

## CHAPTER –3

### RESEARCH METHODOLOGY

#### 3.1 INTRODUCTION

This chapter contains research design, research type, population, sampling technique, tools description, data collection process and an overview of the data analysis techniques. It gives the clear idea of the study conducted by the researcher and the process of the research endeavour.

The purpose of this study is to examine the effect of CAP to teach Mathematics and to see on academic achievement of the students of Standard - IX in teaching Mathematics. In order to test relative effect of independent variable, i.e. Computer Assisted Programme (CAP), the choice for most suitable design experimental research was used.

#### 3.2 RESEARCH TYPE

The present research is experimental in nature. It follows two group post-test experimental design. The research is mainly quantitative in nature but the researcher also took reaction from the students which are qualitatively analyzed. The researcher used t-test to calculate the difference of means of the two groups post-test.

#### 3.3 RESEARCH DESIGN

The present study employed Control Group – Experimental Group – Test design.

|          |                      |                      |
|----------|----------------------|----------------------|
| <b>E</b> | <b>X<sub>1</sub></b> | <b>O<sub>2</sub></b> |
| <b>C</b> | <b>X<sub>2</sub></b> | <b>O<sub>2</sub></b> |

**E** - Experimental Group

**C** - Control Group

**O<sub>2</sub>** - Post - Test

**X<sub>1</sub>** – Use of CAP to Teach

**X<sub>2</sub>** - Teaching through Traditional Method

### **3.4 POPULATION OF THE STUDY**

The population of the study comprised of all the students of Std – IX of the English Medium Schools of Gujarat.

### **3.5 SAMPLE AND SAMPLING PROCEDURE**

The sample is the working unit of the research. It is a group of subjects that the researcher works and interacts with. The sample of the present study comprised 80 students of Charotar English Medium School, Anand. The sampling technique was convenient sampling as the researcher selected the school in which she got permission to conduct her experiment. The data was collected from the students of Std – IX by using the following tools. School was selected through convenient sampling and students were selected through cluster sampling.

### **3.6 TOOLS AND TECHNIQUES**

Tools help the researcher to interact with the subjects and get their responses. In the present study, the researcher used two major tools. An achievement test for collecting the data (post-test). A reaction scale to find the reactions of the reactions of the students about the CAP to teach Mathematics.

### **3.7 PROCEDURE FOR PREPARATION OF TOOL**

#### **3.7.1 Preparation of Achievement Test**

The researcher constructed achievement test on the basis of the programme undertaken. The researcher also took care of mental level of the students. The researcher took the help of experts in constructing this tool. The post test was administrated after the completion of teaching programme & implementation of CAP.

Thus tool were prepared, administrated and implemented.

#### **3.7.2 Preparation of Reaction Scale**

The researcher prepared the Reaction scale to get the students reaction about the programme. The researcher wanted to check the effectiveness of the programme and how did the programme help the students to understand the Mathematical concept. Researcher

had taken 10 statements and asked the students to answer 5 points scale(criteria's).The purpose of the Reaction Scale was to know whether the students found teaching through programme interesting and motivating. For constructing reaction scale the prepared the statement on the basis of the different components of the programme with the help of experts.

### **3.8 DEVELOPMENT OF COMPUTER ASSISTED PROGRAMME (CAP)**

CAP is the recent development in educational technology. For this researcher developed a computer assisted some of programmed on the topics Surface Area and Volume to teach students of Std-IX.

The first step of developing the CAP was content analysis and the making of frames according to the points of content analysis

#### **3.8.1 The development of the CAP is shown in the following flow chart**

##### **Steps in CAP Development**

1. Selection of Chapter



2. Division of chapter into 10 sessions



3. Prepare Lesson Plan



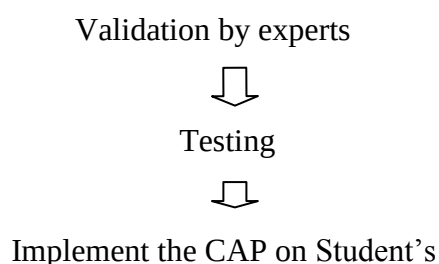
4. Prepare Programme (PPT)



Preparing Screens with reference to actual programming



Screen  
Layout  
Graphics  
Colours  
Timing  
Animation  
Sound  
Use of control



After preparation of the slides, all slides were verified by the guide. Here valuable and constructive guidance has increased the quality of the Computer Assisted Programme.

