

CHAPTER III

PLAN AND PROCEDURE

Introduction

Planning and procedure constitute an important part of research. No research project can be undertaken successfully without proper thinking and planning. Broadly classifying, the research techniques are historical, experimental and survey type. While the historical is concerned with the past, the experimental technique is oriented towards the discovery of causal relationship with the phenomenon and the survey method deals with the present and attempts to determine the status of the phenomenon under investigation. The study employs the descriptive survey method of research. For the present study, the research design has been planned systematically in the following stages.

Study of Relevant Literature

After the selection of the problem, the investigator had gone through the literature which has been described in the previous chapter. The investigator had also attended one full course of 'Higher Education in Methodology of Teaching' which had been conducted for the newly appointed lecturers of the M.S. University of Baroda, in the session 1977-78, from July to October, at the Centre of Advanced Study in Education (CASE), Faculty of Education & Psychology, M.S. University of Baroda. The study of the literature and the attendance in the seminar on higher education helped the investigator in the formulation of the problem.

Statement of the Problem

On the basis of the discussions in the foregoing chapters the problem has been stated as :

A Critical Study of the Programmes of the Pre-service and In-service Education of Teachers of Higher Education in India.

A Few Definitions

Critical: 'Critical' means careful judgement. Here the term is with regards to the programmes; whether these programmes are needed or not and what is the present position of the programmes; these are being carefully judged in this study.

"Characterised by careful analysis and judgement (a sound critical estimate of the problem)". Webster's New World Dictionary.

"Involving skillful judgement as to truth merit". Random House Dictionary.

So the operational definition the investigator has accepted as follows :

An attempt to judge through responses to questions the merits and demerits.

Pre-service Programme: The term 'pre-service programme' means the preparation of an individual for his job before getting appointment to the same.

According to 'Educational Dictionary' (Good 1959), preservice programme means 'the academic and professional work in high school, college teachers, college or university that a person has done before employment as a teacher'.

According to 'International Dictionary of Education' (Page, 1979), Preservice Education term is used in teacher education for the education and training provided at a university or college of education to prepare a student for a career in teaching. The term is used particularly to distinguish such training from the inservice training.

Inservice Programme: The concept of inservice programme is to prepare a teacher for his proficiency in occupation during

the service period.

Broadly speaking inservice education includes all activities that teachers engage in, during their service, and are designed to contribute to their improvement and effectiveness on the job. Good (1959) defines it as, "activities on the part of employed teachers that contribute to their professional growth and qualifications for example, travel, professional reading, participation in supervisory and curriculum development programmes, attendance at summer session course etc."

Education of Teacher: In this study, 'education of teacher' is used for the training or orientation of the teachers in accordance with the new concept of educational philosophy and modern pedagogy. It consists of educational philosophy and sociology, educational psychology and fundamentals of statistics, history and current problems of Indian education, administration and university governance, and methods of teaching and techniques of evaluation of the teaching-learning process in higher education. The second aspect of practical training is to equip the teacher in preparing lectures, question papers based on objectives and other activities pertaining to the prescribed course.

Higher Education: The definition of 'higher education' is as per the book, "The Recruitment and Training of University Teachers"; I.A.U.P.L. (Ghent) Belgium 1967 by Hacquaert.

The book defines 'higher education' as "all types of education given in institutions such as universities, university colleges, liberal arts colleges, technical institutions and teacher

training establishments, for which basic entrance age is about eighteen years and the course leads to the giving of named award (degree, diploma, certificate of higher studies)."

(Instructional offered to persons of considerable intellectual maturity). In terms of institution higher education includes all education above the level of secondary school given in colleges, universities, graduate schools, technical institutions, teachers colleges. (Good, 1945)

Tertiary education of an academic level higher than that attainable on completion of a full secondary education. The generally accepted definition of higher education is "that which requires as a minimum condition of admission; the successful completion of secondary education or evidence of the attainment of an equivalent level of knowledge." (Page, 1979).

Orientation Programme: The term 'orientation programme' has been used to mean the training of university teachers in methodology of teaching.

Objectives of the Study

1. To study the need of preservice and inservice education programmes as felt by the university teachers.
2. To study the objectives of the preservice and inservice education programmes as they are being conducted by various institutions.

3. To study the preservice and inservice programmes in terms of their: (a) types, (b) duration, (c) syllabus, and (d) methods of teaching.
4. To seek the opinions of the participants (a) regarding the evaluation of their performance in the programme, and (b) the usefulness of the programme.
5. To study the attitude of the teachers of universities towards the preservice and inservice education programmes.
6. To develop a syllabus for training of teachers of higher education.

