

3 RESEARCH METHODOLOGY AND DESIGN

This chapter is based on research design and sampling techniques. Data analysis, data wrangling and writing the different findings is performed using different tools and techniques as well as different research and sampling strategies. This division is a frame work of methods techniques which is used to combine the various factors of research in a logical method so as to efficiently handling the research problem. This division seeks to explain a sketch of:

- Research method of the study
- Sampling design
- Research tools used
- Procedure followed
- Statistical techniques
- Precautions
- Constraints and difficulties faced

3.1 METHODOLOGY:

The decision about the method of the study depends upon the nature of the problem selected and kind of data necessary for its objectives. Generally, the following methods have been accepted in the fields of educational research.

1. Historical Method
2. Experimental Method
3. Survey Method
4. Philosophical Method
5. The Case Study or Case History Method

The final selection of method rests on the purpose of the study because more significant differences also exist with respect to the purpose in which the method is to serve the nature of problem of which they are appropriate and the procedure employed in the conduct of everyone.

The purpose of the present study was to study the perceptions of teachers on Art integrated learning. To achieve it, the survey method was adopted to conduct this research, as it was most appropriate.

3.2 Design

Design is important as it provides a picture of what and how to do the work before starting it. It has been determined from time to time that a suitable research design guards against the collection of irrelevant data and gives more economy to the investigator. So, in any research project, design provides the researcher a blue print of research dictates the boundaries of project and helps in controlling the extraneous errors of the problem.

Wikipedia describes research design as “the set of methods and procedures used in collecting and analyzing measures of the variables specified in the research problem. The design of a study defines the study type (descriptive, correlation, semi experimental, experimental, review, meta-analytic) and sub-type (e.g., descriptive longitudinal case study), research problem, hypotheses, independent and dependent variables, experimental design, and, if applicable, data collection methods and a statistical analysis plan. A research design is a framework that has been created to find answers to research questions.” To put it simply, it is the detailed outline of how an investigation took place. It is the itinerary that leads to bringing the conceptual research problems to an empirical conclusion. In other words, it is the scaffold for answering the research questions. To quote Winer (1971) “as architect require plan of a building for its construction, in the same way a researcher needs the research design”.

It is an arrangement and stratify for directing examination work. It makes the brain of specialist for information accumulation and determination of members. Subsequently, inquire about plan might be expressed as a succession of those means set aside a head of opportunity to guarantee that the pertinent information might be gathered in a way that grants targets, examination of various speculation figured for accomplishing goals of the exploration issue. In 1986, Kerlinger distinguished two fundamental motivation behind research plan.

The objective survey method is used for the present study with the aims at the perception of teachers on Art Integrated Learning. This chapter presents the description of the design employed, variables involved, population, sample, tool used, procedure followed for data collection and statistical techniques.

3.3 Procedural Steps

Planning is the important part of research work and an overview of the total layout including a consideration of how the work is to be executed. This stage is the decision, crucial for the achievements of the objective of the study are made. It includes what measures are used for gathering the data? How the sample of the population is defined? How much relevant data

regarding study is collected? The process of analysis the data is also thought? The methodology used here is in accordance with its objectives which are indicated in the previous chapter. The present study is to investigate "Teacher effectiveness of secondary school teachers in relation to their teaching aptitude and adjustment". The study requires suitable measuring tools and appropriate statistical procedures. Overall we can conclude that the aim of a scientific research is to ascertain facts and analyses them into a suitable manner to make the research design systematic and present the data in a suitable form. A scientific research is carried out in a well planned manner in which all the objectives can be fulfilled also the researcher should have to be careful in selecting samples by means of most appropriate sampling techniques selecting standardized tools to collect information and choosing appropriate statistical techniques for data analysis, all, these steps are essentially needed to make a research more systematic and objective and to draw a meaningful conclusion. The current researcher take maximum precautions to go through the steps needed to pursue scientific investigations to complete the small pieces of work.

3.4 Population and sample

After finalizing the variables of the present study, considerations were given to whether the entire population is to be made the subjects for data collection or a particular group is to be selected as a representative of the whole population. The entire population here refers to all the secondary as well as senior secondary school teachers working India. Of the two techniques, the second one, namely, the selection of a group as a representative of the whole population was found to be more convenient and suitable. This technique leads to a considerable saving of time, effort and finance. As the number of secondary schools selected is small, senior secondary schools were also taken to obtain accurate and reliable results. As this sampling technique was more advantageous, it was selected for the collection of data.

In any social research, various methods are utilized for selection and drawing of samples. After a detailed study of all these methods and considering the variables selected for the research work, the 'stratified sampling method' was found to be most suitable.

In the stratified sampling method, the entire population will be divided into smaller homogeneous groups or strata, and then a sample is selected within each group. Every sampling unit in the population is placed in one of the strata prior to the selection of the sample so that the sum of the strata is identical with the population.

3.5 Data Collection:

A google form was prepared and it went to the social science teachers in various schools. They replied on the basis of their experiences. In the pandemic period like covid-19, digital platforms like google form helps a lot in survey method, but it doesn't tell us more about the ground level situation.

3.6 Tools

Questionnaire

The selection and use of the tools can be done in two ways. The first one is to construct a tool independently by the investigator for his own study. Here, there are many problems in doing so. Preparation and standardization of a perfect tool itself is a major task and one should take care of aspects like selection of area and sample, pooling up of statements related to the area, consulting the experts and application of sophisticated statistical techniques. The other way of selection and use of tools is right selection of tools from already standardized ones available in the field of study. Here again locating the tools and identifying their usefulness to the study on hand is a tedious job. Even then, this technique is very useful when a research work is studied in depth, when the research work involves a good number of variables and when there is scarcity of time and other resources. Some people believe that some of the instruments available do not measure up to their standards. In some instances, consideration should be given to the logistics of the situation. Lacking time and financial resources for the construction of a test, many researchers cannot expect to produce a better instrument. In these cases, the most logical procedure that one can follow is to choose the best instrument available for this purpose.

3.7 Statistical techniques

3.7.1 Pie chart

A pie chart is a circular statistical graphic, means it displays data in a circular graph. The pieces of the graph are proportional to the fraction of whole in each category. In other words, each slice of the pie is relative to the size of that category in the group as a whole.

3.7.2 Bar graph

A bar graph is a graph that presents categorical data with rectangular bars with heights or lengths proportional to the values they represent. The bars can be plotted vertically or horizontally.

In any social research, various methods are utilized for selection and drawing of samples. After a detailed study of all these methods and considering the variables selected for the research work, the 'stratified sampling method' was found to be most suitable. The google form calculates everything and forms the needed graph for the purpose of interpretation.