. In the present research various activities were comprised in the form study habits programme and it was not a specific teaching methodology to compare it with traditional method, so single group pretest-posttest design was found to be the most suitable design.

2. The selected school is having only one division of Semi English Medium per standard, so it was not possible for the researcher to select two classes of Semi English Medium from the same school.

3. School administration was of the opinion that whole class should be benefitted by the study habits programme, so to have two groups from the same class was also not possible for the researcher.

4. Researcher could select two classes of Semi English Medium from two different schools but to equate the two groups on the basis of various aspects (Age, Socioeconomic status, equal number of boys and girls etc.) was practically found to be not feasible.

3.4 POPULATION

“The population is the group of interest to the researcher, the group to which she or he would like the results of the study to be generalizable. The defined population has at least one characteristic that differentiates it from other groups” (Gay, 1996, p112)

“A population is any group of individuals that has one or more characteristics in common and that of interest to the researcher” (Best and Kahn, 2009, p13)
The targeted population of the present research was all secondary level students of standard 9 of Semi English medium schools from Pune city.

3.5 SAMPLING

As per the definition given by Gay L. R., “A sampling is the process of selecting a number of individuals for a study in such a way that the individuals represent the larger group from which they were selected.” (Gay, 1996, p111)

According to Gupta “Sampling is a tool which enables us to draw conclusions about the characteristics of the population after studying only those objects or items that are included in the sample.” (Gupta, 2004, p15)

A sample is a small proportion of population selected for observation and analysis. A finite subject is called a sample and the number of individuals in a sample is called the sample size. (Best and Kahn, 2009, p13)

There are various methods of sampling.

![Diagram of Methods of Sampling]

**Figure 3.3 Methods of Sampling**

3.5.1 SELECTION OF SAMPLE

Researcher selected the sample by **Non probability sampling**. Non probability sampling is done by the researcher as per his/her convenience, opinion and decision. It is based on research topic and its objectives.
In the present research, the researcher selected **incidental** and **purposive** sampling method from non-probability sampling method.

**Purposive sampling** was done by the researcher to select the sample from the population to fulfill research objectives. In the present research, researcher selected Granted Semi English Medium Secondary Level School. There was a need to guide the students to develop proper study habits and due to change in medium of instruction these students of Semi English Medium schools find it difficult to cope up with their studies. The rationale behind choosing the above mentioned school was –

1. The students in this school are mostly from lower middle class of the society. The average income of the selected sample was Rs. 66129/- (Refer appendix S)
2. They have less exposure to various activities related to study habits.
3. They have less facility for their study at home.
4. There is lack of personal attention to these students.
5. They are from Semi English Medium School.
6. Secondary level is very important for their future progress.

Here, the researcher purposefully decided to select Granted Semi English Medium schools, so that the study habits programme will give the students exposure to use various desirable study habits techniques. The students will get advantage of the study habits programme in the form of guidance about their study habits.

Then after by **Incidental Sampling** researcher had selected ‘H. B. Girme High School, Wanwadi, Pune’. The rationale behind choosing the above mentioned school was –

1. The above mentioned school gave permission to implement the programme by considering the need of the students.
2. The school extended cooperation for the research work.
3. As per the need of the research work it was convenient to conduct the programme in the school.

Thus the researcher did the sample selection by keeping the research objectives and need of the research in mind. During the review of related literature
researcher came to know that the students from lower middle class of the society are in more need of the guidance in their studies.

### 3.5.1.1 SAMPLE SIZE

Researcher chose 79 students of standard 9 from H.B. Girme High School. But out of 79 students only 70 students were regularly present for the programme and the tests. So the sample size was 70 students.

### 3.5.2 CHARACTERISTIC OF THE SELECTED SAMPLE

**a) Semi English Medium School**

In the present research, the school selected was Granted Semi English medium school. The school was basically of Marathi medium with one division per standard of semi English medium. The students from semi English division faced difficulties to cope with their studies due to change in medium of instruction.

**b) Students of standard 9**

In the present research, the students were from age group 14-15 years. This is a very crucial age group. It was essential to study their study habits in order to provide them proper guidance. Most of the students belonged to lower middle class of the society and worked in the morning to support their family income.

### 3.6 VARIABLES

Variables are the conditions or characteristics that the experimenter manipulates, controls or observes. (Best and Kahn, 2009, p167)
3.6.1 Independent variable

The independent variables are the conditions or characteristics that the experimenter manipulates or controls in his or her attempt to ascertain their relationship to observed phenomena. (Best and Kahn, 2009, p167-168)

In the present research Independent variable was Study habits programme

3.6.2 Dependent Variables

The dependent variables are the conditions or characteristics that appear, disappear, or change as the experimenter introduces, removes or changes independent variables. (Best and Kahn, 2009, p168)

In the present research Dependent variables were Science achievement (In terms of scores of the Science achievement test) and study habits of the students.
3.6.3 Controlled variables

Variables that are of interest to the researcher can be controlled by building them into the study as independent variables. (Best and Kahn, 2009, p169)

In the present research Controlled variables were age, achievement test, physical environment, seating arrangement, subject, medium of instruction.

