CHAPTER - III :

PLAN AND PROCEDURE

INTRODUCTION

The purpose of this chapter is to discuss the entire plan and procedure of the present investigation. Every research work needs to be well-planned so that appropriate procedure can be applied.

The first chapter ended with the Conceptual frame work of non-formal education leading to lifelong education on a note that there is need to investigate the attitude of teacher-educators towards the programmes of non-formal education leading to life-long education. For this there is a lack of research tool to measure the attitude of teacher educators for the said programme. Hence there is an urgent need to develop a research tool to measure the attitude of teacher--educators towards the programmes of non-formal education leading to life-long education suited to Indian conditions. Chapter II on previous researches has underscored the silency of research in non-iormal programmes, life-long education, social education and adult education programmes, helping to

move from traditionalism to progressivism. The investigator is tempted to select the present problem for study because he found from the Survey of Research in Education published by the M.S. University of Baroda (1974) which reports that research works done in Indian Universities have not contributed much to the fund of knowledge in terms of theory. The area of attitude of teacher-educators towards the programmes of non-formal education remains neglected. Extensive and intensive surveys may be taken in adult education movement.

In recent years non-formal education and adult education programmes have attained the growing recognition as a time-bound and space-bound process. Any programme will not be a successful programme unless the people concerned are convinced about the programme. Non-formal education is one such programme for which the government is very much interested in implementing it. This chapter presents the research design, the plan and procedure in its perspective. The discussion will be organised primarily around the following focal points :

1. The Problem and its elucidation
2. The rationale of the study
3. The scope and limitations of the study
4. Assumptions
5. The objectives of the study

6. Hypotheses
7. The nature of data and their collection
8. The research instrument and its scoring scheme
9. The sample
10. The procedure of analysis and interpretations.
11. Conclusion.

3.1 THE PROBLEM AND ITS ELUCIDATION

It may be pointed out that the study belongs to the category of the Survey type of research and is focussed on discovering possible relationship between dependent variables like concept of non-formal education, system of non-formal education, administration of non-formal education, Need and Importance of non-formal education etc. and independent variables in which biographical characteristics like region, sex, age, location, teaching experience, qualifications etc. using 't'-test and correlational techniques.

(a) The Problem

"An Investigation to Study the attitude of the teacher--educators towards the programmes of non-formal education leading to life-long education in the State of Gujarat."

Attitude : The term attitude may be defined as an emotionalised tendency organised through experience, to

react positively or negatively towards a psychological object.

It is cleared that attitude is the internal matter of mind and can be understood by feelings, opinions, thoughts and behaviour. Although the attitudes of other people are never seen or felt. They are only inferred. They make a great difference in almost everyone's life.

The attitude is also something which includes one's likes and dislikes. These likes and dislikes are the abstract things which the human beings can feel. One cannot see the person's likes and dislikes just like some material objects. Yet their importance is greater in the field of education. Then by 'likes' it means the teachers' favourable inclination towards certain issues and by 'dislikes' it means the teachers' unfavourable inclinations. Favourable inclination implies the degree of willingness. These degrees of willingness and unwillingness can be judged from one's actions or from his verbal behaviour.

Teacher-educators : The term denotes the professors, lecturers and tutors of the education colleges (i.e. B.Ed. colleges) who impart training to the trainees who after their training period will be eligible for the teaching post in secondary schools of Gujarat State.

Non-Formal Education : This concept was defined and discussed at length in Chapter I. This term is included in the modern dictionary but here it is not found out from the dictionary but interpreted according to the need of the life pattern. Non-formal education is life-long learning integrated with life, and work and life/upgraded and enriched by learning and hence has flexible points of entry and exit, re-entry and reexit, and so on, throughout the life-span of the individual.

Non-formal education is a process of liberation plus flexible form of formal system of education. There will not be a rigid curriculum, stratified according to classes or levels, the curriculum will be completely flexible and community-oriented as well as individual need-oriented. It will take into account the previous learning of the individuals, their needs and aspirations and will develop suitable functional curriculum, which will necessarily have some socially useful productive work at its centre. Non-formal education will not have a rigid time schedule, but the instructional time will be chosen to suit the convenience of individual learners. Non-formal education is to be viewed as an alternative strategy of education for all.

Life-long education : This term is also discussed in detail in Chapter I. In this study it is used to mean that

