CHAPTER - IV

METHODOLOGY

Research in education has a glorious past history. Several techniques and designs were developed for carrying out research in education. However, all these designs and paradigms are not suitable to every kind of research in education. Hence after finalizing the research topic it is necessary to adopt or select appropriate methodology for examining the problem under study.

Whenever the evaluation is to be done or the effect of one factor on the another is to be examined generally experimental designs are employed but in many cases it is not possible to use effectively the experimental techniques and designs. Hence, most of the researches in education are carried out with the help of interview schedule, inventories, tests and questionnaires. What it is to be selected as effective tool depends largely upon the measures of problem under study.

Specially, when the large number of sample is incorporated either the group test or inventories are used. But when the influence of a particular type of training on the subject is to be examined, then either structured or unstructured questionnaire work more effectively. G.W. Allport clearly proposed that when the
opinions of the individual are to be studied then it is better to ask the individual directly. Taking the clue from this it was finalized to use questionnaire technique that is to be used for the personal interview also. Once the step was decided then the nature of questions, number of factors. Length of the questionnaire etc. were finalized and finally four different questionnaires were constructed for the study.

Sample:

After finalising the universe of study it was decided to incorporate all the 28 Extension Service Centres located at the District headquarters. It was to be done so because in these centres there are the Honorary Directors and the Co-ordinators. Thus, for the inclusion of Honorary Directors and Co-ordinators there was no scope of choice or selection. In other words the complete universe of Honorary Directors and Co-ordinators was treated as part of effective sample.

Under each centre all the Secondary Schools of the District are included. Hence there was little scope for the selection of Headmasters of the schools coming under the jurisdiction of the training centres.

With the help of Co-ordinators list of the headmasters coming under particular Taluka was prepared
and by using random number table 10 Headmasters who had undergone the prescribed training were selected randomly. Thus, at the preliminary level 280 Headmasters were incorporated in the study. While tabulating and scoring the questionnaires at headmasters in sixteen (16) cases several unanswered questions were observed as a result of which they were deleted from the sample. Among the 265 complete questionnaires; seven (7) questionnaires had more or less similar community of responses that indicated the respondents did not take the work seriously, of the remaining 251 there were seven (7) such cases in which only extreme responses were given. Hence they were also deleted. To make the computational work easy four respondents were deleted randomly and effective sample of 240 headmasters was retained.

Apart from Honorary Directors, Co-ordinators and Headmasters at the fourth place 480 teachers working under the jurisdiction of different training centres were selected with the co-operation of co-ordinators. List of the teachers who were benefitted from the Extension Service Centres was prepared. Once again by using the random number table, twenty subjects were selected to be included in the sample. Thus, the number of teachers at the initial stage were 560. All these 560 teachers were provided with the copies of questionnaire specially constructed for them and
they were given sufficient time for writing their responses. However, even after repeated visits to quite a good number of teachers, the filled copies of questionnaires could not fetched and out of 560 only 517 filled copies of questionnaire from the teachers were collected. Forty three teachers neither written not filled the blank questionnaires.

While codifying and tabulating responses of the respondents from 517 questionnaires of teachers it was also found that 19 teachers had kept several gaps; in other words they did not reply to some of the important questions. Hence, it became necessary to delete them. Among the remaining 496 questionnaire, there were 18 questionnaires in which to the multiple choice questions the respective teachers had given responses in the form of undecided. Obviously, they were also deleted. If the remaining all the questionnaires had to be treated, then the computational work have been a difficult task. Hence some of the respondents were deleted randomly and the effective sample of 480 teachers was remained. Thus, the total sample comprised of seven hundred and seventy six subject at which 28 were Honorary Directors, 28 Co-ordinators, 240 Headmasters and 480 were teachers. Since the number of female respondents was very less. No sex differences were made. The subjects were not at all classified on the basis of sex but the analysis was made
classifying the subject on the basis of their designation.

Among the Honorary Directors, all of them had a post graduation degree and also professional degree in education. Each one of them had more than 10 years of teaching experience. Their age ranged from 42 to 56 years.

Among the Co-ordinators each one of them was a graduate along with a professional degree in education. Each of the Co-ordinator had teaching experience more than 5 years and some of them reported that they had good administrative experience also. The Co-ordinators age ranged also from 30 to 50 years.