### **3.8.2 Following are the highlighted features of CAT Programme:-**

Programme more interesting and lively. Major qualities of slides are given below:-

- 1) Pictures, Photographs, Graphics and Animations are very attractive, proper, and relevant.
- 2) All the effects and animations are automotive.
- 3) Motion pictures increase the quality and attractiveness of the slides.
- 4) Due to use of pictures and variety of color combinations, each and every slide becomes unique.
- 5) Most of the pictures and background are taken from the clipart, Google and from different websites.
- 6) Programmes style is as if the is researcher talking to the students and small parts of the content is provided with the help of the slides.
- 7) One can read the matter as many times as he wishes as per his pace.
- 8) To avoid monotony in the programme and to make it more lively and interesting the background of each slide was made colorful. It was hoped that students with a good visual memory would be able to associate the background colors with different content and thus remember distinct content on different slides in a better way.

## **3.9 DATA COLLECTION PROCEDURE**

The detailed description about the process of data collection is mentioned clearly stage wise.

**Stage 1:**

(i) During the first stage the researcher referred the mathematics textbook (GSEB) of standard –IX (Sem-2) and selected the chapter. When selecting the chapter, the researcher focused more in the area of mathematics where the students faced problems in solving or calculation in particular concept. Then researcher prepared the CAP related to the topic were the students understand deeply. As part of this, the researcher prepared Power Point Presentation in each new concept were selected by the researcher.

(ii) The researcher has collected marks of Semester I in Mathematics from respective teachers of both the Section IX – A and IX – B. The researcher has carefully examined the marks of both groups' student's. This examination suggests that some student's were above average level where as some are at average level and very few were at below average. This has helped to form the two group wise i.e., Controlled and Experimental Group. Both the groups were almost similar in Mathematics.

**Stage 2:** The researcher prepared CAP with the help and guidance of the guide. This was evaluated by the experts and modifications were made accordingly. The researcher simultaneously prepared the tools namely (Achievement test) post-test and Reaction Scale and got them validated from tools experts.

**Stages 3:** The researcher conducted the experiment then the programme was followed by (Achievement test) post-test and Reaction Scale.

**Stage 4:** Data Analysis and Interpretation was done using t – test and chi – square.

**Stage 5:** Documentation of the research work.

The following table mentions the detail of the implementation of the experiment and experimental sessions.

**3.9.1 Table – 1 Implementation of Programme Day – Wise**

| Sr. No | Date    | Time   | Programmed Based Learning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Traditional way to Teaching                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------|---------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.     | 6/12/13 | 45 min | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the relation between 2- dim and 3-dim Geometric shapes.</p> <p>(2) Students were able to identify and use geometric shape in various orientations circle, triangle, sphere, cone, and cylinder.</p> <p><b>Procedure:</b> The researcher has used the power point presentation and explain the topic with the help of following slides:</p> <p><b>Topic :</b> Basic concept of Geometrical shapes</p> <p><b>No of slides: 07</b></p> <p><b>Product:</b></p> <p>(1) Students understand the relation between 2-dim and 3-dim Geometric shapes.</p> <p>(2) Students identify and use geometric shape in various orientations circle, triangle, sphere, cone, and cylinder.</p> | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the relation between 2- dim and 3-dim Geometric shapes.</p> <p>(2) Students were able to identify and use geometric shape in various orientations circle, triangle, sphere, cone, and cylinder.</p> <p><b>Procedure:</b> The researcher has used the chalk and talk method for explaining the topic in classroom :</p> <p><b>Topic :</b> Basic concept of Geometrical shapes</p> <p><b>Product:</b></p> <p>(1) Students understand the relation between 2- dim and 3-dim Geometric shapes.</p> <p>(2) Students identify and use geometric shape in various orientations circle, triangle, sphere, cone, and cylinder.</p> |
| 2.     | 6/12/13 | 45 min | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Surface Area of Cube and Cuboid.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Surface Area of Cube and Cuboid.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|    |         |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----|---------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |         |        | <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the power point presentation and explain the topic with the help of following slides:</p> <p><b>Topic ::</b> Surface Area of a Cube and Cuboid</p> <p><b>No of slides:</b> 22</p> <p><b>Product:</b></p> <p>(1) Students derive the formula of the Surface Area of Cube and Cuboid.</p> <p>(2) Students solve the problems given in exercise 15.1.</p>                                       | <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the chalk and talk method for explaining the topic in classroom :</p> <p><b>Topic :</b> Surface Area of Cube and Cuboid</p> <p><b>Product:</b></p> <p>(1) Students derive the formula of the Surface Area of Cube and Cuboid.</p> <p>(2) Students solve the problems given in exercise 15.1.</p>                                                                            |
| 3. | 7/12/13 | 45 min | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Surface Area of Cylinder.</p> <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the power point presentation and explain the topic with the help of following slides:</p> <p><b>Topic :</b> Surface Area of Cylinder</p> <p><b>No of slides:</b> 16</p> <p><b>Product:</b></p> <p>(1) Students derive the formula</p> | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Surface Area of Cylinder.</p> <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure::</b> The researcher has used the chalk and talk method for explaining the topic in classroom :</p> <p><b>Topic :</b> Surface Area of Cylinder</p> <p><b>Product:</b></p> <p>(1) Students derive the formula of the Surface Area of Cylinder.</p> |