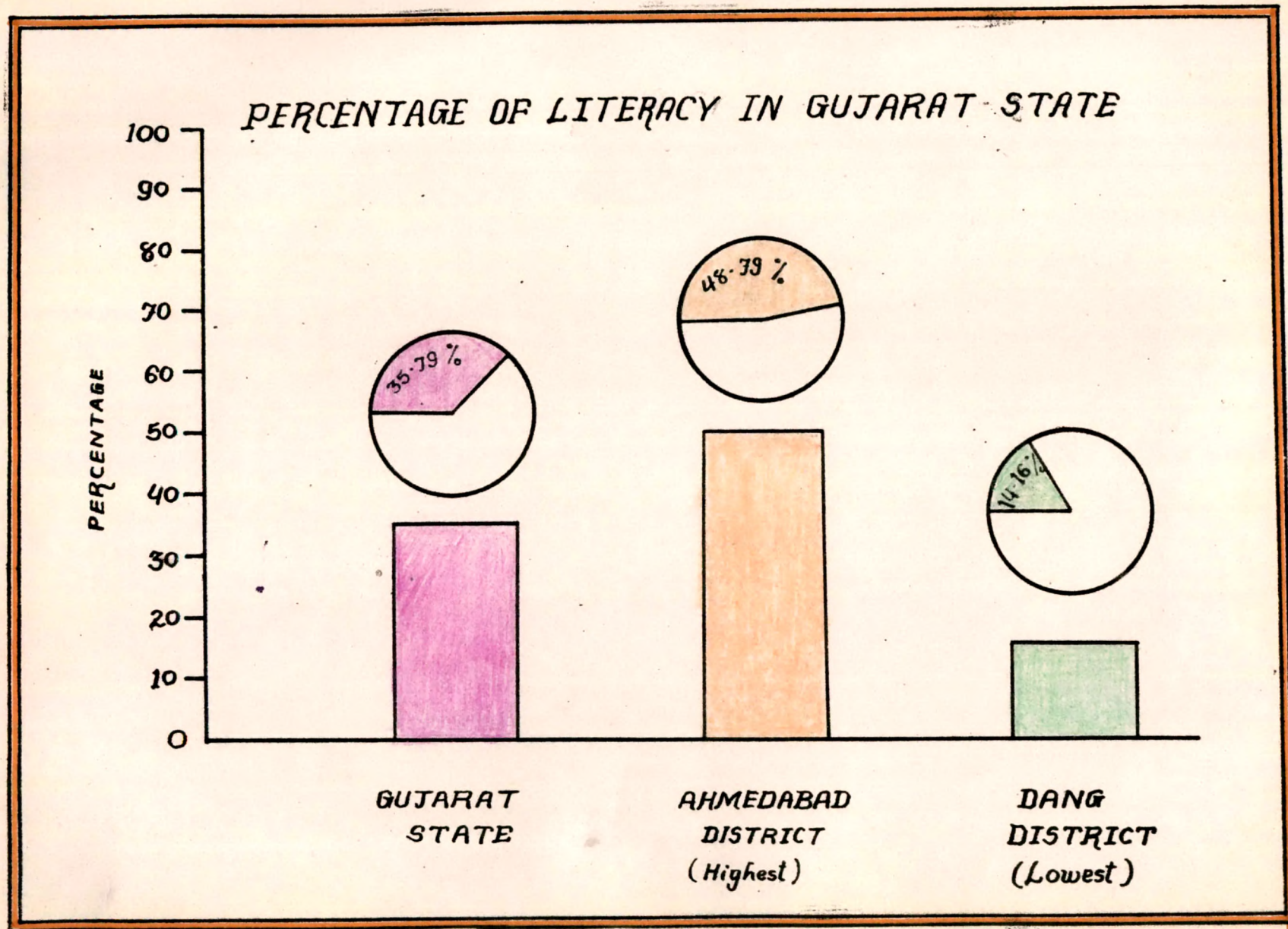
PERCENTAGE OF LITERACY IN GUJARAT STATE
PERCENTAGE
100
90
80
70
60
50
40
30
20
10
0
35.79 %
48.79 %
14.16 %
GUJARAT STATE
AHMEDABAD DISTRICT (Highest)
DANG DISTRICT (Lowest)

Chart - 2

life-long education implies not only that every body is a learner throughout his life-time but also that everybody has opportunities to continue to be educated throughout life. Life-long education is a total system in the sense that it covers all phases of learning in life. The term "life-long" is very significant as it indicates the time-span of the learning. Life-long education begins with the beginning of life and ends with the end of life. The concept of life-long education is not yet fully and universally operationalised and it is still in the process of evolution.

"Gujarat State" : The word itself suggests the location of the centre of the investigation. Gujarat State is comprised of 19 districts, with seven cities which have the population of more than one lakh. Very few literates are found in Gujarat State. Only 35.79 per cent population possesses the literacy and Ahmedabad district is the highest in literacy with 48.79 per cent. While Dang district in South Gujarat is the lowest in literacy with 14.16 per cent.

3.2 THE RATIONALE OF THE STUDY

It is common that the formal educational system however modified and expanded cannot reach out to every young learner in the country and ensure equitable access to education.

Moreover the refined system of formal education cannot and does not fulfil the requirements of every learner. For this reason a larger programme of non-formal education is being launched in the country. If non-formal education approach is adopted in its true spirit, education will reach and fulfil the demands of all the individuals of all age-groups. Therefore there is a dire need to spread the idea of non-formal education to the masses. Everyone knows that the people who are in direct touch with the masses are the teachers of the educational institutions so it is necessary to map out the attitude of teacher-educators in this important but neglected domain of our educational system. The attitude of the teacher educators may reflect on the attitude of secondary teachers who are being trained under them. Unless the teacher-educators are convinced about the new system's potentiality in educating the masses, the programme would not be effectively carried out by the government. If teacher-educators have positive attitude towards the non-formal education, the programme would result into a success. But at present, there is no evidence as to say whether the teacher educators have a positive or negative attitude towards the non-formal education programmes leading to life long education. Hence there arises a practical need to study the attitude of teacher-educators towards the programmes of non-formal education leading to lifelong education.