3.7 CONTROLLING THE THREATS TO INTERNAL VALIDITY

Any uncontrolled extraneous variables affecting performance on the dependent variable are threats to the validity of an experiment. An experiment is valid if results obtained are due to the manipulated independent variable, and if they are generalizable to situations outside of the experimental setting. (Gay, 1996, p345)

• History

As per the researcher’s knowledge students did not undergo any other parallel programme, so the threat of history was not affected in the present research.

• Maturation

The duration of the experiment was small i.e. around 3 months. So this threat of maturation was not affected the results of the experiment.

• Testing

To minimize the threat of testing, researcher kept a long gap of about 82 days between Pre and Post Study habits inventory. Science achievement pretest was conducted 3 days prior to implementation of the programme. Thus threat of testing was overcome.
• **Instrumentation**

In the present research the same study habits inventory was used for pre testing and post testing. At the same time Science achievement pretest and posttest were based on same blue print and they were very similar to each other. Thus the threat of instrumentation was overcome.

• **Mortality**

All the students were motivated to attend all the classes regularly. Researcher also maintained the attendance record. The students with less attendance during the programme were eliminated during analysis. Hence effect of mortality was overcome.

3.8 **TOOLS FOR DATA COLLECTION**

In the present research, researcher had used the following tools.

a) Study habits inventory by Dr. M .N. Palsane

b) Achievement Test

![Figure 3.5 Tools for data collection](image-url)
3.8.1 STUDY HABITS INVENTORY

As mentioned by Nagaraju, (2004) the first study habits inventory (SHI) was constructed by Wrenn in 1933 with a view to survey this feature among students. Locke constructed a self-rating scale for measuring study habits. Mary Esther did an analysis of study habits in 1945. Jammur’s (1958) study habits inventory aims at measuring students’ habits of concentration, note taking, time budgeting and social relationship. Patel B.V. (1975) also constructed and standardized the study habits inventory. (Nagaraju, 2004, p 56-57) Dr. M. N. Palsane constructed his inventory in 1977.

In the present research, researcher used the study habits inventory by Dr. M.N. Palsane, which was made available from Anand Agencies, Pune. Researcher used the Marathi version of the inventory as the students from std.9 of H. B. Girme High School were from semi English medium and the comprehension of the inventory was better in Marathi language for these students. This inventory was easily available and purpose of inventory was matching with the purpose of present study.

As mentioned by Dr. M. N. Palsane in his manual of study habits inventory purpose of the inventory were mentioned below-

1) When students want to know about their study habits they can use this inventory to find out whether they should make any improvements and if so in what direction.

2) This inventory can be used by the teachers and counselors for giving proper guidance to the students who should improve their study habits. They can help these students in the optimum use of their valuable time and energy.

3) Parents can also use this inventory to guide their children.
Description of each of Study habit

The study habits of the individual cover mainly the reading habits, learning techniques, memory, time–schedule, physical conditions, examination, evaluation etc. The items of the inventory roughly belong to the following areas.

1) Budgeting Time

It is very important to plan the time of study. Time schedule helps to adjust the study periods and other activities according to the needs of the individual. The best way to budget time is to keep the record of all activities throughout the day for one week. The analysis of this diary will help in budgeting the time. By budgeting time students can optimize their success in study as well as their extra-curricular activities.

2) Physical conditions for Study:

Physical conditions play an important part in study habits. The place for study should be calm and quiet. It should be clean and there should be proper illumination and
ventilation. Furniture should be comfortable. There should be sufficient light. One should use diffused light. Study table should be clean and contain only and all the necessary things e.g. papers, pen, books, rubber etc.

3) Reading Ability:

Reading is the basic skill in any kind of study. Reading ability includes various factors such as good vocabulary, speed of reading comprehension, independent selection of appropriate material for reading and locating information. One should be able to read at least 300 words per minute in his mother tongue, 75 to 100 words in any foreign language. Speed of reading is also an important factor. Silent reading is always faster than loud reading. It’s necessary to adjust the speed of reading according to the importance of matter. Technical material requires more time than usual one. An individual should try to understand what he is reading. He should try to remember the ideas he has grasped while reading and should be able to summarize the main ideas.

4) Note Taking:

Taking notes in the classroom is an important learning activity. Taking notes from book also helps a great deal in study. There are different ways of taking notes. One may copy everything from text-book. One may take down only important paragraphs or one may take down the headings and sub-headings and important key paragraphs to make an outline. Paraphrasing in one’s own words and summarizing is supposed to be the best way of making one’s notes. It is a good practice to combine class notes to make a final note. With the help of regular practice note-taking can become a habit.

5) Factors in Learning Motivation:

Apart from ability to learn, desire to learn is an important consideration. If one is genuinely interested in learning he may learn quickly and retain it for a long time. There are individual differences in capacity to learn. Everybody can improve with extra efforts. Spirit of competition and co-operation helps in learning. One learns better in a group.
6) Memory:

Improving memory means learning better. Distributing learning periods is preferable to mass learning. The better we learn the longer we retain. Over-learning helps in remembering for a longer period.