Educational qualification of most of the headmasters was post graduation along with degree in education. Some of the Headmasters had obtained M.Ed. degree also. Their age range was 42 to 54 years.

There was a large variation in the age as well as in educational qualification of the teachers. The teachers coming from the rural areas were relatively poorly educated. While those working at district headquarters were better educated. However, everyone had a university degree either B.A., B.Com. or B.Sc. Most of the teachers from Urban area had B.Ed. degree.
and a few got M.Ed. degree also. The age range was 22 to 50 years. Thus for the final study the effective sample consisted of seven hundred and seventy six subjects of which twenty eight Honorary Directors 28 Co-ordinators 240 Headmasters and 480 were teachers.

**Tools Used For Data Collection:**

Since the effect of training imparted to the teachers in Extension Service Centres was to be evaluated it was necessary to select the most appropriate tool for administering it on the subjects. But the nature of the training was so varied that none of the available standardized tools could work effectively to meet the demands of objectives of study and hence it was decided to construct tools to fulfill the requirements. But here it was not possible to use only one and one tool because the subjects incorporated in the study were not homogeneous and their nature of work was also different from each other.

After examining the nature of work it was observed that a single elaborative questionnaire can be used for collecting data from Honorary Directors and Co-ordinators. However, after pilot study it was observed that it is necessary to construct four different questionnaires for collecting data from four type of subjects.
Questionnaire for Honorary Director:

The first one questionnaire was constructed for Honorary Director. Before constructing the questionnaire the major factors on which the questions were to be framed were finalised. These factors were approximately seven or eight were kept common for all the four group of subjects. However, the nature of questions asked differed from one questionnaire to the another. The common factors were:

Factors:-
1. Enhancing knowledge of teachers.
2. Professional growth and development.
3. Improvement in effective teaching.
4. Improvement of school management.
5. Developing National Integration.
6. Formation of subject teacher association.
7. Motivating the teachers.

First part of the questionnaire dealt with identification data. Second part referred to the educational qualifications and academic achievements. In the third part questions were set to seek the information regarding equipment and facilities available in institution, and the final part which cover most portion
of the questionnaire was related to activities undertaken by the Extension Service Centres. This part consisted of 64 items and each item was provided with five categories responses.

In the first part of the questionnaire factual information regarding the respondent was asked and hence the questions were framed accordingly. In the portion equipment and facilities closed end questions were asked. Thus in the questionnaire only three types of questions were incorporated.

The first seeking factual information only, the second closed end type questions and third multiple choice questions based on the techniques suggested by Likert. While framing the questions care was taken that they do not carry dual meaning. It was seen that the questions are not ambiguous. After framing large number of questions they were written on separate sheet. Number of judges were selected from different profession. Among them seven were college teachers, five Headmasters, nine teachers, three Doctors, four Engineers and five Administrators, each of the judges was provided with the list of items along with an eleven point scale. The Judges were asked to rate each item on the eleven point scale. On this scale eleven point ranged from 0 to 10 where '0' means highly unfavourable and '10' means
most favourable. The other points lie in between according to their degree of favourableness or unfavourableness. Rating of the judges were collected and then their median values were computed. After computing the median value of each item the items having extreme ratings were deleted; and those having the item values between three to eight (3 to 8) were retained. This was done because the items having extreme item values are likely to get similar reactions. Finally the list of items with middle item value was set ready for pilot study. Taking these items and the first part of the questionnaire a set of printed questionnaire was used for the pilot study. Pilot study was carried out at two places the one at Amravati and the other at Akola. The respondents were specifically told to mention the items which they could not understand properly. After collecting the filled questionnaire little changes were made and the final form of questionnaire were finalised. In the final form of questionnaire the '11' main items each having a number of sub items in addition to 15 items dealing with equipment and facilities were included and also there were 64 items that have direct bearing on the kind of training imparted in the Extension Service Centre.