At present there is no tool either in the form of a questionnaire or attitude scale through which one can measure the attitude of teacher-educators towards non-formal education leading to life-long education. Hence, in order to know the attitude of teacher-educators, there arises a need, to construct an attitude scale which should in turn be standardised for using on a larger sample.

Regarding the attitude of teacher-educators, there is at present, no evidence regarding the difference in attitude towards non-formal education leading to life long education of male and female teacher-educators, the teacher educators of different age-groups or in relation to their experience and qualification. Hence it is necessary to study, whether there is any difference in the attitude of teacher-educators with reference to their age, sex, experience and qualifications.

It is essential again to know whether there is any effect of the urban or semi-urban background of teacher educators towards their attitudes. It is also essential to know what sort of difference exists between urban and semi-urban teacher educators. That is the reason why the researcher has considered four regions of Gujarat.

3.3 SCOPE AND LIMITATIONS OF THE STUDY

The scope of the study is extended to the teacher-educators of secondary teachers' training institutions of Gujarat State which are under different managements, situated in various regions, having different status of resources and having different sizes. The picture of the attitude towards non-formal education leading to life-long education is to be built up from the responses of the teacher-educators. The number of variables like growth, upbringing teaching experience play a significant part in developing the attitude of teacher-educators towards the programmes of non-formal education. The respondents are college teachers as regular staff members in the B.Ed. colleges. They would include male as well as female teachers coming from different socio-economic groups. The staff would naturally have varying experiences and varying educational backgrounds. The picture of the attitude of teacher-educators towards the programmes of non-formal education would be built up from the responses of teacher-educators on the tool which would be deployed by the investigator. A number of dimensions can be included to measure the attitude of the teacher-educators towards the programmes of non-formal education leading to life-long education. It becomes a formidable task to include all the factors in a single study. It

would necessitate a long-term research project. The present study not only draws its data on the general aspect of non-formal education programme but it seeks to explore the attitude of teacher-educators on the dimensions like need and importance, the programmes of non-formal education, its aims and objectives, and its organisational aspects also. It is in such perspective the design of the present study is attempted.

As it is stated the problem that this study is concerned with teacher-educators of the colleges of education of Gujarat, the investigation was made limited to the teacher-educators of secondary teachers' training colleges of Gujarat. Secondly, education is the State subject and the problems of the learners may vary from state to state. It would be interesting if a comparative study of the problem between two or more states would have been made and it would be interesting if other teacher-educators would have been involved like primary teachers' training colleges of Gujarat but it would be perhaps beyond the limits of a single Ph.D. thesis. This study is restricted to the secondary teachers' training colleges of Gujarat i.e. education colleges of Gujarat only.

ASSUMPTIONS

The present study is based on certain assumptions.

Firstly, the teacher-educators have their own likes and dislikes for non-formal education programmes leading to life-long education.

Secondly, it is assumed that these likes and dislikes or attitudes are the resultant of cumulative effect of the complex experiences the teacher-educators have faced regarding different educational strategies for the improvement of educational level or the quality of education at primary, secondary or college level.

Thirdly, it is assumed that not only this attitude towards the programmes of non-formal education leading to life-long education can be identified and classified broadly but the attitude of each teacher can be described and evaluated.

Fourthly, biographical variables of respondents influence on their attitude towards the programmes of non-formal education leading to life long education.

Fifthly, over and above, biographical characteristics of the respondents which affect on their attitudes, there are other factors also (in the present study, "the location of the colleges") which bear relationship with the attitude of teacher-educators.

Sixthly, the attitude towards non-formal education leading to life-long education can be measured by its six

aspects namely, general aspect, need and importance, aims and objectives, programmes of non-formal education, organisation and suggestions of non-formal education, and

Lastly, the attitude of college-teachers can be measured by five point Likert-Type attitude scale.

3.5 OBJECTIVES OF THE STUDY

In the light of what is stated earlier, the primary concern of the present study is to measure the attitude of the teacher-educators of education colleges of Gujarat towards the programmes of non-formal education leading to life-long education. This would make it necessary to select or construct tool to measure the above stated attitude of the teacher-educators. This would constitute the general purpose of the study.

The specific objectives would be as follows :

(1) To construct an attitude Scale to measure the attitude of teacher-educators towards the programmes of non-formal education leading to life long education suited to the educational environment in Gujarat State.

(2) To measure the attitude of teacher-educators of Gujarat towards the non-formal education programmes leading to life-long education.

(3) To study and compare the attitude of teacher-educators of the four regions of Gujarat State.

(4) To investigate relationship between certain biographical characteristics of teachers and their attitudes towards the programmes of non-formal education, leading to life-long education.

3.6 THE HYPOTHESES

1. The teacher-educators of the education colleges (i.e. B.Ed. Colleges) in different regions of the Gujarat State will not show significant variations in their attitude towards the programmes of non-formal education leading to life-long education.

