CHAPTER-III
DESIGN OF THE STUDY

Research Design

Research design is a plan or strategy for conducting research. Hence, it is an important part in all researches. It is a mirror of the whole research. It explains the plan of the study in detail. Research design deals with matters such as selecting participants for the research and preparing for data collection—activities that comprise the research process. In other words, it gives information about the sample of the study, tools and techniques used for data collection, methodology adopted for the study and the techniques used for data analysis.

The need for research design is implicit. Kerlinger identified two basic purposes of research design: (1) to provide answers to research questions, and (2) to control variance. However, the second purpose mentioned here is more relevant in experimental research.

Good research design assists in understanding and interpreting the results of the study and ensures that a researcher obtains usable results.

The selection of research design depends on the objectives of the study, variables included in the study and the conditions under which the research is conducted. The usefulness of a study depends on many factors, one of which is how carefully the research is planned/designed.
Research Methodologies

Different books suggest different systems of classification of research methodologies. Based on the basic principles of research methodology, Best and Kahn have identified the following types of research.³

1. **Historical Research**: It describes 'what was.' The process involves investigating, recording, analysing and interpreting the events of the past for the purpose of discovering generalizations. These findings are helpful in understanding the past and the present, and to a limited extent, in anticipating the future.

2. **Descriptive Research**: It describes and interprets 'what is.' It is concerned with conditions or relationship that exist, opinions that are held, processes that are developing. It is primarily concerned with the present, although it often considers past events and influences as they relate to current conditions. Descriptive research deals with the relationships between variables, the testing of hypotheses, and the development of generalizations. It is concerned with functional relations.⁴ Descriptive researches are designed to obtain pertinent and precise information concerning the current status of phenomena and whenever possible to draw valid general conclusions from the facts discovered.

3. **Experimental Research**: It describes 'what will' be when certain variables are carefully controlled or manipulated. The focus is on cause and effect relationships. Deliberate manipulation is always a part of the experimental method.

**Methodology of the Present Study**

The present study has adopted the descriptive method which is described in the following paragraphs in detail.
Descriptive research methods are non-experimental. They deal with the relationships among non-manipulated variables. Since the events or conditions have already occurred or exist, the researcher merely selects the relevant variables for an analysis of their relationships. It is conducted to ascertain what factors seem to be associated with certain occurrences, outcomes, conditions, or types of behaviours.

It will be impracticable or unethical to arrange occurrences, an analysis of past events or of already existing conditions may be the only feasible way to study causation. This type of research is usually referred as post facto or causal-comparative research.

In the present study, the researcher has studied existing continuing education programmes and the opinions of participants, preraks and assistant project officers / supervisors of the continuing education centres. It does not deal with past or future programmes and hence it is termed as descriptive research.

Within descriptive research methodology, the present study has used the survey method and causal-comparative method, which are described as in detail later on in this chapter. The purpose of the present study is to ascertain the quality of continuing education programmes and the worth of these programmes as perceived by participants. Hence, it would be termed as evaluation research. In order to evaluate the continuing education programmes, the study has adopted the survey and causal-comparative methods.

It has used the descriptive method for comparing participants’ evaluation of the continuing education programmes (AWPs and QLIPs) under study on the basis of gender, caste, educational background and different NCECs and CECs. For this purpose, data were quantified and hypotheses were tested using statistical techniques.
The study has used the descriptive survey method for describing participants', preraks' and APOs/supervisors' opinions and evaluations of the continuing education programmes under study. These data have been described verbally. Moreover, these data were collected using semi-structured tools and were not quantified.

In the present study, the survey method is used to collect information on the organization of two different programmes—AWPs and QLIPs—and their quality. For this purpose, data were collected from the participants of NCECs and CECs, preraks of concerned NCECs and CECs, and APOs/supervisors of the concerned talukas

Survey Method

A survey deals with 'what is.' It is primarily concerned with the present but at the same time takes into consideration the past events and influences as they relate to current conditions. In other words, it describes and interprets what exists at present. Surveys are concerned with conditions or relationships that exist; practices that prevail, beliefs, points of view or attitudes that are held, processes that are going on, influences that are being felt and trends that are developing. Survey method deals with the relationships between variables, the listing of hypotheses and the development of generalizations that have universal validity.

Survey method determines the present trends and status of the programme. It provides the basis for decisions regarding improvements in programme. It enables the programme planners, administrators and supervisors to solve current practical problems by providing pertinent data. It also suggests the course for future development in programme.

The main purposes of the survey method are: (i) to study, describe and explain present phenomena—their status and trends, (ii) to form the basis for planning and formulation of policies.
According to De Vans, the purposes of surveys fall into two main categories:

(i) Descriptive surveys
(ii) Explanatory surveys.

The following five questions are usually answered in a descriptive survey:

1. What is the time frame of our interest?
2. What is the geographical location of our interest?
3. Is our interest in broad description or in comparing and specifying patterns for subgroups?
4. What aspect of the topic are we interested in?
5. How abstract is our interest?

The present study is a descriptive survey and the focus of the present research is as follows:

1. **Time frame**: The present study is aimed at evaluating CE programmes being run in the present times.

2. **Geographical location**: It includes CE programme, being implemented in selected districts of Maharashtra only.

3. **Comparing and specifying sub-group factors**: The present study aims at comparing the participants' opinions on the quality of CE programmes, basis of sex, caste and educational background.

4. **Aspect**: The present study is intended to include the description of the context of the CE programmes as well as participants' perception of the quality and outcome of the process of programmes.

5. **Abstraction**: The present study is focused on evaluating CE programmes so as to make suggestions for improvement.

The survey method gathers data from a relatively large number of cases at a particular time. It is not concerned with characteristics of individuals as individuals. It is concerned
with the generalized statistics that result when data are abstracted from a number of individual cases. 

The techniques, which are usually employed in the survey, are observation and interview schedules, and the tools used include rating scales and questionnaires.