Delimitation of the Study

1. The study is delimited to the departments of education of the university/colleges which conduct preservice and inservice programmes for college/university teachers.
2. It also comprises of those preservice and inservice programmes which are meant for college/university teachers to improve their classroom competence in teaching and evaluation.
3. It does not include the orientation courses run by other types of institutions like Technical Training Institutions agricultural universities.

Tools and Techniques

To study the objectives which are mentioned above and to

scientifically evaluate the programmes, tools were prepared, which were tested for their reliability.

Questionnaire for Participants/Teachers

For the preparation of tools, the investigator had gone through different types of tools specially questionnaires, which had been already prepared by different researchers for their studies. Taking ideas from those tools, the initial list of questions were listed in two categories. Part-A was meant for all categories of teachers, irrespective of their having undergone an orientation course or not. The second part, i.e., Part-B was meant for those teachers who had attended some type of orientation programme, either preservice or inservice programme for university teachers. This initial form of questionnaire was refined by applying a tryout upon the teachers of M.S.University of Baroda and by necessary discussions with experts in the field of education such as the members of the education department and Centre of Advanced Study in Education (CASE) M.S.University of Baroda.

After the tryout, the final form of the questionnaire was developed which comprised of 25 questions on different aspects of programmes. They are : (i) Need of the programmes. One question was included in part-A regarding the felt need of the programme, so that all the respondents could respond to the same whether they be trained or untrained.

(ii) Objectives of the Programmes. Another question was asked for which the responses were to be recorded on a three point scale. This question included sixteen (16) objectives pertaining to all the aspect of the programme such as educational philosophy and sociology, educational psychology, problems of higher education, curriculum, methods of teaching and techniques of evaluation.

(iii) Opinion about the present pattern of evaluation, types of the programme, and duration of the programmes were asked in the Part-A of the questionnaire.

(iv) Questions regarding practices of the programmes, methods of teaching, evaluation of the participants, syllabus and selection of experts etc. were put in the part-B. Along with these, suggestions for improvement of the programme and facilities required during programmes, were also put in open end type questions.

The necessary instructions were given to put a tick (✓) mark, wherever it was necessary. A few questions were of open end type.

A section on personal data was added in the beginning of the questionnaire and blank space was provided for writing additional remarks. (Appen.- A)

Questionnaire for Experts (Syllabus)

The investigator had earlier gone through the syllabi prepared by different institutions, where this programme is going on either as preservice or inservice. Objectives of these programmes were spelt out, taking into account the problems faced by the university/college teachers in the teaching-learning process. These problems were identified by studying relevant syllabuses, by interviewing teachers and by experiences of the investigator. In this way the questionnaire was framed on a three point scale i.e. agree, undecided and disagree. The questionnaire was divided into two parts: (i) Theoretical aspect of the syllabus, and (ii) Practical aspect of the syllabus.

Further the theoretical aspect was divided under four headings., viz.,

- (i) Educational Philosophy and Sociology,
- (ii) Educational Psychology and Fundamental Statistics,
- (iii) Administration, Curriculum and Problems of Indian Higher Education,
- (iv) Teaching Methods and Evaluation.

The second part consisted of the practical aspect of the syllabus in which a few items regarding the methods of teaching and evaluation were included. Under methods of teaching, lecture, discussion workshop, seminar and other methods were discussed and the techniques of evaluation, preparation of evaluation items, grading, observation techniques were included. (Appen. - C)

This questionnaire was administered on the experts in the educational field and dealing with either the orientation programmes for higher education or with M.Ed. class atleast.

Attitude Scale

There are several tools which can be used for the measurement of attitude, viz., direct questioning method, direct observation, questionnaires and attitude scales. Attitude scale is often used by the researchers in the social science, such as - education and psychology. Various methods of constructing the scale have been developed by various psychologists. Each method has its own advantages as well as limitations. It depends on the investigator to select the method of constructing the scale for his study. This part of the chapter discusses in brief, the construction of the scale, which involved the collection of statements, taking the opinions of experts, the tryout and the finalizing of the list of the statements.

It is usually desirable to prepare and select more number of statements, than are likely to be finally used, because after trying out the statements upon a group, some may be found to be quite unsatisfactory for the intended purpose, and some may not be suitable from the language point of view.

