CHAPTER III
CHAPTER III

METHOD AND DESIGN OF THE STUDY

This chapter describes the method and design adopted in the present study. The investigator reviewed different methodologies of research and found the very popular survey method to be appropriate for the present study. However, since the main thrust of the study is to critically analyse the learning materials for adult learners, it was judged proper to adopt the analytical survey approach. Under this approach the whole study was designed to be conducted in two phases. The first phase was meant for analysing the primers and the second phase was meant for opinion survey. A detailed account of the design of the study is presented below.

3.1 FIRST PHASE OF INVESTIGATION

3.1.1 Tools for Primer Analysis

The objective of the first phase of investigation was to critically analyse the learning materials (primers) prepared by the State Research Centre (SRC), Orissa, and other primers prepared by district units namely Bolangir, Kalkhanidi, Ganjam, Sundargarh and Dhenkanal. A review of related literature on the method of analysing adult learning materials indicated that no study has been undertaken earlier which could directly achieve the objectives of the present study. This led the researcher to search for a tool for primer analysis. A discussion on such tools follows.

(a) Check list for producing IPCL Primer

Out of the many documents reviewed, "the check list for producing IPCL primer", a set of guidelines prescribed by the National Literacy Mission (NLM) was adjudged the most appropriate for the present purpose. In the absence of a defined methodology the same guideline was taken as a
reference point for evaluating the primers. The said check list consists of eight components of primer production, such as (1) Format, (2) Linguistic Aspects, (3) Thematic Content, (4) Numeracy, (5) Exercises/Drills, (6) Tests, (7) Illustrations and (8) Printing. The detailed check list is presented in Appendix – 'A'.

(b) Rating scale on the components of learning materials for literacy programme:

In addition to this the researcher was advised by experts to collect expert opinion on different components prescribed for learning materials. For the purpose five components namely (1) Content (Literacy, Numeracy, Functionality and Awareness), (2) Structure, (3) Format, (4) Presentation, technique and (5) Evaluation Procedure, were identified basing on which a five point Likert type rating scale was prepared to be rated by the experts. See Appendix 'B'. The experts whose opinion was sought in this matter were selected from among the senior faculties of the Institutes of Advanced Study in Education (IASEs) and Colleges of Teacher Education (CTEs), retired Professors having a contribution in the concerned field and some of the primer writers of the State of Orissa. The tool was given to 36 number of such experts out of which 30 responded. The collected opinions was then scored to find out the average weightage on the components and sub-components. This tool was supposed to serve as recommending weightage to be given on different components of an ideal primer.

(c) Other tools

To facilitate primer analysis as per the guidelines of National Literacy Mission (NLM), and the expert advice, Analytic Charts were prepared for different activities. For example, a Lesson Load Chart was prepared to know whether the content load has been as per prescription. Similarly Repetition of Symbols Chart was prepared to analyse the frequencies of
repetition of the symbols in the primers. A Letter Frequency Chart and Sentence Progression Chart were prepared to compare the existing frequency of words and length of sentence, para and text with those recommended by the National Literacy Mission (NLM). A Thematic Content Check List was prepared to verify the placement of recommended themes, items, illustrations in the recommended primers.

3.1.2 Method of Analysis

With the help of the tools described above primers of five districts (alongwith one district following the primers developed by SRC) were analysed and compared against the set guidelines.

3.2 SECOND PHASE OF INVESTIGATION

The second phase of the investigation was done by conducting a survey of the opinions of the adult learners, volunteer instructors, and literacy officials on different aspects of the primer covering objectives, content, method and evaluation. The survey also had a scope to cross check the views of the learners with that of the volunteer instructors on matters of mutual relations. In addition to this, a test was designed to assess the efficacy of the primer. A detailed description of the different tools for the second phase of investigation follows.

3.2.1 Selection of the tools for Survey

Keeping in view the characteristics of the adult learners, volunteer instructors, and the process of educating the learners, interview as a technique was found to be the most appropriate out of the many options available. As a technique of research interview is very much helpful in establishing direct contact between the investigator and the subject, which ultimately helps the researcher to go deeper into the aptitudes, perceptions, expectations, values and anticipated behaviour of the subject. It also helps in
exploring things which would not have been possible through other techniques. Interview has been very popular in studies concerning illiterate, semi-literate and literate offering a scope of establishing rapport with a wide variety of people. The investigator thought it proper to use structured interview schedule to serve the purpose of the study. Most of the items in the Interview Schedules were multiple choice type, of course, leaving a scope for open ended reaction where it was required. Three interview schedules were prepared respectively for the learners, volunteer instructors and literacy officials and an achievement test for the learners was prepared to test the efficacy of the primers as detailed below.