**Causal-Comparative Method**

According to Borg and Gall,

"the causal-comparative method is aimed at the discovery of possible causes for the phenomenon being studied by comparing subjects in whom a characteristic is present with similar subjects in whom it is absent or present to a lesser degree. However, this research design can only be used to explore causal relationships, not confirm them." 

They further state that this method is sometimes called ex post facto research, since causes are studied after they have presumably exerted their effect on another variable.

"... the causal-comparative method is often used instead of the experimental method to test hypotheses about cause and effect relationships because many of the relationships that we wish to study in education do not permit experimental manipulation."

This method is used to find out whether there is any causal relationship between a phenomenon and certain other factors or conditions hypothesized to be related to it. That is why they are called causal-comparative studies. They are called comparative also for the reason that, in most cases, the causal relationship is established on the basis of comparison of similarities and differences among phenomena. In this study, the variables are naturally occurring phenomena and from these phenomena, the researcher proceeds to identify the various antecedents, which may have been related to its occurrence. In other words, it may be said that, it focuses on the factors, which contribute to the occurrence of certain events or conditions.
The causal-comparative method seeks to establish causal relationships between events and circumstances by comparing the circumstances associated with observed effects and by noting the factors present in the instances where a given effect occurs and where it does not occur.\textsuperscript{12}

The causal-comparative method starts with observed facts and actual happenings and seeks to discover the antecedents of these facts. It finds out the causes of certain occurrences or non-occurrences. It makes an attempt to seek answers to the problems on hand through the analysis of causal relationship. In other words, it deals with present events only. It does not control the variable factors. It makes observations under normal field conditions and finds out the causes of observed phenomenon.

The present study was aimed at comparing the quality of programmes on the basis of gender, caste and the level of education of the participants, who have attended the programmes organized at NCECs and CECs. Hence, it uses the causal-comparative method.

Since the present study deals with evaluation of AWPs and QLIPs, it may be termed as evaluation research, which is described in detail in the next section.

\textbf{Evaluation Research}

In recent decades, evaluation research has been developed as a significant and separate field by research activity.\textsuperscript{13} Evaluation researches are conducted with a purpose to give recommendations for action.

\textbf{Methodology of Evaluation Research}

As stated in Baker’s definition of evaluation research in Chapter-I, it is not really a different method of doing research. Hence, methodologies used in quantitative and qualitative researches can be used for evaluation research as well.\textsuperscript{14}
Evaluation research refers to the application of scientific method to the process of making decisions about the quality of educational processes, products or outcomes.\textsuperscript{15} However, the findings cannot be generalized and applied as they refer to other settings. Educational evaluation usually focuses on needs-analyses, cost-benefit analyses, and the formative or summative evaluation of educational products and programmes.

Evaluation research measures outcomes of a 'programme,' which will answer questions, such as what are the inputs? How well the pre-determined objectives of the programme have been achieved? Was the programme completed in given time? What were the reasons for not achieving the goals of the programme? Were the resources adequate? What factors were associated with the outcome of the programme? If the programme succeeded, what activities should be replicated? If the programme failed, which factors were responsible? Thus, evaluation research helps to design the appropriate goals for programme and effective means for achieving these goals. In this process, data are collected and transformed into information for decision-making.

**Approaches to Evaluation Research**

Evaluation research has no special methodology but makes use of a variety of research designs.\textsuperscript{16} Powell Seriven (1967)\textsuperscript{17} classifies evaluation into following two categories—(a) Formative evaluation, and (b) Summative evaluation, which examine the worth of a variety of entities such as products, processes, personnel, or learners.

(a) **Formative evaluation**: It is used to decide the quality of the programme and also used for improving and revising the programme.

Formative evaluation focuses on current efforts. It gathers information about the objects, that is, programmes, persons, processes, products, which can be used to make needed adjustments in the ongoing process. The purpose of this type of evaluation is to improve and develop the programme. The objective of
this type of evaluation is to give remedy to shortcomings, if any. For this, one can examine the objectives, the learning experiences provided, the monitoring and reinforcing activities. This information may provide the areas for improvement or modifications.

According to Alkin, the characteristics of formative evaluations are: It is exploratory, flexible, focusing on individual components of the programme. A formative evaluation study uses a great variety of instruments, which are either locally developed or standardized; it relies on observation and informal data collection devices, mostly locally chosen.

Concurrent evaluation of the Total Literacy Campaigns is an example of formative evaluation.

(b) Summative evaluation: It is related with the effects of a programme. It is quantitative in nature and is used as a basis to decide for the continuation of the programme.

Summative evaluation is conducted at the end or completion of the programme to assess its effectiveness, impact. The purpose of this type of evaluation is to provide evidence regarding the quality of the programme. It focuses on accountability. It is also used to assess the merit or achievement of a programme, person or other object of evaluation at the end of a specified period. Such type of evaluation is used for certification, selection or continuation. It is also called terminal, outcome or product evaluation.

Atkin has characterised the summative evaluation as it tends to use well-defined evaluation designs, as unobstructive and non-reactive as possible. They are comparative and concerned with a broad range of issues, for example, implications, costs, competing options. The instruments used in summative evaluation are publicly accepted, reliable and valid instruments, reflecting concerns of the sponsors and of the decision-maker.

The summative evaluation questions such as: Have the programme goals been appropriate for the target learners? Was the programme delivered to whom it
was intended and in the intended manner/way? Were the objectives met? Would an alternative programme been more cost effective?

External evaluation of Total Literacy Campaigns is the example of summative evaluation.

**Programme Evaluation in the Present Study**

The present study deals with the evaluation of programmes included in continuing education. Details about the programme evaluation are given in the following section.

In the present study, the researcher has selected two types of continuing education programmes, namely, awareness programmes and quality of life improvement programmes, which were organised at the Nodal Continuing Education Centres and Continuing Education Centres. The purpose of the study is to find out the quality and relevance of the continuing education programmes. Hence, it has used summative evaluation.