7) Taking Examinations:-

Most of our examinations are essay type where a few questions are given and students are required to write long answers. It is good to prepare an outline and arrange the ideas properly, following a logical pattern of presentation. Use of simple language is advisable. Separate ideas should be discussed in paragraphs. Headings and sub-headings should be properly placed. Important words and phrases may be underlined.

**Preparation for examination:** One should devote more time and attention to his weak points. A time schedule for study should be prepared. If one is regular in his study habits he is already prepared for the examination calm, cool and relaxed attitude towards the examination is necessary and can be achieved only after a good preparation.

**Use of Examination Results:** From the results one can find out his strong and weak points. Knowledge of results can motivate an individual and direct his efforts.

8) Health:

Regular and healthy habits of eating, exercise, recreation and sleep help in maintaining good health and sound mental state which is necessary to achieve success in the examination.

**Administration of the Inventory:**

The inventory can be administered to individuals as well as in groups of 25 to 50. Still larger numbers can be handled with the help of assistant supervisors and the public address system (loud speakers). The subjects should be seated comfortably and as far as possible should not have a chance to talk to other students or glance at their answers. There should be good ventilators and light in the room. By explaining the purpose of the test the supervisor should try to get a full co-operation from the
students. The inventory is self-administering. All the instructions are printed on the front cover page of the inventory.

The supervisor should read these out to the students and explain to them whatever is necessary. The following points should be emphasized.

- The results are useful only if the subjects give honest answers
- The needed bio-data be filled in on the answer sheet. The supervisor should see this personally.
- There is no time-limit, but the subjects should work as fast as possible.
- The answers of the individuals will be kept confidential.
- If the subjects have any difficulty in understanding the meaning of the words or statements, the supervisor may be consulted.

After the test is over the test material of every subject should be collected. The subjects should not be allowed to walk away with the materials.

As mentioned in study habits inventory by Dr. M.N. Palsane

Reliability:

The reliability co-efficient is calculated by test-retest method on a sample of 200 students. The Inventory was administered twice to this sample with an interval of about 4 weeks. **The reliability co-efficient for this inventory is 0.88**

Validity:

The inventory is a kind of checklist and possesses only a face validity. Empirical studies of other types of validities are possible but yet not made.

Scoring:

Scoring was done with the help of scoring key given at the end of the manual. Each statement has 3 alternatives (always or mostly, sometimes, rarely or never). The subject has to choose any one as applicable to him. Score points 2,1,0 are awarded as per the alternative chosen by the subject. The sum of the score points is the Raw Score of the subject.
**Norms:**

For the norms study, the inventory was administered to the students of S.S.C. the pre-University and the F.Y., S.Y. and T.Y. students of the various faculties. They included boys and girls, rural and urban students and students from colleges of varying reputation. Thus it was attempted to obtain representative and adequate sample for norms study.

As the sex difference was small, separate norms for male and female students are not given.

The obtained raw score may be interpreted in the following manner.

<table>
<thead>
<tr>
<th>Raw Score</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above 74</td>
<td>Excellent</td>
</tr>
<tr>
<td>64-74</td>
<td>Good</td>
</tr>
<tr>
<td>53-63</td>
<td>Average</td>
</tr>
<tr>
<td>42-52</td>
<td>Unsatisfactory</td>
</tr>
<tr>
<td>Below 42</td>
<td>Very Unsatisfactory</td>
</tr>
</tbody>
</table>

**3.8.2 ACHIEVEMENT TESTS**

Achievement tests attempt to measure what an individual has learned – his or her present level of performance. (Best and Kahn, 2009, p301)

**Preparation of achievement tests** - In the present research, researcher prepared Science achievement tests for the following lessons from standard 9 Science textbook of SSC board.

Lesson No. 4 - Counting Matter
Lesson No. 7 - Life around You
Lesson No.8 - Highway to Health
Lesson No. 9 - Quality Food and Quality Life

Lesson No. 13 - Why Bodies Float?

The 50 marks tests were prepared for pre and post testing of the students. The Science achievement pretest and Science achievement posttest were based on same blue print. Students were evaluated on the basis of knowledge, comprehension, application and skill based questions.

The details of Science achievement tests are given below.