|    |         |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----|---------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |         |        | of the Surface Area of Cylinder.<br>(2) Students solve the problems given in exercise 15.2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | (2) Students solve the problems given in exercise 15.2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4. | 7/12/13 | 45 min | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Surface Area of Cone.</p> <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the power point presentation and explain the topic with the help of following slides:</p> <p><b>Topic :</b> Surface Area of Cone</p> <p><b>No of slides:</b> 17</p> <p><b>Product:</b></p> <p>(1) Students derive the formula of the Surface Area of Cone.</p> <p>(2) Students solve the problems given in exercise 15.3</p> | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Surface Area of Cone.</p> <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the chalk and talk method for explaining the topic in classroom :</p> <p><b>Topic :</b> Surface Area of Cone</p> <p><b>Product:</b></p> <p>(1) Students derive the formula of the Surface Area of Cone.</p> <p>(2) Students solve the problems given in exercise 15.3.</p> |
| 5. | 9/12/13 | 45 min | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Surface Area of Sphere and Hemisphere.</p> <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the power point</p>                                                                                                                                                                                                                                                                                         | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Surface Area of Sphere and Hemisphere.</p> <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the chalk and talk</p>                                                                                                                                                                                                                                    |



|    |         |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----|---------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |         |        | <p>presentation and explain the topic with the help of following slides:</p> <p><b>Topic:</b> Surface Area of Sphere and Hemisphere.</p> <p><b>No of slides:</b> 14</p> <p><b>Product:</b></p> <p>(1) Students derive the formula of the Surface Area of Sphere and Hemisphere.</p> <p>(2) Students solve the problems given in exercise 15.4.</p>                                                                                                                                                                                                                                                        | <p>method for explaining the topic in classroom :</p> <p><b>Topic:</b> Surface Area of Sphere and Hemisphere.</p> <p><b>Product:</b></p> <p>(1) Students derive the formula of the Surface Area of Sphere and Hemisphere.</p> <p>(2) Students solve the problems given in exercise 15.4.</p>                                                                                                                                                                                                                                                                                                              |
| 6. | 9/12/13 | 45 min | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of Volume of 3-dim Geometry shapes.</p> <p>(2) Students were able to differentiate between Surface area, Total Surface area and Volume of 3-dim Geometric shape.</p> <p><b>Procedure:</b> The researcher has used the power point presentation and explain the topic with the help of following slides:</p> <p><b>Topic :</b> Basic Concept of Volume</p> <p><b>No of slides:</b></p> <p><b>Product:</b></p> <p>(1) Students understand the concept of Volume of 3-dim Geometry shapes.</p> <p>(2) Students differentiate</p> | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of Volume of 3-dim Geometry shapes.</p> <p>(2) Students were able to differentiate between Surface area, Total Surface area and Volume of 3-dim Geometric shape.</p> <p><b>Procedure:</b> The researcher has used the power point presentation and explain the topic with the help of following slides:</p> <p><b>Topic :</b> Basic Concept of Volume</p> <p><b>Product:</b></p> <p>(1) Students understand the concept of Volume of 3-dim Geometry shapes.</p> <p>(2) Students differentiate between Surface area, Total</p> |