In the present study, the researcher has dealt with following areas: Did the programme achieve its goals? Was the programme delivered to whom it was intended? Were the resources adequate? Were the programmes useful to the participants? Were the programmes useful to the community? Did the programmes have any impact on the family members of the participants who had attended the programme?

**Evaluation of AWPs and QLIPs**

In the present study only two continuing education programmes, namely, AWPs and QLIPs have been evaluated. The components of these two programmes are as follows:

1. **Awareness Programmes** (AWPs). Those programmes where only information was provided to participants through lectures on the following topics have been termed as ‘awareness programmes.’
Such programmes include lectures on:

- Immunization
- Water based diseases, importance of safe drinking water and low-cost method of purification of drinking water
- Superstition
- Liberation from vices
- Importance of education
- Seasonal diseases
- Breast feeding
- Personal and public place cleanliness
- Tree plantation and conservation of forest
- New technologies used in agriculture
- Use of fertilizers and high yielding variety of seeds
- Career guidance
- Animal husbandry
- Women’s saving groups
- Snake bite and cure
- Sex education
- Smokeless chulha
- HIV/AIDS
- Government schemes

(2) **Quality of Life Improvement Programmes** (QLIPs): Those programmes, whose scope is broader and goes beyond providing information and awareness, are termed as ‘Quality of Life Improvement Programmes.’ Such programmes, in the present study, include demonstration and/or implementation of activities and practices aimed at improving the quality of life of the participants and their families. Such programmes include the following:

- Implementation of pulse polio drive
- General health check-up camp
- Eye check-up camp
Distribution of medicines for water purification and providing help in implementation

- Vermiculture (demonstration)
- Plantation drive of alfanso and coconut trees
- Actual use of high-yielding rice variety
- Liberation from vices and help in implementation
- Help provided in implementation/construction of smokeless chulhas
- Providing assistance in acquiring houses under Sanjay Gandhi Niradhar Yojana
- Become a member of women’s saving (safety) group and started saving
- Started following small-scale businesses
  - Agarbatti making
  - Goat rearing
  - Poultry
  - Dairy
- Providing help in getting jobs in papad making factories

The distinction between the AWPs and QLIPs can be explained as follows:

The AWPs are aimed at providing information only to the participants by delivering lectures on the topics mentioned earlier. Such programmes do not involve any action for implementation. On the other hand, the quality of life improvement programmes involve actual activities and practices, implementation of programmes, demonstration of activities and providing help to participants in implementing this information in their day-to-day life. These are not restricted to providing information and creating awareness only.

The NCECs and CECs in Maharashtra run these two programmes as separate entities.

The Data for the Present Study

The data for the present study have been collected from the following categories of people

(i) The data on AWPs and QLIPs have been collected from the participants so as to understand their opinions about the perceived quality of these programmes.
In order to gain more insight about AWPs and QLIPs, additional data have been collected from the following:

(a) Preraks of NCECs and CECs
(b) APOs/Supervisors
(c) District Education Officers (CE)
(d) Deputy District Education Officers (CE)
(e) Chief Executive Officer, Ahmednagar
(f) Deputy Director, Directorate of Education (CE), Pune
(g) Director, Directorate of Education (CE), Pune.

These data from the administrators and functionaries of NCECs and CECs are aimed at providing an understanding of the administrative context within which these NCECs and CECs function and the context within which these CE programmes are conducted.

Besides, the study also provides a description of the villages from which the data were collected so as to understand the demographic context within which the NCECs and CECs function.

In other words, the study has attempted to provide an understanding of the following aspects of AWPs and QLIPs.

(i) The demographic context of the NCECs and CECs.
(ii) The administrative contexts of the NCECs and CECs.
(iii) The process aspects as perceived and described by the participants.
(iv) The outcome aspects as perceived and described by the participants.

Programme Evaluation Designs

Four types of designs are used most often in programme evaluation, namely:

(1) Experimental
(2) Quasi-experimental
(3) Survey
(4) Naturalistic
It is also possible to combine quasi-experimental or experimental designs with naturalistic designs, if required.

(1) **Experimental designs**: It is used to study cause and effect relationship. It is considered the most useful one to demonstrate programme impact. Evaluation units can be individuals, groups of individuals, institutions, regions, states, or even nations. The key element is that the units to be evaluated have been randomly selected.

(2) **Quasi-experimental designs**: These designs are especially appropriate in evaluating the effectiveness of evaluation programmes in field setting. The distinguishing feature of quasi-experimental design is that, the evaluation units have not been randomly selected and often have not been randomly assigned to treatment conditions. Ex-post facto design is a form of quasi-experimental design that is frequently employed in researches.

(3) **Survey designs**: Survey designs were developed to afford an efficient method of collecting descriptive data regarding: (i) the characteristics of existing populations; (ii) current practices, conditions, or needs, and (iii) preliminary information for generating research questions (Issac and Michael, 1981).

Survey is the most commonly used descriptive research method in the field of education. Surveys are frequently used to gather systematically factual information necessary for policy-decisions.

Survey designs proceed first by identifying the population of interest. Next, the objectives are classified and questionnaire (structured or unstructured) is developed and field tested. A relevant sample is selected, and the questionnaire is administered to its members by mail or telephone or in person. The results are then tabulated in a descriptive fashion. In addition, survey data often are used in subsequent post facto designs.

(4) **Naturalistic designs**: It makes to understand a contextual situation surrounding the programme to be evaluated. The context, which includes types of participants, locales and different occupations, can interact with the programme in unique ways. Thus, a thorough understanding and documentation of the
context in which the programme is to function is usually as necessary as the product or outcome information obtained at the conclusion of the programme.

The present study entitled ‘An Evaluative Study of Some Specific Programmes Under Continuing Education Scheme of National Literacy Mission’ is an evaluation research. It is a programme evaluation aimed at ascertaining the quality of Awareness Programmes (AWPs) and Quality of Life Improvement Programmes (QLIPs) in terms of value judgement of utility, desirability and perceived impact of these two programmes and making recommendations for the same. The present study includes summative evaluation of these two programmes.