2. The teacher-educators of the Urban colleges will not differ significantly from the college teachers of the semi-urban area with respect to their attitude towards the programmes of non-formal education leading to life-long education.

3. The attitude of teacher-educators towards the programmes of non-formal education leading to life-long education is independent of Certain biographical characteristics of teacher educators.

4. The teacher-educators of the education colleges in different regions of the Gujarat State will not show significant variations in their attitude towards the dimensions of the General aspects of non-formal education programmes leading to life long education.

5. The teacher-educators of the education colleges in different regions of the Gujarat State will not show significant variations in their attitude towards the dimensions of the need and importance of non-formal education programmes leading to life-long education.

6. The teacher-educators of the education colleges in different regions of the Gujarat State will not show significant variations in their attitude towards the dimensions of the aims and objectives of non-formal education programmes leading to life-long education.

7. The teacher-educators of the education colleges in different regions of the Gujarat State will not show significant variations in their attitude towards the dimensions of non-formal education programmes leading to life long education.

8. The teacher-educators of the education colleges in different regions of the Gujarat State will not show significant variations in their attitude towards the dimensions of

organisational aspect of non-formal education programmes leading to life-long education.

9. The teacher-educators of the education colleges in different regions of the Gujarat State will not show significant variations in their attitude towards the suggestions of non-formal education programmes leading to life-long education.

10. The teacher-educators of the Urban colleges will not differ significantly from the college teachers of semi-urban area with respect to their attitude towards the dimensions of the General aspects of non-formal education programmes leading to life-long education.

11. The teacher-educators of the Urban colleges will not differ significantly from the college teachers of semi-urban area with respect to their attitude towards the dimensions of the need and importance of non-formal education programmes leading to life-long education.

12. The teacher-educators of the urban colleges will not differ significantly from the college teachers of semi-urban area with respect to their attitude towards the dimensions of the aims and objectives of non-formal education programmes leading to life-long education.

13. The teacher-educators of the urban colleges will not differ significantly from the college teachers of semi-urban area with respect to their attitude towards the dimensions of non-formal education programmes leading to life-long education.

14. The teacher-educators of the urban colleges will not differ significantly from the college teachers of semi-urban area with respect to their attitude towards the dimensions of organisational aspect of non-formal education programmes leading to life-long education.

15. The teacher-educators of the urban colleges will not differ significantly from college teachers of the semi-urban area with respect to their attitude towards the suggestions of non-formal education programmes leading to life long education.

16. The attitude of teacher-educators towards the dimensions of General aspects of non-formal education programmes leading to life long education is independent of certain biographical characteristics of teacher-educators.

17. The attitude of teacher-educators towards the dimensions of need and importance of non-formal education programmes leading to life-long education is independent of certain biographical characteristics of teacher-educators.

18. The attitude of teacher-educators towards the dimensions of aims and objectives of non-formal education programmes leading to life-long education is independent of certain biographical characteristics of teacher-educators.

19. The attitude of teacher-educators towards the dimensions of the programmes of non-formal education leading to life-long education is independent of certain biographical characteristics of teacher-educators.

20. The attitude of teacher-educators towards the dimensions of the organisational aspect of non-formal education programmes leading to life-long education is independent of certain biographical characteristics of teacher-educators.

21. The attitude of teacher-educators towards the suggestions of non-formal education programmes leading to life-long education is independent of certain biographical characteristics of teacher-educators.

3.7 THE NATURE OF DATA AND THEIR COLLECTION

As the present study differs from earlier studies by Gadgil (1945), Singh (1957), Kahn (1958), Chaube (1963), Prasad (1967), Dharmvir (1968), Patel, Pal and Shrivastav (1970), in as much as these earlier studies were focussed on

illiteracy, literacy development and adult interest, training programmes of adult education, adult literacy and programmes of social education. From the research material available, it is quite obvious that there have been consistant and continuous research efforts in the field of adult education or non-formal education. With regards to the tools and techniques used, questionnaires, interviews, historical and administrative documents have generally been used for collecting the data. In few cases, some research tools have been developed by researchers.

Refined experimental studies using highly sophisticated designs have not been undertaken whereas the present study is focussed on describing and evaluating the attitude of teacher-educators towards the programmes of non-formal education leading to life-long education. Investigator spent sometime in some of the education colleges and institutions to observe their views, and to discuss with the teacher educators as well as principals, directors and educational experts about the non-formal education and life-long education, this process and approach brought to focus to start the seven constituents or aspects of non-formal education leading to life-long education.

(a) Visits :

1. The researcher visited the Anand Niketan Ashram, Rangpur, District Baroda three times, staying there for two days,

initially to make the selection of the institution and later on for collecting the data. (2) The researcher himself visited certain villages of Sankheda, Naswadi and Tilakwada Talukas where the programmes of non-formal education were already in operation. The researcher collected the views of the primary teacher educators about the activities and programmes of non-formal education leading to life-long education.

(b) Interviews :

There were series of interviews with Shri Harivallabh Parikh, the Head of the institution at Rampur. The other persons' interviews are shown in Appendix D.