The investigator constructed the scale by collecting statements based on his experience and literature pertaining to the topic such as the earlier dissertations, periodicals, magazines, etc. In addition, the investigator collected statements from some

university teachers who had already undergone such orientation programmes. The purpose of this was to ensure the covering of all aspects of the attitude of the teachers towards orientation programme. They were in all 78 statements. The following criteria were kept in mind while collecting the statements.

1. Statements were to be expressions of desired behaviour and not statements of facts.
2. Statements were to be expressed in clear concise straight forward language.
3. Confusing statements with double meaning or vague wording were to be avoided.
4. Each statement was to contain a single idea.

Keeping these characteristics in mind, positive and negative statements regarding attitude towards various aspects of orientation programme were developed on the basis of Likert's five point scale. The different training aspects covered were :

- (i) Philosophical, (ii) Psychological, (iii) Administrative, (iv) Problems of Higher Education, (v) Method of Teaching, (vi) Evaluation, and (vii) Qualitative Statements Expressing Value Judgement, e.g. 'The Orientation Programme is Wastage of Time and Money'.

These items were given to the experts to seek their opinions regarding the clarity of the statements in language, suitability and validity. Based on their opinion, the scale was modified and tried out on a sample of teachers of M.S.University of

Baroda. The try-out further helped to improve and sophisticate the tool.

Finally, 36 statements of the original 78 were selected. These 36 statements contained approximately an equal number of expressing unfavourable and favourable attitude statements. (Appendix-B)

The reliability and validity of the tools were established on the basis of experts' opinion. The reliability of the attitude scale was also established by employing the split half method on a group of participants, who attended an orientation programme conducted by the Faculty of Education and Psychology of the M.S. University of Baroda. The numerical value of reliability was .94.

Interview Schedule

A schedule was prepared in order to interview the heads of the departments of education, convenors and directors of the summer/short term institutes as they were also involved in these programmes.

The questions pertained to :

- (i) the respondents' opinions regarding the continuation of orientation programme,
- (ii) resistance faced during the sponsoring of the programmes,
- (iii) opinions regarding the type of the programme whether preservice or inservice. (Appen. - E)

Sample

Population: Teachers and trainees of those universities where such programmes preservice/in-service were conducted have formed the population for the purpose of this study. For the purpose of collecting data a sample has been drawn from the above mentioned population.

Sample: The sample for this study was very complex in nature. Therefore, the investigator took certain liberties for sampling purpose.

The sample consisted of three categories;

- (i) teachers who had already attended such courses,
- (ii) teachers and freshers who were undergoing such training, and
- (iii) untrained teachers of those institutions from which the sample of trained teachers was drawn.

Approximately 63% of the total sample was selected on the basis of purposive sampling. The teachers and trainees of these institutions which had either conducted a preservice orientation programme or an in-service programme, were selected to form the sample. To this extent it can be said that the purposive sampling technique was adopted.

The remaining 37% of the sample represented the untrained group of teachers of the sample institutions.

The two universities which have been conducting the preservice education programme, are Annamalai University and the Calicut University. Three universities have been conducting inservice programme and they are M.S.University of Baroda, Baroda, Madras University, Madras and Madurai University, Madurai. Out of the universities where U.G.C. has conducted the programmes, three Centres, Indore University, Meerut University and M.S.University of Baroda have been included in the sample. Baroda is such a Centre where U.G.C. as well as the department on its own, conducts the programme.

The second group consisted of 65 experts in the field of teacher education affiliated to the 'department of education' in different universities of India.

The third group consisted of organizers/directors/conveners of such programmes where from the first sample was selected.

Data Collection

The sample was so scattered in time and space that in order to collect the data from different strata of the sample two methods were adopted:

- (i) A few questionnaires were mailed to the persons whose names were collected from the reports of the summer institutes as well as seminars;
- (ii) The investigator has collected data through personal approaches to the places.

The investigator mailed about 200 questionnaires to the trained and untrained teachers. The investigator received about 80 questionnaires back from the respondents. A number of difficulties were faced by the investigator in collecting responses for the questionnaires within the given time of the despatch of the questionnaires.

The investigator had to go personally to the Centres where the programmes were going on, to collect the responses for the questionnaires. This is how it was made feasible to get responses from the respondents. The investigator had been to Madras University, Annamalai University, Madurai University, Calicut University, Meerut University and Indore University.

The investigator tried to collect data from all the students who were appearing at M.C.T. Course at the Calicut University as well as from those who had already completed the degree course of M.C.T. Their addresses were noted from the Office of the Department of Education. The total number of respondents from Calicut University were 22 in all, 8 men and 14 women.