Table 3.2  Distribution of marks as per the Objectives

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>10</td>
</tr>
<tr>
<td>Comprehension</td>
<td>12</td>
</tr>
<tr>
<td>Application</td>
<td>18</td>
</tr>
<tr>
<td>Skill</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>

Table 3.3  Distribution of marks as per the Content

<table>
<thead>
<tr>
<th>Unit</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson-4  Counting Matter</td>
<td>10</td>
</tr>
<tr>
<td>Lesson -7  Life around You</td>
<td>15</td>
</tr>
<tr>
<td>Lesson -8 Highway to Health</td>
<td>07</td>
</tr>
<tr>
<td>Lesson -9 Quality Food and Quality Life</td>
<td>07</td>
</tr>
<tr>
<td>Lesson -13 Why Bodies Float?</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>
Table 3.4  Distribution of marks according to the type of Question

<table>
<thead>
<tr>
<th>Types of Questions</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fill in the blanks with appropriate word</td>
<td>4</td>
</tr>
<tr>
<td>State whether the following statements are ‘True’ or ‘False’</td>
<td>4</td>
</tr>
<tr>
<td>Match the following</td>
<td>2</td>
</tr>
<tr>
<td>Answer the following questions in one sentence</td>
<td>4</td>
</tr>
<tr>
<td>Distinguish between the following</td>
<td>4</td>
</tr>
<tr>
<td>Find the molecular masses of the following compounds</td>
<td>4</td>
</tr>
<tr>
<td>Write short note on the following</td>
<td>4</td>
</tr>
<tr>
<td>Give scientific reasons</td>
<td>14</td>
</tr>
<tr>
<td>Solve the following</td>
<td>4</td>
</tr>
<tr>
<td>Draw well labeled diagrams of the following</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
</tr>
</tbody>
</table>

Science achievement tests :

After preparation of the blue print (Table 3.5), two parallel achievement tests were prepared and shown to Science teacher of the school.

(Refer appendix C and E)
**Table 3.5  Blue Print of Science achievement tests**

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Subunit</th>
<th>Objectives</th>
<th>Knowledge</th>
<th>Comprehension</th>
<th>Application</th>
<th>Skill</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>O  SA  LA</td>
<td>O  SA  LA</td>
<td>O  SA  LA</td>
<td>O  SA  LA</td>
<td></td>
</tr>
<tr>
<td>L – 4</td>
<td></td>
<td>Laws of chemical combination</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The atom, size, mass and symbol</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Molecular mass and mole concept</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Valency</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chemical formulae of compounds</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>L – 7</td>
<td></td>
<td>Biodiversity and classification and hierarchy</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Whittaker's five kingdom</td>
<td></td>
<td>2</td>
<td></td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Classification of plants</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Traditional classification of animals</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>L – 8</td>
<td></td>
<td>Health</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disease</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Lesson</td>
<td>Subunit</td>
<td>Objectives</td>
<td>Knowledge</td>
<td>Comprehension</td>
<td>Application</td>
<td>Skill</td>
<td>Total</td>
</tr>
<tr>
<td>--------</td>
<td>---------</td>
<td>---------------------------------</td>
<td>-----------</td>
<td>---------------</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>O SA LA</td>
<td>O SA LA</td>
<td>O SA LA</td>
<td>O SA LA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prevention of a disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Some infectious disease</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>L - 9</td>
<td></td>
<td>Green and white revolution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Taking better care of the crop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>plants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Protection of crops before and</td>
<td></td>
<td>1</td>
<td>2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>after harvesting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Animal husbandry</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>L - 13</td>
<td></td>
<td>Thrust</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Buoyant force</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Archimedes' principle</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relative Density</td>
<td></td>
<td>1</td>
<td></td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td>8</td>
<td>2</td>
<td>4 8</td>
<td>4 14</td>
<td>4 6</td>
</tr>
</tbody>
</table>

Note:  
- O - Objective type question  
- SA - Short answer type question  
- LA - Long answer type question
3.9 PROCEDURE OF THE STUDY HABITS PROGRAMME

Figure 3.7 Procedure of the study habits programme
3.9.1 PLANNING OF THE STUDY HABITS PROGRAMME

The study habits programme was based on the following theories, laws, or techniques -

- Theories of learning (Mangal, 2010, p181)
- Theories of Motivation (Mangal, 2010, p138)
- Laws of organization explained by gestalt psychologist (Mangal, 2010, p201)
- Memory and training in memory (Mangal, 2010, p257-267)

After taking deep review of related literature, researcher followed following steps for formation of study habits programme.

1. Orientation lecture to motivate students to study.
2. To give general introduction about the programme.
3. Preparation of the manual containing study habits techniques.
4. Explanation of manual and various techniques step by step to the students.
5. Implementation of the programme in teaching using various techniques mentioned in the manual.

3.9.2 EXPERTS’ OPINION ABOUT THE STUDY HABITS PROGRAMME

After preparation of the rough draft of the programme, it was discussed in detail with two experts in the field of Education, Dr. Neelima Mehata and Dr. Shobha Joshi. Both of them gave valuable suggestions about the programme which were incorporated during pilot study. Opinion of the Experts were as follows-

- Study habits manual should be given to the students so that they can use it in future.
- Sample chosen was appropriate for the study.
- Techniques selected were appropriate.

(Refer appendix – G1 and G2)
3.9.3 PILOT STUDY

Before implementing the study habits programme the researcher applied the programme on a small group of standard 9 students staying in the neighborhood. Eight Students were selected for pilot study. While conducting the pilot study the researcher realized that certain shortcomings were there in the programme and after discussing it with the students and the guide the researcher made the necessary changes in the study habits programme.