Three types of data would be essential for this study.

The first type of data would be some basic data regarding colleges of education about their location and district. This would help to judge whether there is any difference between the attitude of teacher-educators towards the programmes of non-formal education leading to life long education.

The second type of data would include some major biographical data about the teacher-educators such as, their age, sex qualifications, teaching experiences, etc.

The third type of data would constitute the core-data of the study. This data would be collected through the

discarded, as they are not tapping the same attitude as the other items.

If the scale construction is being successful, there emerges a list of items with high internal consistency and high split-half reliability. The scoring on the Likert Scale is the number of items multiplied by five and the minimum possible score is the number of items multiplied by one e.g. the scale consists of 20 items. One subject has responded all the 20 items on a favourable continuum.His score will be 20x5=100 and the other subjects had scored only 20, which means 20x1=20 i.e. on an unfavourable continuum. All the items are then analysed by one of the item analysis procedures. Thus the final scale consists of 20 to 25 items from the total list which expresses the greatest discrimination. These items are used, with the same five-responses categories and scoring should be done in the same way as in Thurstone's method.

Advantages :

This method gives more information than the Thurstone's method. The subject responds to each item in Likert method while in Thurstone's method, the subject either rejects or accepts an item.Therefore, specific items are available for individual analysis of their content. Thurstone's technique cannot serve the dual functions.

All the items are considered equivalent in Likert technique. A Likert scale position is thus influenced by the number or range of favourable or unfavourable responses and by their internal intensity.

Likert Method is useful for group purposes such as comparison of mean attitude, scores of two or more groups on the same psychological objects measuring change of attitudes to a group due to experimental variables such as motion picture or for correlating attitudes, scores on personality inventory or intelligence tests.

(B) Construction of the Tool

Introduction : The main objective of the present study is to construct and standardize the tool to measure the attitude of teacher educators towards the programmes of non-formal education leading to life-long education in Gujarat State. This will give the complete account of the procedure of the construction and standardization of the present tool.

The present tool will be first of its sort in Gujarat. India in general and Gujarat in particular, needs many such questionnaires and this is just an humble attempt in that direction. Here is an attempt to provide a tool to measure the attitude of teacher-educators towards the programmes of non-formal education leading to life-long education in Gujarat State.

Construction and administration of the questionnaire require a good deal of pre-planning and pre-thinking. Lindquist (1955) says, "Planning is an essential activity in all stages of a test construction". Questionnaire is constructed for administering it to a population or a section, and hence planning plays a dominant role. He further tells, "Scale planning encompasses all the many operations of an outline or a table specifying the contents or operations to be covered by the test, but it must also involve careful attention to item difficulty, to types of items, to directions to examiners, to arrange for try-out, to problem of test production, to provision for expert review, to the provision of adequate equipment and facilities."

(C) Present Plan of Work :

In the light of the fore-going discussions, the following steps were planned in the construction and standardization of the present study.

The steps in the present study are as follows :

1. A large number of items belonging to the area of non-formal education leading to life-long education were constructed.
2. These items before assembling in the attitude scale were edited, the items having ambigous meaning were eliminated.

3. This attitude scale was administered to a sample of population for which the scale was to be standardized.
4. Scoring of each item was calculated.
5. The validity, the reliability and norms were found out.
6. The final draft of an attitude scale was administered to a large sample of the population.

(D) Collection of the Items

There are two ways of collecting written items for a questionnaire :

1. To translate the questionnaire available and standardize in foreign countries.
2. To construct a questionnaire independently for the specific area.

Translated items imply the following draw-backs :

1. The environment of foreign countries and Indian are basically different.
2. The customs, social taboos and the like, make the material of one country unsuitable for the other.
3. Idioms and proverbs of one country be actually translated. Translation would at times mean such a drastic change that the norms of the original tests would not be applicable.

In view of the non-availability of a suitable tool for the Indian conditions, and because of the draw-backs prevailing in the foreign country's tool as enumerated above, the investigator decided to prepare a separate and independent tool on the programmes of non-formal education leading to life-long education in Gujarat State, based on Indian conditions.

The construction of the items is based on three sources, viz.,
(1) The existing inventories, (2) the description of these areas in the psychological literature, and (3) discussion with the persons who had studied these areas for the same purposes.

There can be no set rules for writing items. Thorndike (1955) puts it beautifully,

"Writing a good test item is an art. It is little like writing a good sonnet or little like baking a good cake. The operation is not quite free and fanciful as writing a sonnet, it is not quite standardized as baking the cake.

It lies somewhere in between, so discussion of item writing is somewhere in between exhortation to the part to go out and express himself and the precise recepies of a good cookbook".

Lindquist (1955) says :

"Item writing is essentially creative. Each item as it is being written presents new problems and new opportunities. Just as there can be no set formulae, for producing a good story or a good painting. So there can be no set rules that will guarantee the production of good test items.

The items should serve the purpose of testing. This should not be boring to teachers. McCall (1949) suggests,

"tests should be enjoyable to both pupils and teachers".