THE SAMPLE OF THE STUDY

In any research, studying a sample is essential to draw conclusions. The methods of sampling used in a research are also very important. A sample is a subset of the population.

The Population

A population is any group of individuals that has one or more characteristics in common that are of interest to the researcher.21 A population consist of the institutions, persons, problems and systems to which or whom the research findings are to be applied or generalized. The population may represent a large group scattered over a wide geographical area or a rather small group concentrated in a particular area.

In the present study, those districts of Maharashtra, where the continuing education scheme was sanctioned by the National Literacy Mission (NLM) in phase II, that is, January 2002, was the population. There were eight districts in which continuing education scheme was sanctioned by NLM in phase II. The list of these eight districts along with the number of NCECs and CECs sanctioned by the NLM is given in Appendix-II. Besides, all the participants of NCECs and CECs, preraks of NCECs and CECs and APOs/supervisors of the
concerned talukas of these eight districts are considered as the population of the present study

**Sampling**

A major purpose of the research is to discover principles that have universal application. To arrive at generalizations, one has to study the entire population, which sometimes, becomes impracticable and also not feasible. Some of the populations are so large that their characteristics cannot be measured. Sometimes, before the measurement gets completed, the population changes.

To overcome this difficulty, the process of sampling is usually used to study the population. Sampling is a deliberate rather than haphazard method of selecting subjects for observation/study. Sampling is a process by which a relatively small number of individuals or measures of individuals, objects or events are selected and analysed in order to find out something about the entire population from which it was selected.

Sampling makes it possible to draw valid inferences or generalizations on the basis of careful observation of variables within a relatively small proportion of the population. Thus, the term ‘sample’ can be defined as ‘a subset of the population to which the researcher intends to generalize the results’. In other words, a sample is a small proportion of a population selected for observation and analysis. Thus, the representative proportion of the population is called a sample. A good sample is a miniature version of the population—just like it, only smaller in size.

**Techniques of Sampling**

It is a known fact that due to the factors such of expenses, time and accessibility, it is not possible and practical to gather information from a population. Thus, a researcher tries to collect information from a smaller group which is selected using some scientific technique.
A sample is a small proportion of the population selected for analysis. By selecting the sample, certain inferences about the population could be made. The nature of the population and the information required for the study determines the techniques of sampling. Thus, the technique used to draw a sample is an important factor in determining how useful the sample will be for making inferences about the population from which it is drawn.

The best sample is representative of the population. Following are the techniques of sampling:

(1) Simple Random Sampling
(2) Systematic Sampling
(3) Stratified Sampling
(4) Cluster Sampling
(5) Incidental Sampling
(6) Stage Sampling.

Selecting the Sample for the Present Study

The present study is an evaluation research which deals with programme evaluation. It evaluates continuing education programmes organized at NCECs and CECs. For this purpose, it has adopted the survey and causal-comparative methods. In the present study, summative evaluation of the selected continuing education programmes is done. For this purpose, the sample was selected by following a three-stage sampling technique.

At the first stage of sampling, 25 per cent of the eight districts, which implemented CE scheme, as on January 2003, were selected using simple random technique, using lottery method. These two selected districts were Satara and Ahmednagar. The list of districts, NCECs and CECs and the list of continuing education programmes were obtained from the Directorate of Education (CE), Pune. The list of CE programmes offered was verified with the preraks.
At the second stage, approximately five per cent of the NCECs from both the districts were selected using simple random technique, using lottery method.

In Satara district, 73 NCECs were sanctioned by the NLM and in Ahmednagar district, 61 NCECs were sanctioned by the NLM. Five per cent of them is approximately four centres. Hence, four NCECs from both the districts were selected by simple random technique, using lottery method.

The selection of CECs was done in a similar manner. Approximately one per cent of the CECs was taken from both the districts. This comprised eight CECs in each district. In Satara district, the total number of CECs sanctioned by the NLM were 657 and in Ahmednagar district, a total number of CECs sanctioned by the NLM were 607. Of the sixteen CECs from each district, eight centres were selected for evaluation of AWPs and eight were selected for evaluation of QLIPs randomly, using lottery method.

At the third stage, ten participants were selected randomly from each NCECs and CECs using lottery method. The list of participants was obtained from the records maintained by the preraks. This list was verified with the participants themselves before interviewing them.

Similarly, preraks of concerned centres and APOs/supervisors of the concerned talukas were included in the study.

**The Sample—Its Size and Nature**

The present study deals with the quality and perceived impact of AWPs and QLIPs. Hence, the data were collected from the participants and preraks of NCECs and CECs and APOs/supervisors of concerned talukas. Districtwise distribution of the NCECs and CECs is described in the following paragraph.
The Sample of the Centres

The sample of the centres was drawn randomly, using lottery method from two districts. Out of the twelve centres selected from the Satara district, four centres were Nodal Continuing Education Centres (NCECs) and eight centres were Continuing Education Centres (CECs). Similarly, from Ahmednagar district also four centres selected were NCECs and eight centres were CECs. The sample size of these NCECs and CECs is shown in Table 3.1.

**TABLE 3.1**

**DISTRICTWISE DISTRIBUTION OF NCECs AND CECs**

<table>
<thead>
<tr>
<th>Nature of the Sample</th>
<th>Satara District</th>
<th>Ahmednagar District</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>NCECs</td>
<td>04</td>
<td>50</td>
<td>04</td>
</tr>
<tr>
<td>CECs</td>
<td>08</td>
<td>50</td>
<td>08</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>100</td>
<td>12</td>
</tr>
</tbody>
</table>

The preceding table shows that the sample represents NCECs and CECs from both the districts.

Location of the Centres

The following Table 3.2 shows the names of the villages and talukas from which the NCECs and CECs were selected.
The table 3.2 shows that from four talukas of each district, four NCECs and eight CECs were selected. In the present study, twelve centres (four NCECs and eight CECs) from each district were evaluated for AWPs and twelve centres (four NCECs and eight CECs from each district) were evaluated for QLIPs. These NCECs and CECs were evaluated separately for AWPs and QLIPs and were selected randomly using lottery method.