**Changes made in the study habits programme after pilot study were as follows:-**

i) In the first plan of study habits programme researcher included various activities to increase motivation of the students but during pilot study considering time limit, researcher realized that it is was quite difficult to arrange all the activities in the school. Therefore researcher decided to organize a guest lecture on ‘Motivation for study habit’ by expert.

ii) In the earlier planned programme, things like relaxation, diet, confidence, positive thoughts were not included but while conducting pilot study, researcher felt the need that these minute things should be informed to students to be confident and self-reliant in their studies. So, researcher added related instructions in the manual.

The researcher finalized the study habits programme, after solving problems which rose in the pilot study

3.9.4 SEQUENCE OF THE VARIOUS STEPS IN THE STUDY HABITS PROGRAMME

1. As motivation is requisite as a base for the new learning, Guest lecture on motivation was included as the first step in the programme to motivate the students.

2. General introduction and information about various aspects like diet, rest, introspection, hard work, confidence, positive thoughts etc. was considered as the second step of the programme.
3. Environment of the study plays significant role during study, so specifications about the area were given in the third step of the programme.

4. In the fourth step of the programme, preparation of charts, mnemonic devices, use of laws of organization by gestalt psychologist etc. was introduced to the students, as these activities lead the students in the direction of self-study.

5. Time management helps the learner to carry out daily activities effectively to achieve the goals easily. Therefore it was the fifth step in the present research work.

6. Reading skills were taught after time management as; it helps to manage the timings of various activities such as reading, recalling, repetition, use of SQ4R technique etc. By this step students were aware of various activities and can manage the time along with their reading.

7. After reading a lesson, it is essential for a student to prepare note on it. Note making technique require a base of all above mentioned activities, so it was kept as last activity of the programme.

3.9.5 ASSESSMENTS OF PRE STUDY HABITS INVENTORY

The study habits inventory was filled by the students on 2\textsuperscript{nd} January 2013. The instructions were given to the students to fill the inventory as mentioned by Palsane. One student was seating on one bench during the activity.

3.9.6 TRADITIONAL TEACHING

The 5 chapters were selected after discussing with subject teacher of the school. They are as follows.

Lesson No. 4 - Counting Matter
Lesson No. 7 - Life around You
Lesson No.8 - Highway to Health
Lesson No. 9 - Quality Food and Quality Life
Lesson No. 13 - Why Bodies Float
As per the portion for school unit test, the lessons were taught traditionally to the students by following Herbert steps of lesson plan. (Refer appendix L1)

Charts were used during traditional teaching. Home work was also given to the students daily. Traditional teaching was done from 3rd January, 2013 to 21st January, 2013. Revision was done for two days before Science achievement pretest.

3.9.7 SCIENCE ACHIEVEMENT PRETEST

Science achievement pretest was conducted on 25th January, 2013.

The instructions were given to the students. The result of the test was declared on 29th January, 2013.

3.9.8 IMPLEMENTATION OF STUDY HABITS PROGRAMME

Researcher observed the following points from the study habits inventory filled by the students before implementation of the study habits programme.

- Students did not study at particular hours of the day.
- Students did not study with concentration.
- Before reading a chapter students did not overview it nor read the main points.
- Students did not make notes.
- Students did not take much effort for proper understanding.
- Students felt tensed at the beginning of the examination.
- Students were not aware of the time management techniques.
- Students felt that there is scope for improvement in their study habits.

Therefore in present research, Study habits programme included following things.
3.9.8.1. Guest lecture on ‘Motivation for Study Habits’

Researcher organized guest lecture on ‘Motivation for Study Habits’ on 28th January 2013. The guest speaker was Dr. Shobha Joshi. (Refer appendix H and I)

Dr. Joshi was requested by the researcher to conduct the lecture. Communication was done with her, and prior discussions were held between the researcher and Dr. Joshi. Then she gave her consent for the same.

The following points were discussed in the lecture

- Meaning of Motivation
- Two motivating stories
- Importance of motivation at secondary level.
- Inner motivation
- Importance of study
- Correlation of motivation and study.
- Importance of study habits
- Motivational quotes by eminent personalities.

Time allotted for the lecture was two hours. It was an interacting session more than a lecture. The students were attentive throughout the lecture as the guest speaker; Dr. Joshi took efforts to keep students alert and attentive. Students also showed enthusiasm, they were eager to listen and clarify their doubts. In short, students gave very good response and feedback for the lecture conducted by Dr. Joshi.

3.9.8.2 General instructions

General instructions related to the study area were given to the students.

Some specifications about study area were also given to the students.
Specifications about study area like

- Study at same place daily
- Study at the same time daily i.e. Fix the study timings.
- Keep study area clean free from dust and unwanted things.
- Avoid disturbances i.e. Select the area away from noise or any other disturbances.
- Have sufficient light while studying.
- Put charts in your study area.