(E) General Principles of Wording the Items.

(a) The investigator observed the general principles towards the framing of the better questionnaire.

(b) Selection of the dimensions or components of the attitude scale of the programmes of non-formal education leading to life-long education.

A questionnaire in its preliminary stage requires large number of statements regarding the object. As stated in the previous foregoing discussion the attitude scale will be employed in the present study. The attitude scale measuring the attitude of teacher-educators towards the programmes of non-formal education leading to life-long education is developed by the investigator himself on the basis of conceptual frame drawn largely from the literature supplied by the

Unesco Institute of Education (UIE), Hamburg and Unesco Regional Office for Education in Asia, Bangkok on non-formal education and life-long education. After studying the literature research articles, books, reviews, opinions of the experts and directors of the educational institutions, the investigator asked their views and reactions regarding non-formal education programmes leading to life-long education in Gujarat, the investigator selected six main dimensions or components of non-formal education programmes.

First Step :

(i) Before constructing the attitude scale for use in the present study, the researcher examined the literature of non-formal education, adult education, literacy programmes and life-long education and discussed. With Professor R.H. Dave, (Paris), and with professor Gunvant Shah (Head, Department of Education, South Gujarat University, Surat), who have contributed in the areas of non-formal education and life-long education.

As the focus was more on the measurement of attitude of teacher-educators, these series of discussion yielded six major areas for the measurement of attitude of teacher-educators towards the programmes of non-formal education leading to life-long education, viz., (1) General aspects of non-formal

education (ii) Need and Importance (iii) Aims and objectives (iv) Programmes of non-formal education (v) Organisational aspects of non-formal education (vi) suggestions of non-formal education.

(ii) The Second step was the construction of the items for each of the six components.

(iii) The third step was the discussion of each item thread-bare at a work conference in which the personnels of various categories such as experts, researchers, and interested in the area were consulted and sat together for the selection of the items, and the selection of the dimensions for the non-formal education programmes leading to life-long education in Gujarat State.

(iv) The fourth step was the preparation of the pilot draft of the attitude scale measuring the attitude of teacher-educators towards the programmes of non-formal education leading to life long education.

Table 3.1 : The Number of Items included in the Pilot Draft of the Tool

Number of items in each dimension or components in the attitude scale.

Components	No.of items
1. General aspect	21
2. Need and Importance	14
3. Aims and objectives	14
4. Non-formal programmes	37
5. Process of non-formal education	10
6. Organizational aspects	47
7. Suggestions	28
Total	171

These seven main dimensions or components and twenty-seven sub-components for the attitude scale are described here as under :

Section 1 : General aspects of non-formal education programme : (1) concept (2) system (3) administration (4) operational aspect (5) General aspect on the whole.

Section II : Need and Importance of non-formal education programme: (1) Need (2) Importance (3) Need and Importance on the whole.

Section III : Aims and objectives of non-formal education programme (1) Aims and objectives.

Section IV : Programmes of non-formal education : (1) Concept (2) Administration (3) Agency (4) Method (5) Programmes (6) Agent (7) Curriculum.

Section V : Process of Non-formal education programmes (1) Process.

Section VI : Organizational aspects in non-formal education programmes : (1) Curriculum (2) Process (3) Method (4) Administration (5) Agency (6) Agent (7) Organization on the whole.

Section VII : Suggestions of non-formal education programmes : (1) Suggestions.

The description of the dimensions of the tool is described in the following pages.

The description of the Sections of the tool are given in a capsule form as below :

Section I : General Aspects of Non-formal Education.

Following are the dimensions and number of items in General aspects of non-formal education.

Dimensions	No.of items
1. Concept	5
2. System	4
3. Administration	3
4. Operational aspect	3
Total	15

Section : II : Need and Importance of Non-formal education.

Dimensions	No.of items
1. Need	4
2. Importance	5
Total	9

Section III : Aims and objectives of non-formal education comprise the following dimensions and number of items in each dimension.

Dimensions	No.of items
1. Aims and objectives	11

Section IV : Non-formal programmes comprise the following dimensions and number of items.

Dimensions	No.of items
1. Concept	6
2. Administration	8
3. Agency	3
4. Method	1
5. Programmes	3

6. Agent	3
7. Curriculum	1
Total	25

Section V : Organizational aspect in Nonformal education comprises the following dimensions and number of items in each dimension.

Dimensions	No.of items
1. Curriculum	14
2. Process	6
3. Method	3
4. Administration	5
5. Agency	3
6. Agent	2
Total	33

Section VI : Suggestion in Non-formal education included in following dimension and number of items.

Dimension	No.of items
1. Suggestion	7

Out of 171 items there are 100 clear items in the final draft.

Description of the Dimensions in Capsule Form :

Section I : Description of the dimensions in General Aspects of non-formal education.

1. Concept : The concept of functional literacy is an innovative approach. It teaches literacy through a re-examination of traditional local concepts and practices regarding agriculture, nutrition, health, etc., and by improving or correcting these concepts with scientific information.

Wastage is also reduced by non-formal education. It was proved by the recent studies of school "Wastage" rates by Unesco and its International Bureau of Education.