**The Sample of the Participants and Functionaries**

The sample of the present study consists of 240 participants and 32 functionaries from NCECs and CECs. It comprises 120 participants, eight preraks of each CEC, four preraks of each NCEC, and four APOs/supervisors from each district. Districtwise distribution of the participants and functionaries is shown in Table 3.3.
TABLE 3.3

DISTRICTWISE DISTRIBUTION OF THE PARTICIPANTS AND FUNCTIONARIES

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Nature of the Sample</th>
<th>Satara District</th>
<th>Ahmednagar District</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>1</td>
<td>Participants</td>
<td>120</td>
<td>50</td>
<td>120</td>
</tr>
<tr>
<td>2</td>
<td>CECs Preraks</td>
<td>08</td>
<td>50</td>
<td>08</td>
</tr>
<tr>
<td>3</td>
<td>NCECs Preraks</td>
<td>04</td>
<td>50</td>
<td>04</td>
</tr>
<tr>
<td>4</td>
<td>APOs/Supervisors</td>
<td>04</td>
<td>50</td>
<td>04</td>
</tr>
</tbody>
</table>

The preceding table shows that the sample represents participants, CEC preraks, NCEC preraks and APOs/supervisors from both the districts.

The Sample of the Participants

Ten participants from each NCEC and CEC were selected randomly using lottery method. The interviews of these participants revealed that some of the participants had attended only the inaugural function of the centre and/or haldi kumkum programme organised at the centre. There were a few participants, who attended the centre just for reading a newspaper and did not attend or participate in any other activity of the centre due to their personal reasons. Such participants, though interviewed, were not included in the sample of the present study, as they were not aware of programmes organised at the centre. Approximately 75 per cent of the village population went to the centre either for reading newspapers or Haldi kumkum programme but did not attend any other activity of the centre. This information was obtained from the preraks and cross-checked with the participants. They were unable to answer questions related to the programmes. Hence, the final sample of the participants for the present study was 213.
Genderwise and Programmewise Sample

From each district, two NCECs and CECs were selected for AWPs, and two NCECs and four CECs were selected for QLIPs. The distribution of male and female participants in these two programmes is shown in Table 3.4.

**TABLE 3.4**

**GENDERWISE DISTRIBUTION OF PARTICIPANTS IN AWPs AND QLIPs**

<table>
<thead>
<tr>
<th>Nature of Sample</th>
<th>AWPs</th>
<th>QLIPs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>N</td>
</tr>
<tr>
<td>NCECs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>10</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>Female</td>
<td>22</td>
<td>40</td>
<td>62</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>63</td>
<td>95</td>
</tr>
<tr>
<td>CECs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>30</td>
<td>40</td>
<td>70</td>
</tr>
<tr>
<td>Female</td>
<td>22</td>
<td>33</td>
<td>55</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>73</td>
<td>125</td>
</tr>
</tbody>
</table>

The preceding table shows the genderwise and programmewise distribution of the participants. The number of participants attended QLIPs was little higher (110) than those of the AWPs (103). The number of female participants, who attended the programme was slightly higher (111) than the male participants (102).

The Sample of the Preraks

For the purpose of the present study, four NCECs, and eight CECs from the concerned districts were selected. Thus, the preraks of all these selected NCECs and CECs were also included in the sample and were also interviewed. Genderwise distribution of the preraks is given in Table 3.5.
Since the researcher has included 24 CECs in her sample (12 from each district), the number of preraks included in the sample are also 24 as each CEC has one prerak. The preceding table shows that the number of male preraks included in the study was higher as compared to the female preraks.

The Sample of the APOs/Supervisors

The total number of APOs/supervisors of the concerned talukas in both the districts was eight. The distribution of the APOs/supervisors by gender is given in table 3.6.

TABLE 3.5
SAMPLE SIZE OF PRERAKS

<table>
<thead>
<tr>
<th>Nature of Sample</th>
<th>Gender of Preraks</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>NCECs</td>
<td>06</td>
<td>75</td>
</tr>
<tr>
<td>CECs</td>
<td>12</td>
<td>75</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>

The preceding table 3.6 shows the total number of APOs/supervisors, by gender and the district they belong to. The percentage of the male APOs/supervisors was higher (87.5%).
than female APOs/supervisors. In Satara district, all the APOs/supervisors were male, whereas in Ahmednagar district, there was one female APO.

The sample of the preraks and APOs/supervisors is very small. This sample was included in the study to understand the opinions of the preraks about the worth of the CE scheme, to understand their difficulties and to know their problems, if any, in the areas of implementation of the programmes, their opinion about their centres—whether it is performing in the manner as expected in the scheme or not, how do they grade/rank their centres in terms of good, average or poor.

The APOs/supervisors were included in the sample, to understand their problems, if any, in planning and monitoring the programme.

In addition, Director, Directorate of Education (CE), Pune, Deputy Director, Directorate of Education (CE), Pune, CEO Ahmednagar, District Education Officers (CE) and Deputy District Education Officers of concerned districts were also interviewed.

THE TOOLS OF RESEARCH

A research study requires data. These data can be obtained from many direct or indirect sources. It is necessary to adopt or evolve a systematic procedure to collect essential data. Data collected should be relevant, adequate in quantity and quality as well.

Data can be collected through various devices. All types of researches need certain instruments to gather the data. These instruments employed as means are called 'tools'.

The selection of suitable tools is of vital importance for any successful research. There are different types of tools, which can be used in accordance with the purposes of
research. Sometimes a researcher can use a combination of these tools, to serve the purpose of research. Following are the major types of tools used frequently in research in education.