**Questionnaire for Co-ordinator**:

Co-ordinators play a significant role in
carrying out the various training programmes as well as orientation courses for the teachers. Hence an elaborative questionnaire for the Co-ordinators was prepared. The questionnaire has a dual purpose, the one was to get detailed information regarding the workshop, seminars, extra curricular activities arranged by them during the last 10 years. The planning made by them and the activities undertaken by Extension Service Centres which he/or she is the incharge. The second purpose was to evaluate the influence of the programmes run by their centre and to understand its effectiveness. The questionnaire were divided into different sections. The first one being related to general information, identification data and various programmes arranged by the institution during 1980 to 1990.

Second section dealt with selection of participants and selection of resourse persons. In the third section information regarding the planning was sought.

Information regarding the activities undertaken by Extension Service Centres was asked through several items in the fourth section. While the fifth section dealt with the financial aspect. Evaluation of the programme was done and relevent items were included in sixth section. Finally the seventh section
included the difficulties faced in conducting and running the programme. This was a very long questionnaire and hence in many cases the respondents had to provide information in tabular form. Since most of the questions were framed to take out the factual information about the respondent and the programmes. The only care was taken that the questions are not ambiguous. As far as possible short questions were framed and secondly either multiple choice or closed end questions were used. Obviously the questionnaire was very long one but since the co-ordinator has to deal with all these aspects it was necessary to incorporate all these factors and the relevant questions were framed.

All the formalities that is framing and reframing the items carrying out item analysis of the statements included in the evaluation part and pilot study were done in the same manner that was used in the construction and development of earlier questionnaire. Only after completing the formalities the final questionnaire was launched for collecting data.

**Questionnaire for Head Masters**

For preparing the questionnaire for administering it on Headmasters first a list of factors was prepared. In it the first part dealt with
identification data the second was related to general information about the school. In the third part details were asked regarding the various curricular and extra curricular activities conducted in the school and finally there were those questions which were related to the part of evaluation. While framing this questionnaire five point scale was used and with each main question some alternatives were provided. It was observed that in some of the cases the responses given were of the same tips and hence such items were deleted. Some modifications were made in the language of items. Some were modified after the pilot study and then the final questionnaire was sent for data collection.

**Questionnaire for Teachers**: For the teachers a separate questionnaire was prepared. This is relatively a small questionnaire because here the emphasis is more on the evaluation of the effect of training received in Extension Service Centres as a result of which the questionnaire comprised of first part dealing with general information which include identification and academic data of a teacher and some details about the school in which the teacher is teaching. A total of 33 items in the form of questions were used. Specially for evaluating the influence and effect of the training programme conducted by Extension
Service Centres. Each of these items was provided with three different alternatives. In addition to this a short evaluative form was constructed in which the teachers were asked to evaluate the utility of the training programmes and information more sought regarding the financial and other facilities provided to the teachers. In this last part even the suggestions were invited from the teachers.

While constructing the questionnaire for the teachers little extra care was taken for example, even after carrying out meticulous item analysis after launching the questionnaire for pilot study it was observed that the five point rating scale is a difficult task for the teachers. Hence some modifications were made. Secondly, it was not possible to give a perfect answer to some of the questions and hence some ambiguous statements were either modified or removed out rightly. In brief before finalising the questionnaire all the possible care was taken that the teacher can understand each item clearly and need not feel hesitated while replying to the questions asked to him. Needless to mention that similar judges were appointed while finalising the items analysis and the pilot study was also carried out incorporating the sufficient number of respondents.
The Procedure of Data Collection:

In any educational or Social Science research, not only the tool is important but the manner in which the tool was used in obtaining the data carried significant importance in such studies. Since all the respondents were educated and the questionnaire were provided in English and the state language Marathi also, it was not difficult for respondents to write the responses themselves. However, two approaches were used for collecting data. One was personal interview technique and second was a modified form of mailed questionnaire technique.

Some of the Principals and Honorary Directors expressed their desire that "E" must conduct their interview and hence these Honorary Directors were interviewed though there number was less. At the first stage their appointment was taken and then only respondent was approached at the time fixed for the interview. After completing preliminary formalities through informal talk attempts were made to form the rapport. When it was of judged that respondent is now ready to answer the questions again he/she was assured that the responses given by them will be treated as strictly confidential document. No where their identity will be disclosed. One after another the questions were
asked and the responses given by the respondents were noted down in a short form. At the same time, whenever necessary probe questions were asked to take out more details about a particular point.