The Annamalai University had 150 students and teachers in the Master of Higher Education (M.H.Ed.) Course. Out of these 150 student-teachers the investigator selected 60 respondents (42 men and 18 women) on the basis of random sampling using the Muster-roll.

In this way data was collected from 82 respondents who

had participated in preservice education programme. Of these 82, 46 respondents from Annamalai University and 10 from Calicut University were administered with an attitude scale.

The data was collected from the affiliated colleges of Madras University, viz. Teachers' Training College Saidapet; Ram Krishna Mission Vidyalaya, Combato're; and Avinashlingam Girls' College Coimbatore and the Department of Education of the Madras University. The total respondents of this University from all the colleges were 54, 40 men and 14 women. The attitude scale was administered only to 26 respondents out of these 54.

The data was also collected from Madurai University. Those inservice teachers who had been attending the course of 'Methodology of Teaching', were administered the questionnaire and the attitude scale. There were 46 respondents on questionnaire and 21 respondents on attitude scale. The 30 men and 16 women from the same responded to the questionnaires as mentioned above.

The investigator had also collected data from those teachers of different faculties of the M.S.University of Baroda, who had attended the programmes in the Centre of Advanced Study in Education (CASE) on 'Methodology of Teaching' and also from those who had not attended. The respondents were 60 from all faculties, 40 men and 20 women. The attitude scale was administered to a group of teachers, who attended a programme on Methodology of Teaching, before and after the commencement of the course in October 1978.

The data was also collected from another group, which attended the short term institute programme conducted by CASE on behalf of the U.G.C., the teachers of the M.S.University also attended the same, during November and December 1979.

The data was also collected from the teachers who attended the U.G.C. seminars or summer institutes in those universities mentioned above (Meerut and Indore). The responses were 80 in all, 62 men and 18 women. The attitude scale was administered only on 22 candidates out of 80.

The questionnaires as well as the attitude scales were also administered to a group of untrained teachers who had not attended any such programme. These respondents belong to Madras University, Madurai University, Calicut University, Annamalai University and M.S.University along with U.G.C. programmes. They were 190 in all on questionnaire (150 men, 40 women) and 22 on attitude scale.

Thus, the total number of sample was 512 on questionnaire (372 men, 140 women) including 167 on attitude scale. This sample was divided into different groups according to the objectives of the study and the variables. Table 3.1 gives an over-all picture of the sample of the study.

The data from the second sample i.e. the experts was also collected in the manner described above- through mail and through personal approach. The investigator had mailed 25 sets

of questionnaire pertaining to syllabus, to the experts, and he received about 8 from them. While he was collecting data for the first sample, he had also collected this data from the experts personally. In this way he had collected 65 sets of such questionnaires in all.

The data from the third sample of the organizers was also collected personally by interviewing them with the help of semi-structured interview schedule. Twenty-four organizers, conveners, directors were interviewed.

Table 3.1: Sample of the Study

University	Questionnaire	Attitude Scale
1 Annamalai University	60	46
2 Calicut University	22	10
3 M.S.University	60	20
4 Madras University	54	26
5 Madurai University	46	21
6 U.G.C.Programme	80	22
7 Untrained Group	190	22
TOTAL :	512	167

Classification, Analysis and Interpretation of the Data

The data for the present study was collected by administering the four tools prepared by the investigator for the purpose.

The data was classified into three parts: (i) preservice education programme, (ii) inservice education programme and (iii) the untrained group.

The preservice education programme included the two universities, i.e. Annamalai and Calicut Universities.

The inservice education programme included three universities and a group of teachers who had attended U.G.C. summer/short term institutes at different universities. The universities were M.S.University of Baroda, Madras University, Madras and Madurai University Madurai.

The third group of classification was the untrained group of teachers. The other group of experts was analysed all together. The organizers were kept in separate group.

The analysis of these two last groups have been done separately.

Now, the analysis of each tool has given separately as follows.

Analysis of the Questionnaire: The questionnaire has been analysed question-wise putting preservice, inservice and untrained group together allowing the probability of some relative picture emerging out of the data. Only the question No.9, of the questionnaire related with objectives of the programme was analysed in two distinct ways; one in terms of ranking and the other giving 3, 2 and 1 scores for the responses agree, undecided and disagree respectively. The total scores of the respondents were calculated; Mean, S.D. were computed and 't' test was applied to them, in order to know the difference of opinion about objectives of groups.

The whole questionnaire has been analysed first in terms of frequency and later all the frequencies have been changed into percentages. These percentages have been rounded to the nearest number as the rounding up would not affect the data significantly.