(I) Psychological Tests and Inventories:
   (a) Achievement Tests  
   (b) Aptitude Tests  
   (c) Interest Inventories  
   (d) Personality Inventories  
   (e) Projective Devices  

(II) Observation Schedule:
   (a) Checklist  
   (b) Rating scale  
   (c) Score card  
   (d) The Scaled Specimen  

(III) Inquiry Forms:
   (a) The Questionnaire  
   (b) The Opinionnaire  
   (c) The Interview Schedule  

**The Tools of the Present Study**

For the purpose of the present study, four tools were constructed by the researcher to collect information from the participants of the NCECs and CECs, preraks of the concerned NCECs and CECs and APOs/supervisors of the concerned talukas. These include:

(1) Quality of Programme Schedule (QPS)  
(2) Functioning and Performance of CECs (FPCS)  
(3) Programme Planning and Monitoring Schedule (PPMS)  
(4) Contextual Background of Centres (CBC)  

**Preparation of Tools**

The present study is concerned with the quality and the worth of continuing education programmes, organized at NCECs and CECs. As no suitable tool was found to be available, three separate semi-structured interview schedules were prepared by the researcher under the guidance of the guide. These were used to collect the data from participants of the NCEC's
and CECs, preraks of the concerned NCECs and CECs and the APOs/supervisors of the concerned talukas. Details of these tools are discussed in following section.

(1) **Quality of Programme Schedule (QPS):** Participants of the NCECs and CECs are the key persons in the present study. As the present study is concerned with the quality and perceived impact of CE programmes, a semi-structured interview schedule for participants of NCECs and CECs was constructed. It contained a combination of open-ended and close-ended questions on different aspects of the programme organized at the centres. The purpose of inclusion of both types of questions was dual. For obtaining certain information, close-ended questions are necessary in order to get specific answers and they are easy to answer, quantify and analyse. But for other types of information, open-ended questions are suitable. Hence, as per the objectives of the study, the questions were framed. The focus of the present study is on evaluation of AWPs and QLIPs and their quality. Keeping this in mind, the semi-structured interview schedule for the participants was constructed. This interview schedule is divided into following eight broad areas.

(i) Personal information  
(ii) General information about NCEC/CEC  
(iii) Infrastructure/Physical facilities of centre  
(iv) Programme execution  
(v) Opinions of participants about –
   (a) resources available (material as well as human)  
   (b) Methodology used for programmes  
   (c) Effectiveness of the programme  
   (d) Prerak

A copy of QPS is attached in Appendix-III.

(2) **Functioning and Performance of CECs (FPCS) Schedule:** Prerak is the backbone of the continuing education programme. They play a vital role in the actual implementation of the continuing education centres. A separate semi-structured interview schedule was constructed. The purpose was to understand the difficulties/problems, if any, faced by the preraks, especially in the areas of getting a place for the centre, participants' co-operation and participation, community support / participation, support from village
education committee, availability of resource persons, funds for organising different programmes at the centre, worth of the continuing education scheme and to seek suggestions, if any, to improve the functioning of the centres

The FPCS included questions on the following broad areas

(i) Personal information
(ii) General information about centre
(iii) Regular programmes/activities organized at the centre:
   (a) Library
   (b) Reading Room
   (c) Dissemination of information on development programmes
   (d) Cultural programmes
   (e) Sports activities
(iv) Organization of special CE programmes
(v) Management and administration
(vi) Effectiveness (benefits) of programmes
(vii) Overall opinion
(viii) Suggestions, if any, for improvement of the programme.

Nodal preraks were asked some additional questions, as they have to perform additional duties. These questions were related to administration, monitoring, people’s participation and suggestions, if any, for improvement of the programme.

A copy of FPCS is attached in Appendix-IV.

(3) Programme Planning and Monitoring Schedule (PPMS) - APOs/supervisors are the Joint Secretaries at the concerned Taluka Saksharata Samities (TSS). With the help of preraks, they implement the continuing education scheme at the grass-root level. The decisions taken at the district level, new information about programmes reach the preraks through APO/supervisor. It is very important to know the views of APOs/supervisors about the programme implementation. Hence, a semi-structured interview schedule based on following areas was constructed.
(i) Personal information
(ii) Training of APOs/supervisors for CE
(iii) Selection criteria for preraks of centres
(iv) Training of preraks
(v) Material and equipment supplied to centres, difficulties, if any, in getting the material and its distribution
(vi) Monitoring and problems, if any
(vii) Feedback
(viii) Usefulness/effectiveness of the programme
(ix) Efforts to implement special programmes
(x) Residual literacy programme
(xi) Strengths and weaknesses of the programme
(xii) Suggestions, if any, for improvement of programme.

A copy of PPMS is attached in Appendix-V.

(3) Contextual Background of Centres (CBC): This inventory was prepared to collect information on the population, literacy rate, migration rate, religious and caste background of the people residing in the village, medical and education facilities available, transport modes available, nature of occupations followed by people and welfare programmes implemented by the government.

These data were collected from preraks and cross-checked with GSS members.

A copy of CBI is attached in Appendix-VI.

Validity of the Tools

The term 'valid' means to be based on fact or evidence, that is, capable of being justified. If a tool measures what it intends to measure, it can be termed as 'valid.' In other words, the validity of data collection addresses the question of 'whether a data collection process is really measuring what it purports to be measuring?' The data collection process is valid to the extent that the results are actually a measurement of the characteristic the process was designed to measure, free from the influence of extraneous factors.

Validity is the most important characteristic of the data collection process. There are four important types of validity, namely:

(i) Content validity
(ii) Construct validity
(iii) Criterion related validity  
(iv) Concurrent validity

In order to determine the validity of the final tools of the present study, the semi-structured interview schedules were given to six experts, who are experienced in the field of Adult and Continuing Education. The list of these experts is given in the Appendix-I. Their opinions were obtained about the relevance of each item in view of the definition of the concepts. The items, which were agreed upon by all the experts were retained and others were modified or dropped as per the suggestions of the experts. Thus, after determining the content validity, a dry run was conducted.

