CHAPTER - 3

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3.1 INTRODUCTION

Secret of success of the work is in the planning of its foundation perfect, detailed planning without deficiency is very necessary for achieving any goal of life, or for completing any work of daily procedure for solving any problem or for finding our any truth or for obtaining any definite aim. Success in the achievement of the goal depends on the thoughtful planning.

If we want to maintain the standards of evaluation, the tests should be constructed by which the behaviour changes of the students can be definitely measured. For this evaluation should be aim-oriented. So if the changes are brought in the tools of evaluation then evaluation can be made meaningfully aim-oriented. It can be done if the questions in evaluation can be constructed scientifically, the form of the question papers are constructed on the basis of blue-print and the evaluation of answer sheet be objective then only evaluation can be aim-oriented in true sense. For this the purification of the tool of evaluation is the basic step of the probable solutions, and standardised achievement tests is the true option of it. In the present study, the investigator has constructed the standardized Multiple Intelligence Inventory.

3.2 RESEARCH DESIGN

3.2.1 Population and Sampling

In any research, the work can not proceed further until the population is defined and standard findings cannot be obtained on the basis of the sample because selection of sample becomes difficult if population is not defined. If it is not defined, from where and which type of subjects should be selected is not understood. After defining population to prepare the list of subjects has become possible. In words of Kulbir Singh Siddhu\(^1\) (1984),

"Sampling ensures completeness and a high degree of accuracy due to limited area of operation"

According to Richard P. Ronyarn and Andrey Hebar\(^2\) (1980),

"Population is defined as a complete or theoretical set of individual objects or measurements having some common observable characteristic"
According to Gilbert Sex (1974),

"Also universe, the total number of individuals, items, objects etc. population may be infinite (all possible items that could measure intelligence) or finite (The total number of students attending a given school). A test may be though of as a sample of items selected from a population or universe of such items"

According to the opinion of Arther Bertrand and Joseph P. Sabula (1980),

"In statistics, the total number of individuals from which a random sample is taken. The population could include all the people in the united states or all the children in a school"

Thus according to above definitions population means subjects of the study included in the work field, the students studying in the secondary schools of Gujarat state becomes the population. In population all the students studying in secondary schools are included. Thus a student of each secondary school becomes a unit. As this number is very big, it becomes essential to undertake the study by selecting the sample through proper method.

Norms of any test depends on the fact that on what sample of the population it has been standardized. So the method of selection of the sample becomes a very important matter in standardization. Selection of the sample depends on the subject of the research and from the selected sample the data of research work is obtained. This data can be obtained by two ways : (1) by covering the entire population (2) by selecting some portion as a representative of population.

Generally, any test cannot be administered on the entire population. Moreover it is very difficult to collect the data from each member of population so, data is obtained from the subjects by selecting some part which is the representative of population. Some part that holds the representation of population is called sample.

For standardization of a test-selection of the sample is very important
matter. As a sample a group of alive persons is to be taken so selection of sample is very difficult and it needs thinking also. In whatever proportion the sample is representing the population, in that proportion only the test can evaluate the entire population in real sense, while defining the sample, Richard P. Tuniyon and Andrey Hebar mentions\textsuperscript{5} (1989):

"A sample is a subset of population or universe"

According to Fredrick G. Brown\textsuperscript{6} (1989), Representative sample means,

"A subject of observation e.g. items, people or scores drawn from a larger population. If each observation has an equal opportunity of being selected the sampling random if observations are selected so as to obtain proportional representation in terms of certain salient dimensions, the sampling is stratified or representation in terms of certain salient dimensions, the sampling is stratified or representative"

According to Arthur Bertrand Joseph P. Cebula\textsuperscript{7} (1980),

"The group of individuals randomly selected from the population"

Thus sample is a part of population and the selection of sample without bias is difficult. According to various objectives of research selection of sample can be done by various methods. Garret\textsuperscript{8} (1973), mentions for selection of the sample as follows,

"Various techniques have been devised for obtaining a sample which will be representative of its population"

Methods for the selection of the sample\textsuperscript{9} (2009)

1. Sequential Sampling
2. Cluster sampling
3. Purposive Sampling
4. Random sampling
5. Sampling by matched pairs
6. Incidental or Accidental Sampling
7. Double Sampling
8. Systematic Sampling
9. Stratified Random Sampling

In the present study, the investigator has selected secondary schools of Ahmedabad, Gandhinagar and Vadodara as Urban area and the secondary schools of Panchmahal, Anand and Kheda as Rural area from allover Gujarat state. A group of all the students of the selected school is the cluster of the study. Subjects of the sample are selected by these clusters. Thus the method of sampling can be called Stratified Random Cluster Method.

3.2.2 Research Method

Research method is very important to get useful satisfactory and Reliable result of any research. By this, research work becomes easy. Time and finance are shared and the logical result of research is obtained.

There are many methods of research such as experimental, Historical, cause comparative, survey etc. While selecting the research method the form of study, selection of sample, objectives of study etc. are considered. In this study the investigator has used survey method. In survey method there is the recent situation and its description and Interpretation. In it there are also some process, thoughts, trends, effects, attitudes, description and Interpretation. Thus the method of searching out the present situation means survey method. In the present study as the norms were to be established, so this survey is known as Normative survey.

3.2.3 Method of Data Analysis

For the present study, the primary assessment was done of the test papers after data collection. By cancelling the test papers with incomplete data in the primary assessment the remaining test papers were examined with
marking key and on the basis of the following variables the planing of analysis was done:

(1) Sex: Boys, Girls

(2) Area: Urban, Rural

(3) Medium: English, Other

Frequency distribution Tables were prepared according to sex, area and medium in statistical Analysis. For the frequency distribution of each group Mean, Standard Deviation (SD), Median, Quartiles, skewness and kurtosis were calculated. Then the significance of difference between the means was assessed between different, Gender, Area and Medium. For that critical ratio \( r \) was used. After that normal probability curves were prepared of frequency distribution. And percentile ranks and T-scores were prepared according to variables. Reliability and validity of the test were assessed by various methods.

3.3 CONCLUSION

We had discussed about, Sampling, Research Method and Method of Data Analysis. In chapter-4, we will discuss about pre-pilot testing, pilot testing, Final testing and deep information about construction of Multiple Intelligence Inventory.
References