3.9.8.III. Preparation of charts based on the manual

The charts were prepared and displayed in the classrooms based on the manual prepared by the researcher. (Refer appendix K)

- Chart 1 - Keep this in your mind
- Chart 2 - Few things to do
Chart 3 - Manage your time
Chart 4 - Read skill fully
Chart 5 - Be particular about note making

3.9.8.IV  **Explanation of the chart ‘Keep this in your mind’**

The chart – ‘Keep this in your mind’ was explained in detailed to the students. The chart was mainly based on following things.

- Confidence
- Positive thoughts
- Introspection
- Relaxation
- Importance of Education
- Hard work etc.

The chart ended with a quote ‘Nobody will help you, unless you first decide to help yourself.’ After the explanation, the chart was summarized in the form of Do’s and Don’ts. Students were asked to read the chart daily and also asked to promise self-check to follow the things.

3.9.8. V.  **Explanation of the chart ‘Few things to do’**

The chart Few things to do was explained to the students. The chart was mainly based on following things

a) Preparation of charts
b) Mnemonic devices
c) Use of laws of organization explained by gestalt psychologist

a) **Preparation of Charts**

- Researcher explained the importance of chart to the students as follows –
• Researcher explained the students the procedure to prepare the charts showing them various examples of charts.

• Researcher distributed two full sheets of chart papers to each student. Topic from Science was allotted and sufficient time was given to the students to prepare the charts.

• After correction of the charts students were asked to put the charts in their study area.

• Researcher asked the students to prepare the charts for other topics also and put them in their study area.

b) Mnemonic devices

Researcher explained the concept and importance of mnemonic devices to the students which was totally new for them. Researcher taught following techniques of mnemonics to the students.

• Initial letter strategy - in this, initial letters of the concepts/ideas are used to remember the things.

  eg.- VIBGYOR
  ➢ V - Violet
  ➢ I - Indigo
  ➢ B - Blue
  ➢ G - Green
  ➢ Y - Yellow
  ➢ O - Orange
  ➢ R - Red

First the researcher gave general examples to the students followed by the examples from Science subject.
- **The key word method** – In this method the imagery words or figures can be used to remember the new words or concepts. eg.- Porifera – like sponges the organism of phylum porifera are with holes in the body.
  - Students were asked to prepare mnemonics from all the lessons on their own.
  - It was an interesting activity for the students.
  - Students prepared mnemonics for the definitions also.

eg. – 1) Definition of valency - Valency is the combining capacity of an element.

**Mnemonic – Val is comb cap of ele.**

2) Law of conservation of Matter – Matter is neither gained nor lost during a chemical reaction.

**Mnemonic – LCM = Mat is neither gun nor lost in CR**

c) **Use of laws of organization explained by gestalt psychologist**

![Laws of organization](image)

By considering above laws, researcher explained that

- The things which are similar in size, form quality or intensity can be grouped together for remembering.
- Learning similar things are easier than learning dissimilar things.
- Relate the things with the things that lie close together is space or in time for better remembering.
• Correlate the topic with other topics

• Examples were given to the students like-

The terms like ‘Pisciculture’ and ‘Apiculture’ can be remembered by their form and quality.

**Fish ------ water ------ class ‘Pisces’ ------ Pisciculture ------ fish farming**

Students were asked to -

(a) Relate the concepts from their lessons,

(b) Group the similar concepts, ideas or theories, together

(c) Make a list of concepts, ideas, theories which are similar in nature etc.

Students enthusiastically made and listed meaningful relations between the concepts. It helps the students to learn new words especially from ‘Lesson – 7 Life around you’

**3.9.8. VI. Explanation of the chart ‘Manage your time’**

The chart ‘Manage your time’ was explained to the students. This chart was about time management.

• Researcher explained importance of time to the students.

Researcher enquired about the general study schedule which was followed by the students, on the basis of which the ‘Model time table’ was prepared. It was explained to the students. Students were asked to do self-study apart from their daily homework. A Model Time Table was shown to the students.
Table 3.6 Model Time table for study

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Morn.</td>
</tr>
<tr>
<td>7.00 - 7.05</td>
<td>Meditation</td>
<td>Meditation</td>
<td>Meditation</td>
<td>Meditation</td>
<td>Meditation</td>
<td>Meditation</td>
<td>Meditation</td>
</tr>
<tr>
<td>7.05 – 7.45</td>
<td>Science</td>
<td>Science</td>
<td>Science</td>
<td>Science</td>
<td>Science</td>
<td>Science</td>
<td>Science</td>
</tr>
<tr>
<td>7.45 – 7.55</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td>7.55 – 8.30</td>
<td>Algebra</td>
<td>Geometry</td>
<td>Algebra</td>
<td>Geometry</td>
<td>Algebra</td>
<td>Geometry</td>
<td>Algebra</td>
</tr>
<tr>
<td>8.30 – 8.40</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
<td>Break</td>
</tr>
<tr>
<td>8.40 – 9.15</td>
<td>English</td>
<td>Marathi</td>
<td>Hindi</td>
<td>History</td>
<td>Geography</td>
<td>English</td>
<td>Marathi</td>
</tr>
</tbody>
</table>
• Researcher explained the reasons of scheduling particular subject daily.