The concept in General aspect Comprises with regards to theory on the programmes of non-formal education, the problems, learners difficulties and functional literacy etc.

2. System : This dimension comprises with regards to planning of the non-formal education, and departure of non-formal education from conventional patterns of education.

3. Administration : This dimension will include the following problems of administration like combining, formal schooling with practical experiences, to provide learning in residential camps and to provide learning opportunities for different age-groups.

4. Operational Aspects : According to this dimension, non-formal education helps in developing positive attitude towards community and develop dignity of labour. Such attitudes should find concrete expression in one's daily behaviour ... in family and the community, at work and in all learning environments.

Section II : Description of the dimensions in Need and Importance of Non-formal education.

1. Need : This dimension will comprise the items on changing society, needs of the learner, cooperation of the learners in successful execution of non-formal education and lastly it is necessary for the universalisation of education. Non-formal education is necessary for the growing up process in transitional societies so sequence of educational services to help them grow up more effectively.

2. Importance : According to this dimension, non-formal education is significant because it is organised according to the learners' convenience, helps in shaping human relations and makes the learner to adjust with the rapidly changing society.

The approach utilised by (the Thai) adult education programmes focusses on real and immediate problems of the learners.

Section III : Aims and Objectives

This dimension will include some of the aims and objectives of non-formal education with regards to the development of the nation, to democratise education. It is also to help the local people in solving their local economic problems. For the learner it is for the skill development, improving the professional and social status.

Non-formal education has (1) to enable the participants to get the basic understanding of the social and environmental structure around them, based on an elementary scientific knowledge and mode of thinking; (2) to encourage a positive set of attitudes towards themselves, their fellowmen and their society.

Section IV : Non-formal programmes.

The description of the dimensions in Non-formal education programmes :

1. Concept : This dimension is consisted of the scope of learning, comprehensiveness of the programme, appreciation of the programme, developing the talents of the learner and help in the development of culture and lastly there is freedom in all respects.

2. Administration : The programme will be implemented through a machinery whose main "wheels" are :

(1) The respective unit in the Union Ministry of Education, for planning the general lines of the scheme, for the allocation of financial resources, for basic supervision and general guidance;

(2) One unit in the Directorate of Adult Education for various technical and professional guidance and coordination;

(3) A full-time project officer in each district who will be responsible for the programmes;

(4) A professional full-time supervisory machinery in every district;

(5) Co-ordinating committees - on the central, state and district or local levels.

(6) Administrators should have the qualities to establish the rapport with the youth through non-formal programmes.

3. Agency : There are three types of agencies in this dimension. (i) Organization of these programmes needs a close link with the support by the local communities. Particularly Community support will come through the provision of learning facilities (not only in the school building but in many other places suitable to children as well as through the adaptation of the programme to community needs. (ii) Similar set-up may

have to be provided at the block level. (iii) In fact, the home, a primary social institution, becomes an educative agency which initiates the learning process and continues it throughout lifetime of an individual who finds himself in different roles and configurations as time passes.

4. Method : On account of scientific, technological and other advancements, many professions are indirectly influenced by these changes. Consequently, new methods of learning are required for technical skills. Two serious gaps in the methods used by the most non-formal programmes. One was the conspicuous failure to make use - one more than trivial use of enormous educational potential of radio or of television if available. The second was in failure to exploit adequately the extra-ordinary capacity of well-motivated young people to learn for themselves through well-programmed self-instructional material. It is frequently found dearth of reading materials in these non-formal programmes.

(5) Programmes : This dimension will include the influence of the programmes of non-formal education on the emotional satisfaction of the learner, about the time and the development of inner potentialities of learner.

Emotional satisfaction of the learner may vary due to the various environments. But efforts are being made in this direction.

The timing of the programme i.e. beginning and closure need not be uniform, but rather linked closely with the 'cycles' of the development programme itself e.g. the production cycle in a factory, the agricultural calendar in rural areas etc.

With regards to the inner potentialities of the learner, the problem can be solved. A system of non-formal education programmes leading to life-long education breaks away from a monolithic, uniform and rigid system of education. It allows learning to take place at one's own pace and time and according to one's own areas of interest. It responds to the diverse needs and circumstances of individuals. As knowledge expands and new skills develop, diversity in the content and form of learning increases and the process of learning becomes individualised and self-directed.

(6) Agent : In this dimension, the government and voluntary organizations are included.

When government is assuming larger direct responsibility for non-formal education programmes in recent times, governmental policies and the programmes of voluntary agents have been covering in a mutually supporting complementarity.

But the present trends and new requirements regarding

non-formal education reflected in two directions: (a) the development of non-formal education requires the involvement of public leaders and television (b) their participation should be so diversified as to correspond to the optimum potential of each of them.

Similar diversified attitudes should be evolved by other types of agents or associations. Uniformity in their role and functioning would be harmful and lead to inefficiency. However, some common objectives and tasks could be pointed out at the present moment when society seems poised for a global educational thrust.

(7) Curriculum : This dimension is about the inclusion of the community development programmes in the curriculum of non-formal programmes.

