

## **METHODOLOGY OF THE STUDY**

### **3.1 Introduction**

The present study aims to find The Study of Impact of Vedic Calculation Technique in the Mathematics Learning. For this purpose, experimental method was selected. This chapter presents population, sampling technique, the description of the experimental design, tools used, instructional procedure, method of data collection and statistical techniques employed for analysis of the data.

### **3.2 Origin of the Study**

After reviewing many articles and research papers it was found that most of the studies on upper primary students are related to multiplication and division. There are also some studies on primary level but not up to that extent as Upper Primary level. It is also lack of rigorous study that's why at the Primary level also deeper dedicated study is needed.

### **3.3 Population**

In any research work, the purpose of the researcher is to find out such conclusion which can be applied universally. The characteristics of the population are to show the marked variations from place to place, and from time to time. Therefore, the researcher has to identify the population, in order to cover the conclusion that is applicable to the population.

Students of Badhei Munda Primary Schools of Jharsuguda district, Odisha constituted the population for the present study. Other specifications are: (1) Area: Badhei Munda(2) Medium of instruction: Odia.(3) Academic year:2020-21 (4) Duration: 6/04/21 to 20/04/2021

### **3.4 Research Method**

In the present study researcher adopted experimental research method. Which was experimented in a classroom through an Achievement test. Two achievement test were taken, one each for pre and posttest. The teaching method for pretest was traditional method where as post test it was Vedic Calculation Technique.

#### **3.4.1 Experimental design of the study**

The experimental-design is the most important part in experimental research work. Which observations have to be taken, how to take them, how to analyze obtained information, which conclusions can be derived. All these matters are to be decided. Thus, the selection of the experimental strategy is to be plan systematically.

The types of experimental design are (i) Pre-Experimental Design, (ii) True Experimental Design and (iii) Quasi Experimental Design. In the present study Single Group Pre and Post-test Design (as a Pre-experimental design) was used. In the study researcher have used Pre-experimental design which is broadly categorised into(1) Single group pre and post study (2) One shot case study (3) Static group.

The current study emphasize on Single group pre and post study. where the control group and the sample size was the same under observation. The study was of two weeks and the effectiveness of the study was conducted through pre test and post test on that single group.

### 3.5 Sample

Sample means, a selected group of subjects from the population which represent the population. The study was conducted by means of the sample. The generalization applicable to the population, for which the sample was obtained, largely depended upon the technique of sampling.

Sampling in which elements selected for the sample are chosen by the judgement of the selector. In the presently study, samples were selected by ‘Purposive Sampling Technique’. As the researcher decided to work at the primary level of school, he has to select the sample from class III. The investigator selected the students of class III from the government schools.

There were 20 students who participated in the study from class III of Badhei Munda Ashram School Affiliated to B.S.E. Odisha. One Ashram school of Jharsuguda was selected for the present study: Badhei Munda Ashram School, for the experiment. The details of the selected sample is shown in the following Table

**Table 1 [Sample Information]**

SL. No	Name of the School	No. of students
1	Badhei Munda Ashram School, Jharsuguda	20

### 3.6 Tools Development for the study

In this research the question paper was prepared on the basis of class III syllabus. A question paper was prepared for achievement test. Mainly two liner addition and subtraction was taken into account. The difficulty level of question paper prepared for both pre and post-test was same.

### **3.6.1 Construction of Achievement Test**

In this achievement test I have provided 10 questions to each student. Each question carried one mark. In this questions set, there were 5 questions based on addition and other 5 questions based on subtraction. This was a pre test which was based on traditional method. Similarly, there was a post test which was based on Vedic Calculation Technique. In both the test the level of difficulty of questions were similar.

### **3.7 Procedure of Data Collection**

In the two weeks experiment which includes both the pre test and post test, try to measure the achievement of the students. In the pre test 10 questions were given to each student and the time was recorded where they used traditional method. After the test they were taught Vedic Calculation Technique by me. After the successful teaching of Vedic Calculation Technique a post test was conducted. In the post test again 10 question of the same type as of the pre test were given to them. Here they were need to solve the question using the Vedic Calculation Technique and again time was recorded for individual students. In both the cases in data collection the time taken by the students was of the major concern. Also, Researcher tried to check the efficiency in both the cases.

### **3.8 Data Analysis**

Data analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense, recap and evaluate data. According to the sample size researcher has used t-test

#### **3.8.1 Statistical Technique**

On the basis of size of the sample taken into consideration t-test is used. And as in my study the sample size is 20 t-test will be used. T-test is the most favoured test by the researcher.

T-test: A t-test is used to compare the mean of two given samples. A t-test is used when the population parameters (standard deviation ) is not known.