A few questions, such as methods adopted during the programme and utility value of the content were analysed by allotting scores 4, 3, 2, 1 respectively to the intervals provided along the questions. The ranks have been calculated on the basis of these scores. A few questions were of the open end type for which a qualitative analysis has been done. The allotment of scores has been discussed along with analysis, which has been presented in the fourth chapter. Ranks were given to those questions which needed priority treatment. The coefficient of correlation (ρ) has been calculated at a few places.

Analysis of the Attitude Scale: As already mentioned the attitude scale was administered to those teachers of different faculties of the M.S.University of Baroda, who had attended the Methodology of Teaching course in the Centre of Advanced Study in Education (CASE), M.S.University of Baroda, Baroda. There were two separate courses organized in the months of October 1978 and November to December 1979. The attitude scale was administered before commencement and after the completion of these courses. The correlation was established between the pre-test and post-test separately for both the groups. The 't' test technique was applied when means were correlated. The significant difference was found between the two tests at .01 level in both the groups. For other groups, the 't' technique was applied where means were not correlated. The significant differences of means of different groups were tested. The important variables have been taken into account and the analysis has been done on their basis.

The attitude scale was constructed with seven aspects of the programme. The aspectwise analysis has also been done so as to reflect the attitude of the respondents towards the seven aspects separately. It was presupposed that the attitude of the respondents towards seven aspects may not be the same. This type of analysis has been done for all the groups, such as preservice, inservice and also two groups, where pre-test and post-test have been given.

Interpretation of the Attitude Scale: In general, the interpretation of the attitude score on summated rating scale cannot be made independent of the distribution of scores of some defined groups. If a subject obtains a score of 36 on a 36 item summated rating scale, this score could be interpreted as indicating an unfavourable attitude, because to obtain this score, the subject would have had to give a 'strongly agree' response to every negative statement, and a 'strongly disagree' to every positive statement in the scale. Similarly, a score of 180 could be interpreted as indicating a favourable attitude because the score could be obtained only if the subject had given 'strongly agree' response to every favourable statement and a 'strongly disagree' to every unfavourable statement.

The interpretation of scores falling between maximum and minimum possible scores is more difficult, where the interest of the investigator is in describing an individual or a group as having either a favourable or unfavourable attitude toward the object under consideration.

The reference point to indicate whether the attitude of the group/individual is favourable or unfavourable, will be based on the neutral point of the total scores of the attitude scale. In this case the neutral point is 108, because the total number of statements on the five point scale were 36. Therefore, any score which is less than 108 indicates an unfavourable attitude, whereas any score which is more than 108, reveals a favourable attitude towards the psychological object.

The attitude score on summated rating scale can be interpreted in the relative sense; the attitude of a single subject relative to the attitude of the reference point. A relative interpretation of attitude scores is made in the same manner in which relative interpretation of scores in other psychological tests are made, that is, in terms of the distribution of scores obtained from a particular group. Edwards (1969) defines the mean attitude test score for a particular group of subjects as :

$$M = \frac{EX}{N}$$

where,

M = The Arithmetic Mean

EX = The Scores of the Subjects in the Group Under
Consideration.

N = Number of the Subjects.

If he uses the mean of the group as his origin, then each of the individual attitude score can be expressed as a deviation from this origin. Edward assumed that the mean represents the typical or average attitude of the group. The scores that are higher than the mean, can be interpreted as scores that are more favourable than the average for the group, and scores that are lower than the mean, can be interpreted as scores that are less favourable than the average.

Analysis has been done for the data under the following heads.

- (i) Mean scores of different institutions deviated from the neutral point or reference point.
- (ii) Mean scores of different programmes deviated from untrained group.
- (iii) Difference in attitude among the members of all the institutions.
- (iv) The mean difference in attitude towards the orientation programme with sex and the number of years of teaching experience, as two distinct variables.
- (v) Difference of attitude among the group of teachers between pretest and posttest.
- (vi) Attitude of different groups with respect to different aspects of the programme.
- (vii) Attitude in terms of percentage.

Analysis of the Questionnaire (Syllabus)

The frequencies were calculated for all the respondents together and then were converted into percentages.

Analysis of the Interview Schedule

The analysis of the interview schedule has been done descriptively. No numerical interpretation has been done.

Abbreviations Used in the Thesis

- P = The group which had undergone pre-service orientation course will be referred to as P.Group.
- P = The group which had undergone an in-service orientation programme will be referred to as I.Group.
- U = The group which had not attended any such course will be referred to as U.Group.
-