METHODOLOGY

When a researcher ventures into area of research to solve the problem at hand, there is a total chaos as regards to the precise nature of the problem, required relevant information, the source of information, the way to collect the right information and how to draw meaning out of information.

Research methodology turns this chaos into systematic planning and procedure so as to able to address the problem properly which starts with defining statement of the problem.

A STUDY ON IMPROVING THE TEACHING ABILITY OF THE PROSPECTIVE TEACHERS BY THE USE OF MICRO TEACHING AND MULTIMEDIA

RESEARCH METHOD

The study will be conducted through experimental method of research. An experiment is the process in which the experimenter manipulates one variable to study the effect of the manipulation on another variable. The experimental method tests the hypothesis concerning cause and effect relationship.

The method requires sample for conduct of study with certain research tools for conduct of the study. The description of tools and sampling is given hereunder:-

RESEARCH TOOLS

For collecting new unknown data required for any research problem, one may use various devices. For each and every type of research we need certain tools together facts or to explore new fields, which act to as means are called research tools. Different tools are suitable for collecting various finds of information for various purposes. The selection of suitable tools is of vital importance for successful research. The success of any research endeavour is largely dependent upon the tools which are used for the data collection. The following tools were selected and used by the investigator in the study.

In this study following tools will be used by the investigator.
• Raven's Standard Progressive Matrices (Intelligence test for making the three equal matched groups (A1, A2 and A3).
• General Teaching Competency Scale (GTCS) of Dr. B.K. Passi and Dr. Mrs. Lalita (1977).
• Micro lesson plans for microteaching and lesson plans for use of multimedia were prepared by the investigator herself.
• Observation schedule for selected skills will be used.
• Transparencies and slides will be prepared by the investigator. Overhead projector and slide projector will be used for this purpose.

FORMATION OF DESIGN

Stage I

First of all prospective teachers were selected on the basis of teaching subjects they have offered at their B.Ed. level. It was found 522 prospective teachers opted for teaching of social studies. The table given below indicated the number of 270 prospective teachers selected as sample at this stage.

Stage II

To achieve further homogeneity in the group efforts were made to equate the ninety prospective teachers referred to above, on the basis of intelligence.

In the present study pre-test, post-test, control group design will be employed. The study involved two independent variables, namely, microteaching skill, use of multimedia. The dependent variable studied will be teaching ability of prospective teachers in Social Studies.
CONTROL OF VARIABLES

The study involved two independent variables, namely, microteaching skill, use of multimedia. The dependent variable studied will be teaching ability of prospective teachers in Social Studies. In order to reduce the contamination and study the clear effect of variables certain controls will be introduced. A brief explanation of these experimental controls is as follows:-

- Organismic Variables
- Stimulus Variables
- Response/Behavioural Variables

CONDUCTING THE EXPERIMENT

The experiment will be conducted in three phases as presented in the following paragraphs.

Phase I – Administration of the Pre-test

After selecting the colleges for experiment the investigator fixed appointments and discussed the proposed instructional programme with the principals of colleges. Availability and favourable climate for research was the criteria for final selection of colleges. A meeting with principal and teacher educators helped in chalking out the date and time schedules for the implementation of the programme. The investigator visited the selected prospective teachers and established a rapport with respective teachers. Before starting the treatment all the prospective teachers selected in sample will be given pre-test. This will be the initial stage in which the General Teaching Competency Scale (GTCS) will be administered on group A1, group A2 and group A3 before introducing any treatment.

Phase II - Treatment. In the treatment stage all the three groups will be treated as given below.

Group A1 will be oriented through Microteaching skills.

Group A2 Lesson plans will be delivered with the help of multimedia (O.H.P. & Slide Projector.
**Group A3** Unlike the other two groups, this will be the control group. The treatment will be given to this group as per the lesson plans prepared by using conventional method of teaching simultaneously with the other groups.

This treatment will be maintained for thirty working days for one period of 36 minutes for each working day in each institution for each of the groups.

**Phase III- Terminal Stage.** At this stage post-test will be administered on group A1, group A2 and group A3 on the completion of the treatment. In this way the terminal behaviour of the sample will be evaluated.

**FORMATION OF FACTORIAL DESIGN**

The major objective of the study will be to explore relationship of micro teaching, multimedia and conventional method. In order to study the effect of micro teaching on teaching ability, use of multimedia on teaching ability and conventional method on teaching ability of prospective teachers. 3x2 factorial design was formed and depicted in the table.

Treatment will be considered as factor A. It included three groups of prospective teachers two experimental and one control group.


A2 – Experimental Group A2 through Multimedia.

A3 – Control Group A3 through Conventional Method.

Teaching ability will be considered as factor B. It included two levels of teaching ability high and low.
It may be seen from the fig.

N=120

Method A1    Method A2    Method A3
(n=40)        (n=40)        (n=40)

B1 - High Teaching Ability level
B2 - Low Teaching Ability Level

A2 – Experimental Group A2 through Multimedia.
A3 – Control Group A3 through Conventional Method.

Layout of Factorial Design 3x2

Treatment A
STATISTICAL ANALYSIS

Statistical procedures have been developed to simplify the large quantities of numerical data and thus to assist in the task of obtaining meaning from them. In this study the under mentioned statistical treatments will be applied to give numerical description and meaningful shape to the obtained data:

For analysis of data in the present study following statistical techniques were used:

- Mean
- Measure of variability
- Significance of difference between two means
- Analysis of variance (ANOVA)
- t-test & F-test
- Factorial design 3x2