**Dry Run**

A preliminary trial of research tools is essential to the development of a sound research plan. This is called a ‘dry run.’ In other words, ‘dry run’ means field testing of a tool. In the present research, a dry run has been conducted to find out, whether the questions asked in the tool are correctly understood by the respondents or not; whether it requires further clarifications; is there any question which is ambiguous, to locate any unforeseen problems in conducting interviews, if any, and to identify whether any more options for responses to a given question are necessary. Thus, a dry run is conducted to eliminate the ambiguity of the tool. In research, a dry run is an important step. The whole purpose of the research may fail, if the dry run is not conducted at all or not conducted properly.

As the major purpose of the present study was to explore the opinions of the participants, and not to provide explanations, the dry run did not include testing any major hypothesis and applying any statistical procedure

In the present study Satara district was selected for dry run. The tool was administered to-
(i) Ten participants of the NCEC
(ii) Ten participants of the CEC
(iii) The prerak of NCEC
(iv) The prerak of CEC
(v) The APO

The dry run was conducted in a NCEC located at Bhavani Peth, Hattikhana, Satara city and a CEC from Kondave village of Satara taluka in the month of July 2003. This taluka and these centres were not included in the final sample.

The tool was also administered to five of the ten participants of the NCEC and CEC each, preraks as well as the APOs/supervisors mentioned in the previous paragraphs twice after a gap of 3-4 weeks. This was done in order to ensure whether the responses are same or not over a period of time. It was found that, there were no changes in the responses of the participants.

In other words, the researcher has made every possible attempt to ensure the validity, unambiguity and reliability of the tools.

Based on the field experiences of the dry run, necessary changes were made in the tools. After this procedure, the interview schedules were finalized.

During field testing of the tools (dry run), the researcher could meet all the Assistant Project Officers (APOs) and supervisors of all talukas of Satara district, as a monthly review meeting was called by the District Education Officer (Continuing Education) of Satara district. With the permission of the District Education Officer (Continuing Education), the researcher had a detailed discussion with the APOs and supervisors. The researcher explained the purpose of the study, its objectives, and requested them to give co-operation in
the process of data collection. The researcher also assured them that the confidentiality about information collected through interviews will be maintained.

**Interview as a Technique of Data Collection**

De Vans\(^{26}\) has identified the following four main methods of interview techniques:

1. Face-to-face interviews
2. Telephone interviews
3. Postal self-administered questionnaires
4. Internet surveys

In the present research, face-to-face interview technique was used to collect data. To ensure the quality in personal interviews, a wide range of techniques are used. These techniques help to improve the rapport and assist in the interview process. Following techniques were used in administering a semi-structured interview schedule to the participants, praraks and the APOs/supervisors:

(i) The researcher attempted to provide a relaxed atmosphere in the NCECs and CECs while interviewing the participants, where the respondents could concentrate on the interview.

(ii) The researcher discouraged the presence of third parties while interviewing the participants.

(iii) The researcher discouraged a third party, if present, offering opinions by politely requesting them that their opinions would be taken into account at the end of the interview.

(iv) The researcher sat opposite the respondent.

(v) The researcher used eye-contact with the respondent to establish rapport.

(vi) The researcher did not leave the questionnaire with the respondent to complete at their leisure.
(vii) The researcher avoided expressing her emotions like anger or surprise, when the respondents were speaking. She also refrained from expressing her own opinions. This discouraged respondents from giving socially acceptable answers.

(viii) The researcher tried to follow the sequence of evoking questions in the same order as mentioned in the interview schedule and attempted to get answers to all the questions.

(ix) To get detailed answers to open-ended questions, the researcher asked probing questions, such as 'and,' 'then, can you tell me more? What happened then? What else? Exactly why do you think it is important?

(x) To ensure uniformity, the researcher read the questions exactly as they appeared on the interview schedule.

(xi) All the answers were recorded as they are given by the respondents immediately, instead of relying on memory.

(xii) The researcher tried to keep the respondent on the track by avoiding digression.

(xiii) She avoided making interview sound like a test.

(xiv) She avoided trying to educate the respondents about CE programmes.

(xv) The interview schedules were checked at the end of interview to ensure that no question had been missed.

The preceding precautions were taken based on the techniques suggested by De Vans.

The interview as a research technique, involves the collection of data thorough direct verbal interaction between individuals.

The present study has used semi-structured interview schedules as they provide a desirable combination of objectivity and depth and pursuit gathering valuable data that could not be successfully obtained by any other approach. In the semi-structured interview schedules used in the present research, some questions are such that can be answered either
'yes' or 'no,' or by selecting one of a set of alternative choices. At the same time, there are other types of questions, which are of the open form and are used to probe more deeply.

**Collection of Data**

Data collection is an important step in the research process. For the purpose of the present study, Satara and Ahmednagar districts were selected randomly using lottery method.

The actual data collection in Satara district was done in late August and the first week of September 2003. The researcher personally went to all the four talukas, to four NCECs and eight CECs, selected for the study as sample and interviewed the participants, preraks and APOs/supervisors. August-September was rainy season and most of the participants (e.g., only Patan taluka) were busy with agricultural work. Hence, most of the interviews could be conducted in the evenings and at nights. People, though busy with their agricultural work, were very enthusiastic and co-operative and shared their experiences. In other talukas, Khatav and Phalatan, which were drought-prone area, people were busy in dam construction/Nala Bandhara work or Rojgar Hami Yojana. They could be available only in the early morning or evening. Hence, interviews in these talukas were conducted in the evenings. Those women participants, who were free and available in the afternoon were interviewed in the afternoon. All the participants extended their co-operation and gave many suggestions regarding the programmes.

In Satara district, a total number of 120 learners, eight preraks of CECs, four preraks of NCECs and four APOs/supervisors were interviewed. The researcher also interviewed the District Education Officer (Continuing Education) and Deputy Education Officer (Continuing Education). These interviews were not structured and were informal in nature. The researcher was of the opinion that, these interviews will help to understand the strengths and
weaknesses of the scheme, major problems faced in the implementation of continuing education scheme and to get suggestions, if any, to improve this scheme.