|    |          |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----|----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |          |        | between Surface area, Total Surface area and Volume of 3-dim Geometric shape.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Surface area and Volume of 3-dim Geometric shape.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 7. | 10/12/13 | 45 min | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Volume of Cube and Cuboid.</p> <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the power point presentation and explain the topic with the help of following slides:</p> <p><b>Topic: Volume</b> of Cube and Cuboid.</p> <p><b>No of slides:</b> 14</p> <p><b>Product:</b></p> <p>(1) Students derive the formula of the Volume of Cube and Cuboid.</p> <p>(2) Students solve the problems given in exercise 15.5.</p> | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Volume of Cube and Cuboid.</p> <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the chalk and talk method for explaining the topic in classroom :</p> <p><b>Topic:</b> Volume of Cube and Cuboid.</p> <p><b>Product:</b></p> <p>(1) Students derive the formula of the Volume of Cube and Cuboid.</p> <p>(2) Students solve the problems given in exercise 15.5.</p> |

|    |          |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----|----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8. | 10/12/13 | 45 min | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Volume of Cylinder.</p> <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the power point presentation and explain the topic with the help of following slides:</p> <p><b>Topic :</b>Volume of Cylinder</p> <p><b>No of slides:</b>09</p> <p><b>Product:</b></p> <p>(1) Students derive the formula of the Volume of Cylinder.</p> <p>(2) Students solve the problems given in exercise 15.6.</p> | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Volume of Cylinder</p> <p>2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure</b> The researcher has used the chalk and talk method for explaining the topic in classroom :</p> <p><b>Topic :</b> Volume of Cylinder</p> <p><b>Product:</b></p> <p>(1) Students derive the formula of the Volume of Cylinder.</p> <p>(2) Students will solve the problems given in exercise 15.6.</p> |
| 9. | 11/12/13 | 45 min | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Volume of Cone.</p> <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the power point presentation and explain the topic with the help of following slides:</p> <p><b>Topic :</b> Volume of Cone</p>                                                                                                                                                                                              | <p><b>Purpose :</b></p> <p>(1) Students were able to understand the concept of derivation of the formula for finding the Volume of Cone.</p> <p>(2) Students were able to solve the problems given in exercise and Illustration.</p> <p><b>Procedure:</b> The researcher has used the chalk and talk method for explaining the topic in classroom :</p> <p><b>Topic :</b> Volume of Cone</p> <p><b>Product:</b></p>                                                                                                                                            |

|     |          |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----|----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |          |        | <b>No of slides:</b> 10<br><b>Product:</b><br>(1) Students derive the formula of the Volume of Cone.<br>(2) Students solve the problems given in exercise 15.7.                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Students derive the formula of the Volume of Cone.<br>(2) Students solve the problems given in exercise 15.7.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 10. | 12/12/13 | 45 min | <b>Purpose :</b><br>(1) Students were able to understand the concept of derivation of the formula for finding the Volume of Sphere and Hemisphere.<br>(2) Students were able to solve the problems given in exercise and Illustration.<br><b>Procedure:</b> The researcher has used the power point presentation and explain the topic with the help of following slides:<br><b>Topic :</b> Volume of Sphere and Hemisphere<br><b>No of slides:</b> 13<br><b>Product:</b><br>(1) Students derive the formula of the Volume of Sphere and Hemisphere.<br>(2) Students solve the problems given in exercise 15.1. | <b>Purpose :</b><br>(1) Students were able to understand the concept of derivation of the formula for finding the Volume of Sphere and Hemisphere.<br>(2) Students were able to solve the problems given in exercise and Illustration.<br><b>Procedure:</b> The researcher has used the chalk and talk method for explaining the topic in classroom :<br><b>Topic ::</b> Volume of Sphere and Hemisphere<br><b>Product:</b><br>(1) Students derive the formula of the Volume of Sphere and Hemisphere.<br>(2) Students solve the problems given in exercise 15.1. |
| 11. | 13/12/13 | 90 min | Post – Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Post – Test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 12. | 13/12/13 | 15 min | Reaction – Scale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

### **3.10 TECHNIQUES OF DATA ANALYSIS**

Analysis of data means studying the organized material in order to discover inherent facts. The data are studied from as many angles as possible to explore the new facts. The present data was analyzed quantitatively as the researcher used statistical techniques like mean, S.D. and t-test to analyze it. The Reaction Scale of the students was analyzed through chi-square. The subsequent chapter focuses on data analysis and interpretation.

### **3.11 CONCLUSION**

The current chapter focused on the design and methodology of the research, tools employed for data collection, construction of tools and detailed description of programme. The next chapter comprises analysis and interpretation of data.