Researcher explained the following things-

(a) Why there should be gap of 10 minutes after studying of every subject?

(b) What kind of activities should be done during break time?

(c) In the beginning 5 minutes were kept for meditation the importance of meditation and ‘How to do it?’ was also explained in detail.

(d) Researcher explained that considering total days for study, weightage for the lesson and its difficulty level, the lesson should be divided in various parts for study.

Students showed interest in above activity and asked many questions considering their routine. As it was discussed earlier that most of the students work to support their family income, for them it was difficult to manage extra time for their studies. Still researcher took efforts to discuss individually with them and explained how they can manage it. These working students were also happy by time saving technique for their study.

Researcher asked the students to prepare weekly time table and checked the weekly schedule as well as time table for study and gave necessary suggestions. It was observed that students were preparing and following the time table for their study. (Refer appendix - N)

• The Chart included following instructions

  ➢ Plan properly for peak performance - In this, researcher asked the students to prepare ‘weekly schedule’, and ‘To-Do List’,

  ➢ At the end of the day organize and schedule for next day.

  ➢ For time management follow the things like –
Follow your plan – Here, researcher told them to focus on the goals and keep the habit of following the plan.

Set priorities – Researcher explained the importance of setting priorities and asked the students to list out the things they need to do during their working day and prioritize them accordingly by keeping the following things in mind.

- Urgency of the task
- Importance of the task
- Relationship to the task
- Time required for completing the task

Set deadlines – Researcher asked the students to set achievable deadlines for each task and stick to it. Then only they would be able to finish the work.

Overcome procrastination – The effects of procrastination were explained to the students. To keep the stress at minimum level and to finish the study on time procrastination may act as the hurdle in it.

The chart ended with the thought related to time.
3.9.8. VII. Explanation of the chart ‘Read skillfully’

The next chart explained was Read skillfully.

i) Researcher explained the importance of reading in study.

ii) After discussing the reading habits of students, the researcher suggested following activities to incorporate in their reading.

![Diagram showing activities in reading]

- **Take interest in reading** – This helps them to concentrate on the reading.
- **Underline or highlight the main or important points** – This helps the students during their revision.
- **Keep purpose of reading in mind** – It helps to focus on the reading.
- **Understand during reading** – Efforts should be taken to understand the concepts otherwise it will be just waste of time.
iii) Use of ‘SQ4R’ techniques –

![SQ4R Technique Diagram]

Researcher explained the meaning, use and steps of ‘SQ4R’ technique.

- **Survey** – Researcher explained them the first step with suitable example including following points.
  - Read the title, introduction or summary to know the important points.
  - Notice the bold face or coloured headings, maps, graphs, charts, tables, figures and questions.


- **Read** – The first section with the question in mind should be read carefully and search for the answer.

- **Reflect** – Make the read content meaningful by linking it with previous knowledge, comparing and correlating with other topics, subjects etc.
• **Recite and Recall** – Remember the information given in the lesson and recall it, try to answer the questions by recalling.

• **Review** – Review the whole lesson again after evaluating the reading and recalling the answer. Review minutely each and every point.

iv) Researcher explained the steps in detail as mentioned in manual.

v) Researcher gave a demonstration of SQ4R technique by taking a Science ‘Lesson No -13 – Why bodies float?’

    Researcher asked the students to develop the habit of reading lessons by using SQ4R technique and kept a follow up of the told activity. Students were interested and eager to use the technique. They revised the steps by asking their queries. The chart ended with a quote on ‘Self-confidence’.

3.9.8. VIII. Explanation of the chart ‘Be particular about note making’

The chart ‘Be particular about note making’ was discussed and explained in detail to the students. Researcher gave many examples of note making and note taking also.

i) **Consider following things in note making** -

   - Notes should be concise, brief and accurate
   - Organization of note should be done in your own way.
   - Concentration is important in note making
   - Use abbreviations during note making.
   - Draw diagrams, flow chart, concept, maps in the notes as per the requirement.
   - Underline, highlight the important points, concepts.
   - Keep proper margins to both the sides of the page to write main points, formula, concepts etc.
   - Review the notes very often.
Can ask the teacher to correct the notes.

Don’t copy the full text from the lesson / book.

Leave some space after finishing with one concept to add points in future.

ii) Researcher explained two types of note making.

![Types of note making diagram](image)

Figure 3.13 Types of Note making

A. **Sequential or linear note making** - In this form, notes are prepared in linear form. Main points are written one below the other. In this type diagrams, charts, abbreviations, symbols can be used to aid the notes.

B. **Pattern note making** - In this form, the central heading or concept is taken at the centre then it is surrounded by other related ideas or concepts. Symbols, images, arrows, can be used.

   Researcher showed the examples of each type for ‘Lesson - 4 Counting matters’. Researcher asked the students to prepare the notes for all the other chapters and checked it. Students were eager to prepare notes on their own; they came up with new ideas for pattern note making which were appreciable. (Refer appendix – O)
3.9.8. IX. Revision

Revision of all charts was done and the manual was distributed to the students.