The respondents, before asking the questions, were instructed as follows.

"This is a small attempt to evaluate the educational programmes organised and conducted by Extension Service Centres in Maharashtra during 1980 to 1990. There is every possibility that some of the earlier details you may not have at the tip of your tongue. Hence kindly refer the relevant material available with your office and provide the factual information. You are once again requested to provide the reliable and factual information because the reliability and success of present research work depends on it. I personally assure you that a nowhere your identify will be disclosed and the information will be used only for the research purpose. This document will be treated as strictly confidential."

While concluding the interview the interviewee gave thanks to the interviewer for giving co-operation, valuable time, and the information.

Those who took the questionnaire they were
handed over a copy of it along with the printed instructions and envelope was provided to them. They were told to answer each and every question honestly and the filled copy of the questionnaire must be sealed in the envelope, so that the secrecy can be maintained.

Similar procedures were adopted while collecting data from the Co-ordinators and Headmasters. The questionnaire constructed for co-ordinators was a lengthy one and earlier factual information was demanded through it. Hence, the co-ordinators were given maximum time and in the meanwhile reminder were given to the Co-ordinators either by phone or through correspondence. This was carried out till the end that is till the "E" received filled copy of the questionnaire. Since the instructions were the same in all the four questionnaires they are not repeated. After receiving the filled copies of the respective Co-ordinators letters of thanks, for extending their co-operation were sent.

In case of the Headmasters on the other hand with some personal contacts were made and the data were collected using the same procedure that were adopted for collecting data from Co-ordinators, and the Honorary Directors.

In case of teachers the approach was made
little different. The teachers were taken into confidence and they were told that they had to give their evaluative remarks regarding the training they have received in the Extension Service Centre. The questionnaire of the teacher was much different than the questionnaire of other respondents. Hence special instructions were prepared. The instructions were as follows.

"Government is spending huge amount for equipping the teachers with the upto date knowledge and methodology. The new techniques that are very effective are to be introduced to the teachers so that they can use this technique in their every day teaching for improving the performance of both the teacher and the taught. To introduce this technique the training courses are conducted by the Extension Service Centre. You had already under gone such training. To what extent you have been benefited by it ? How much you are using these techniques while teaching the students ? In what way your work is benefitted by the training you had received ? What were the objectives of the training course ? and to what extent they had been satiated through it ? Are some of the questions, answers for which are being sought through this study.
There are a number of statements or questions given on the following pages. Each statement or question is provided with three or more alternatives. Read each statement or question carefully and then try to understand its proper meaning. After-word what is your true opinion you have to exhibit by putting a tickmark on one of the alternatives provided with the statements or the questions.

Do not hesitate to write your true opinion because the success of the study depends upon the honesty that you show in answering the statement or the question. All your responses will be treated as confidential. No where your identity will be disclosed. These responses will be used only for research purpose.

Along with these instructions and the questionnaire the "E" tried to meet teachers personally. However to each of the teacher included in the effective sample copy of the questionnaire were given along with a self addressed envelope having sufficient post stamps affixed on it. As was stated elsewhere the questionnaire were given to large number of teachers. But only 480 teachers were incorporated in the final analysis. Here the return of the questionnaire was high because help of the Co-ordinators and Headmasters of
the schools was taken for securing the filled copies of questionnaires from the teachers.

With little alternation, similar procedure were adopted for collecting data from respondents scattered over 30 places.

**Variables Under Study:**

There are several variables that are incorporated in the analysis of the study. Some of them are educational qualifications, experience and the others are mostly related to the evaluative factors associated with different aspects of training programme.

**Design of Study:**

Since the questionnaire technique were used and there were unequal cell frequencies no specific research design was used. Each group was treated as a separate entity.

**Statistical Treatment of Data:**

- **State - I** - Frequency counts per % and Chi-Square.
- **State - II** - Mean and Standard deviation.
- **State - III** - One way Analysis of Variance.
- **Stage - IV** - Duncan's New Multiple Range Test.
- **Stage - V** - Graphical Presentation of Data.
Discussion :-

Findings will be discussed considering the statistical values and their significance wherever necessary findings of the relevant study carried out earlier will be utilised for supporting the findings of present study.