Data collection in Ahmednagar district was done in the first two weeks of January 2004. The researcher personally went to all four talukas, four NCECs and eight CECs to interview the participants, preraks and APOs/supervisors. The researcher received cooperation from the participants and functionaries during the interviews.

The researcher, in this district also interviewed the District Education Officer (primary education and additional in-charge of continuing education) and the Deputy Education Officer (Continuing Education). The researcher could meet the Chief Executive Officer (CEO) of Ahmednagar district, who is also the chairperson of Zilla Saksharata Samiti (a registered body under whom the Total Literacy Campaign, Post-Literacy Programme and Continuing Education scheme are implemented). The interview of CEO helped the researcher to understand the future plans of the district to improve the implementation of the continuing education scheme.

The researcher also interviewed the Director, Directorate of Education (Continuing Education), Pune, who is also the Secretary of State Literacy Mission, which is called Maharashtra Rajya Saksharata Parishad, and Deputy Director, Directorate of Education (CE), Pune. Basically, through these interviews the researcher could explore the problems faced at the State level in implementation of CE scheme.

The NCECs and CECs in both the districts had organized different activities/programmes at the centre. These included observation of different days, like Independence Day, Republic Day, literacy day, population day, AIDS awareness day etc. They also celebrated different Jayantis such as Savitribai Phule Jayanti, Ambedkar Jayanti, Gandhi Jayanti, Shahi Jayanti. They also organised awareness programmes on topics such as
health, hygiene, high yielding seed varieties, superstition and animal husbandry; quality of life improvement programmes such as dairy, crop insurance, immunization, nutrition and so on.

The researcher went through the records of NCECs and CECs and noted down the list of programmes organized at or by the centres. From the records, the researcher could get a list of AWPs and QLIPs organized at the different NCECs and CECs.

**Quantification of Data**

The purpose of the present study is to find out the utility and the perceived quality of the CE programmes (AWPs and QLIPs). As no suitable tool was readily available, quality of performance rating was prepared by the researcher, under the guidance of the guide. Some of the responses of participants and preraks were scored and quantified to make statistical comparisons feasible. The scoring patterns are given along with the tools in Appendices III and IV. Based on the scores given by participants, each centre was rated. Accordingly, the quality of performance of the centres was rated as very poor, poor, moderate/average, good or very good.

The following table shows the criteria used to rate the centres:

<table>
<thead>
<tr>
<th>Scores</th>
<th>Magnitude of Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 20</td>
<td>Very poor</td>
</tr>
<tr>
<td>21-40</td>
<td>Poor</td>
</tr>
<tr>
<td>41-60</td>
<td>Moderate/Average</td>
</tr>
<tr>
<td>61-80</td>
<td>Good</td>
</tr>
<tr>
<td>81-100</td>
<td>Very good</td>
</tr>
</tbody>
</table>

The participants’ minimum and maximum scores of AWPs were 11 and 139, respectively and the minimum and maximum scores of QLIPs were 11 and 139, respectively.
The CEC preraks' minimum and maximum scores of AWPs were 21 and 178, respectively and the minimum and maximum scores of QLIPs were 21 and 178, respectively. The NCEC preraks' minimum and maximum scores of AWPs were 23 and 188, respectively, and the minimum and maximum scores of QLIP were 23 and 188, respectively.

In order to make comparisons easier, the origin was shifted to '0' using following formula:

\[
\text{Shift of Origin} = \left( \frac{\text{Mean score} - \text{minimum possible score}}{\text{Maximum possible score} - \text{minimum possible score}} \right) \times 100
\]

This is known as shifting of origin to zero.

This was done for all the participants' and preraks' responses. The average score of all the participants in a centre represented the score for that centre on a specific programme (i.e., AWPs or QLIPs). This score obtained by a centre was used to judge the quality of performance of a centre on a specific programme. This score was also used to rank the various centres on the quality of performance.

**Tabulation**

The data tabulation was done on computer. Master sheet was also prepared for tabulation of data collected from participants, preraks and APOs/supervisors.

**Analysis of the Data**

Analysis of the data is an important step in the research. To find out the inherent relationships and differences in the data, a systematic analysis of the data should be done. For this, different statistical techniques are used. In the present study, following statistical techniques were used for data analysis.
**Descriptive analysis**: For the purpose of analysis of responses given by the administrators, preraks and participants the data were described using percentages. For the purpose of further statistical analysis, the data on quality of AWPs and QLIPs were analysed using mean, median, mode, SD, skewness and kurtosis.

**Inferential analysis**: It involves the use of statistical technique to study the nature of the data and relationships between various variables of the study. Conclusions obtained through inferential analysis can be extended to infer population characteristics. In the present study, the following techniques were used for the purpose of the inferential analysis:

(a) **Analysis of variance**: The ANOVA technique was used to ascertain the differences in the quality of continuing education programmes as perceived by participants on the basis of their level of education. This technique was also used to compare the perceived quality of continuing education programmes in different centres.

(b) **t-test**: This was used to study the gender differences and caste differences in the perceived quality of continuing education programmes in different centres.

Based on these scores, each centre was evaluated and its performances was graded into five categories:—very poor, poor, average/moderate, good and very good.

**Ranking of the Centres**

Based on the interviews of the participants and its analysis, the centres were ranked. The centre which scored the highest was given first rank and in descending order the other ranks as second, third were given in descending order upto eight ranks to the CECs.

Based on the interviews of the preraks also, after analysis, the centres were ranked. Same procedure like learners' ranking, was adopted. This was done to understand the opinion of the preraks about their centres.
The quantitative data analysis was done using statistical methods. The descriptive data analysis was also done separately.

Chapters IV, V, VI, VII and VIII provide data analysis.
References


2. Ibid. p.91.


4. Ibid. pp.105-129.


10. Ibid. p.445.


19. Ibid pp. 27-28

20. Ibid. pp.27-28