(a) Interview Schedule for the Learners.
(b) Interview Schedule for the Volunteer Instructors.
(c) Interview Schedule for the Literacy Officials.
(d) Achievement Test for the Learners.

3.2.2 Preparation of the Draft Tools

A. Interview Schedule for the learners

The Interview Schedule for the learners was divided into two parts. Part I of the schedule consisted of ten items on the socio-economic and educational bio-data of the learner. Part II of the schedule included 60 items on various aspects of the literacy centre, the primer and transaction and evaluation of the primer. This part also intended to collect data on the opinion of the learner with regard to the aims and objectives, contents, methods and evaluation related provisions in the primer and the self assessment of the learner. Preparation of the draft copy of the schedule was based on the investigator's interaction with a cross section of adult learners.
B. Interview Schedule for the Volunteer Instructors

The interview schedule for the volunteer instructors also contained two parts. Part I consisted of the bio-data of the Instructor and Part II intended to collect the opinion of the Instructors on various aspects of the primer. Part I of the draft schedule consisted of 11 items including data on his education, occupation, and income. Part II consisted of 50 items which were required to collect data on the objectives, contents, methodology and evaluation related aspects in the primer, transactional methods and time and place available to them for transaction of the curriculum. It also included an item intending to test the opinion of the volunteer instructors.

C. Interview Schedule for the Literacy Officials

A small Interview Schedule was designed for the Officials of literacy programme, which consisted of 28 items. Unlike the other interview Schedules this schedule wanted to verify their awareness on the IPCL guidelines and wanted to examine their advisory role in primer construction. A wholistic opinion on the primer of the concerned district was sought from them. Most of the items in this schedule were open ended.

D. Achievement Test for Learner

Keeping in view the basic minimum requirement required to certify a learner as literate as per the IPCL guidelines an Achievement Test was constructed with a single paper of hundred marks. The division of marks as per the guidelines (Reading – 40 marks, Writing – 30 marks and Arithmetic – 30 marks) were followed while preparing the draft test. There was no time limit for completing the test. However, the desirable time for completing the test as prescribed by the IPCL guidelines is about 1 hour.

In addition to that some extra materials were used alongwith the test for reading and writing sections. The materials were;
3.2.3 Tryout and Finalisation of Tools

After preparing the draft Interview Schedules, the investigator tested the schedules before they were used for the final interview. As the investigator proceeded with the tryout exercise, he gathered new experiences in administering the interview schedules. He felt the need for inserting some new items at some places, deleting some old ones, which were confusing and redundant. He had to change the form and direction of the schedules at some other places as described below.

A. In the case of the learners, the investigator tried-out on 30 learners, of which 25 belong to rural and 5 from urban areas. There was no change in the items related to socio-economic and educational bio-data of the learners. The draft Interview Schedule contained 60 items on various aspects of the literacy centre, the primer and transaction and evaluation of the primer, aims and objectives, contents, methods, evaluation, and self-assessment etc. After tryout 3 new items were added to other questions of similar type and another 6 items were dropped due to confusion in the mind of the learners. Thus the finalised schedule contained 57 items and it was ready for the final interview of the learners. (See Appendix 'C').

B. Ten numbers of Volunteer Instructors were taken for tryout, of which 8 from rural and 2 from urban areas. Part – I of the draft schedule contained 11 items on the bio-data of the Instructors. Two items were deleted after the tryout. In part – II of the draft schedule there were 50 items concerning the different aspects of the primer and the literacy programme. After tryout
3 items were deleted from the schedule. At last there were 47 items in the schedule for the final interview. (See Appendix 'D').

C. Only five numbers of Literacy Officials were taken for tryout of the concerned Interview Schedule. There were 28 items in the draft schedule. After tryout 4 items were dropped. The remaining 24 items were then finalised for the interview. (See Appendix 'E').

D. In case of the Achievement Test, the draft test was prepared in accordance with the procedure of the IPCL guidelines of the NLM. The items inserted in the test followed the examples given in the IPCL guidelines and were well within the purview of the primers. The achievement test was, however, not tried out on the learners. Instead of it, that was referred to ten teacher educators of the CTEs and IASEs to ensure desired content validity. The items of the test remained unchanged even after the reference. (See Appendix 'F').

All the Interview Schedules before the tryout, as well as after it, was in Oriya language, the mother tongue of the respondents. Wherever necessary, the interviewer used local dialect of the learners and the volunteer instructors.

3.2.4 The Process of Interview

With the help of the above tools, the interview was conducted and the required data were collected as described below.