3.9.8. X. Task given to the student

Researcher asked students to use the techniques from manual in their study and explained it by considering all the lessons.

Researcher discussed all the chapters one by one and asked the students to

➢ Prepare time table
➢ Read the lesson by using SQ4R technique
➢ Prepare mnemonic devices
➢ Prepare charts and stick them at the study area.
➢ Prepare notes

Each activity for each lesson was done in the class. Students used to share their mnemonics, charts with each other. Notes were discussed among themselves.

(Refer Appendix – O)

3.9.8. XI Follow up of the given task

As students started studying on their own, researcher did not teach the lessons which were already taught during traditional teaching but asked them follow the various techniques of study habits. Students also did not feel the need of revision before post Science achievement text. Researcher kept continuous follow up of all the activities.

3.9.9 SCIENCE ACHIEVEMENT POSTTEST

The Science achievement posttest was conducted on 8th March 2013. Same instructions similar to Science achievement pretest were given. The test was conducted in same classroom used during Science achievement pretest.
3.9.10 ASSESSMENT OF POST STUDY HABITS INVENTORY

The post study habits inventory was filled on 26th March 2013. To overcome the priming effect, a gap of 82 days was there in Pre and Post study habits inventory. Same instructions were given to students as mentioned by or Palsane.

3.9.11 WORKING HOURS OF TEACHING OF STUDY HABITS TECHNIQUES

The working hours devoted for teaching of various techniques are given below

<table>
<thead>
<tr>
<th>TECHNIQUE</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>5</td>
</tr>
<tr>
<td>Meditation, Positive thinking, Introspection,</td>
<td></td>
</tr>
<tr>
<td>Relaxation, Hard work, Confidence etc.</td>
<td></td>
</tr>
<tr>
<td>Specification about study area</td>
<td>1</td>
</tr>
<tr>
<td>Preparation of charts</td>
<td>7</td>
</tr>
<tr>
<td>Mnemonic devices</td>
<td>6</td>
</tr>
<tr>
<td>Use of laws of organization</td>
<td>3</td>
</tr>
<tr>
<td>Time management</td>
<td>5</td>
</tr>
<tr>
<td>Reading skill</td>
<td>6</td>
</tr>
<tr>
<td>SQ4R technique</td>
<td></td>
</tr>
<tr>
<td>Note making</td>
<td>8</td>
</tr>
</tbody>
</table>
3.10 FEEDBACK ABOUT THE STUDY HABITS PROGRAMME

Researcher had prepared short open ended questionnaire to get feedback from students and their parents about the study habits programme. (Refer appendix – Q1 and Q2)

Though it was not the major objective of the present research, to know the reactions, queries and feedback from students and parents, the questionnaire was prepared and got filled by them. The qualitative analysis was mentioned in chapter four for the same.

3.11 STATISTICAL TOOLS

\textbf{t-test}

For the testing of all the hypotheses ‘t-test’ was used and it is discussed in Chapter 4 in detailed.
3.12 PROGRAMME SCHEDULE

The programme schedule is given below.

Table 3.8 Programme schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.13</td>
<td>Introduction about the programme was given.</td>
</tr>
<tr>
<td></td>
<td>Pre-Study habits inventory was got filled.</td>
</tr>
<tr>
<td>3.1.13 to 21.1.13</td>
<td>Traditional teaching was done.</td>
</tr>
<tr>
<td>22.1.13 to 23.1.13</td>
<td>Revision was taken for all the lessons.</td>
</tr>
<tr>
<td>25.1.13</td>
<td>Science achievement pretest was conducted.</td>
</tr>
<tr>
<td>28.1.13</td>
<td>Guest lecture arranged on ‘Motivation For Study Habits’. Guest speaker – Dr. Shobha Joshi.</td>
</tr>
<tr>
<td>29.1.13</td>
<td>General instructions regarding the programme were given. Result of Science achievement pretest was declared.</td>
</tr>
<tr>
<td>30.1.13 to 7.3.13</td>
<td>Teaching of study habits techniques was done.</td>
</tr>
<tr>
<td>8.3.13</td>
<td>Science achievement posttest was conducted.</td>
</tr>
<tr>
<td>15.3.13</td>
<td>Result of Science achievement posttest was declared.</td>
</tr>
<tr>
<td>26.3.13</td>
<td>Post study habits inventory was got filled.</td>
</tr>
</tbody>
</table>

3.13 SCHEDULE OF THE RESEARCH WORK

The schedule of the research work in shown in the following figure. The task was started in the month of August 2012 and ended in December 2014.
### Figure 3.14  Schedule of the research work

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Month</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A S O N D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J F M A M J J A S O N D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J F M A M J J A S O N D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Review</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Related reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Preparation of programme</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pilot Study</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Finalization of Programme</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Implementation of Programme</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Data Analysis</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Writing of research report</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Typing and Finalization of research report</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To Conclude:

In this chapter researcher gave description of the study habits programme and schedule of the research work. The step that follows after data collection is data analysis. The details of data analysis and findings derived from them are presented in the next chapter.