Location of the learners:

During the process of interviewing the adult learners, the real problem faced by the investigator was in locating them. The learner was no more a student who could be located in the school. In rural areas, he was either a field worker in his own field or a labourer, or a shopkeeper, or a mobile businessman, who went to either villages or market to sell stationaries or vegetables etc. In the
urban areas he was either a labourer or a rickshaw puller or a vendor (selling peanut, groundnut, banana, bread etc.). It was very difficult to recognise the learners. In some cases the volunteer instructors helped the investigator to locate the learners. In other cases the investigator took the help of the village headman, the ward member, the sarpanch, the samiti member, anganwadi worker, primary school teachers or other employees of the concerned village, high school or college students, member of the youth organisations like club, pathagar, yubak sangha, previously known employees of the concerned area in contacting the adult learners for an interview. In the urban areas he took the help of volunteer instructors, primary school teachers, members of the youth organisations, betel shopkeepers, hotel keepers, college students, ward councillor, employees of the Zilla Sakshyarata Samiti, etc. Some of the mediators acted on behalf of the investigator in contacting and making the learners ready for interview, whereas some others simply contacted the learners to meet the investigator on the date of interview. Moreover, some of them helped the investigator in establishing rapport with the subjects. Almost no difficulty was faced by the investigator to locate the Volunteer Instructors and Literacy Officials. In rural areas the Volunteer Instructors were contacted with the help of villagers and in urban areas through the ward councillor.

All through, the investigator had to read out the questions of the interview schedule and informally explain to them, if necessary, and got their answers/choice marked. The investigator was careful while converting the informal responses of the learners to accommodate them into the format of the schedule.

Time and Place of Interview:

The interview was being held usually in the early afternoon and evening as convenient to the subjects. There were no fixed place of interview. In the rural areas, the interview was conducted at the learner's house/verandah/pindah or at the V.I.'s house, or at the mediator's house or at
club or *pathagar* or common house of Indira Awas Colony etc. In urban areas it was held mostly at the learner's house and rest at mediator's house or at a club. Interviews with the literacy officials in most of the cases was held in their offices and rest at their house and residence (government quarter).

**Duration of Interview and Achievement Test:**

Usually it took one and half hours to complete interview with a learner. In case of volunteer Instructor it took about one hour. For Officials it took 30 – 40 minutes. Achievement test was not conducted for all the learners interviewed. The test was conducted separately to a selected sample on the next day. It took about 2 hours to complete the test, whereas the desirable time prescribed is one hour.

**Dates of data collection:**

The interview and the test were conducted during the period of October 1993 to May 1994.

### 3.3 POPULATION AND SAMPLE

The present study intends to critically evaluate the learning materials for literacy programme. However, there is a need to pool opinions of the persons involved in the preparation, transaction and consumption of the materials. Keeping these objectives in view the second phase of the investigation was concentrated on a survey of the opinions of the adult learners, volunteer instructors and literacy officials involved in the process on various aspects of preparation, transaction and evaluation of the learning materials. Thus, all the learners, volunteer instructors and literacy officials of the concerned five districts formed the population of the study. For the purpose of survey a uniform sample of 50 learners, 20 volunteer instructors and 10 officials was selected from each of the five districts. The stratified and purposive sampling technique was used in selecting the sample. There was a need to test the achievement of learners to
know the efficacy of the learning materials. For this purpose 20 learners were selected through the random sampling technique from among the learners sample of 50 from each district. Thus from the five districts under study, a total of 250 learners, 100 volunteer instructors and 50 literacy officials constituted the sample of the survey. In addition to that achievement test on literacy was administered to a sample of 100 adult learners. A detailed description of the samples of learners, volunteer instructors, and officials is presented in chapter IV.

3.4 STATISTICAL TECHNIQUES USED

During both the phases of the study statistical techniques such as frequency and percentage and ordinal ranking on the basis of Likert type rating have been adopted for presentation and interpretation of data. However, for specific purposes like interpreting the opinionnaire score and the achievement test score different statistical techniques were used as detailed below.

3.4.1 Interpretation of the Opinionnaire

Much of the interpretation of an opinionnaire or an attitude scale depends on the type of techniques used for data collection. In the present study a five point Likert type rating scale was used for the literacy experts. It was prepared to collect their opinions on the relative importance of different components and sub-components of learning materials. For this purpose the scale value technique was used to collect an aggregate score on each of the components and sub-components. The aggregate score on different items were further converted in to per cent weightage to describe the relative importance and ranks of the components.

3.4.2 Interpretation of the Achievement Test

An achievement test of 100 marks with the components of reading, writing and numeracy was administered on the learners. The test scores
were interpreted first as per the desirable criteria fixed by the National Literacy Mission (NLM), and secondly the difference between the mean achievement scores obtained by the learners of different districts were interpreted in terms of frequency and percentage.

CHAPTER REFERENCES