The term "community" is very comprehensive. It includes neighbourhood, peer-groups,kinship groups, socio-cultural and political groups, professional groups, trade unions, and so forth. Thus the whole range of social structures is brought into play in providing a vast variety of learning systems for every member of the community to develop himself and participate creatively in the development of others.

Section V : Organisational aspects.

Description of the dimensions in organizational aspects of non-formal educational programmes.

(1) Curriculum : This dimension will include vocation, flexibility of the curriculum, family planning, student's self-image as life-long learner, structure of the curriculum according to the learner, sequence of the curriculum, inclusion of the domestic science, health and hygiene, nutrition courses, problems of the masses, aspirations of the local people, diversified courses, social problems and common values of all religions.

On account of scientific, technological and other advancements in the societies, many professions are indirectly influenced by these changes. But socio-economic changes influence the individuals in every day life. New job-skills have been inculcated. All these call for the development of new life skills, modifications of beliefs and attitudes from time to time. These may be acquired by the organisation of the curriculum in formal or non-formal, planned or incidental manner as the case may be.

2. Process : This dimension comprises the following information. Daily experiences of the learner, the time, that the learner spends in non-formal education, learner's activeness,

developing of the self-reliance, self-sufficiency of the learner and proper attitude of the learner towards life will be included.

Learner takes too much time through non-formal education process. Again this should be left flexible from situatiom to situation, from season to season, and even from one week to another, according to occupational and environmental demands of the learners' group.

Learning should emerge out of experience - and should be built on the experiences of the learners. There should be enough opportunity in a programme to interact with one another, to narrate one's experiences so that what one is learning, is related to one's own life. The wide and varied experiences of participants can provide a wealth of learning material, which then can be analysed and systematised and proper attitude towards life can be developed.

(3) Methods : Here are some brief notes about learners and learning :

- Adults learn best in adult ways
- These ways differ significantly from child-learning because Adults have much accumulated experience, skills, knowledge, opinions and prejudices

- Accumulation of experience makes adult differ from each other than children and young people
- For adults the cooperative group method is a more important learning medium than for the young. It can also be used to provide them with the support and security which will enable them to face more confidently the pain of change
- Learning in non-formal education programme takes place through democratic discussion and dialogue.

For the convenience of the learners the classes are held at schools, temples or at the learners' homes. The idea is to take into account the convenience of participants in conducting the programmes.

If non-formal education programmes are really to become effective tool to help people solve the problems that face them in their day to day life, and also assist them to live in harmony with their environment, then up-to-date data on existing needs and conditions of different target audience groups living in different localities is needed. To achieve the effectiveness of existing programmes, proper surveys are to be carried out by the administrative unit.

(4) Agency : Following agencies will be included in this dimension : (1) Guidance centres (ii) Primary schools (iii) Mobile schools.

(i) There are many problems in non-formal education which cannot be dealt with independently by one centre. It is quite evident that most problems are interrelated. Their causes and the obstacles preventing their solutions stem from some fundamental short-comings in the present organisational structure of non-formal education.

In terms of administration, it calls for a decentralisation, in the initiation of programmes in planning, in site selection, in personnel recruitment, and even in control and operation of units and the evaluation of programmes. So the guidance centres in every locality are necessary for the necessary guidance for the masses.

(ii) Primary Schools :

To convert present primary schools into ideal community learning centres where children, adolescents and adults could all come at their will to acquire successive "learning units" in various basic and practical studies relevant to their lives and interests and fitting their present motivation. In the poorest rural areas they have at best, equipped only a small minority of the new generation for the venture into a more modern life.

(iii) Mobile School :

The programme of the school is relatively large,

innovative and comparatively low-cost effort to provide a variety of useful non-farm occupational and home-making skills for rural small-town and remotest areas for adolescent boys and girls. It is directed mainly to primary-school leavers who do not continue in formal education.

(5) Agents : Following will be the agents of non-formal education in this dimension :

(i) Library (ii) Ashram schools.

(i) Library : One of the biggest frustrations of non-formal education programme is that its impact is often not long enough to teach non-reversible learning memory. Since organised non-formal education programmes are necessarily intermittent, recurrent and not always serialised, it is important to build into it some viable system through which learners will be encouraged and helped to continue self-learning.An imaginative and guided reading service closely accompanying non-formal education programmes is an immediate need, both to reinforce learning and to open new learning interest.

(ii) Ashram schools : Ashram schools undertake the educational programmes for children and adults and for the surrounding rural population. The schools are Jeevan Shala which are residential. All the students live at the Ashram and time-table

is set for the whole day (i) planning for day to day school programmes is done by the principal and teachers of the school (ii) Planning for post-basic vocational courses is done by the Ashram personnel and village leaders according to their future needs for skilled workers of the rural population. Sometimes the planning does not show the effect in practice for rural population.

Section VI : Suggestions

This dimension will include some suggestions with regards to non-formal education programme viz., Refresher courses for teachers, necessity of the programmes for the labourers, school leavers, motivation to the illiterates, to develop confidence in the learners, inclusion of the social workers, and working of the part-time teachers.

Clearly, in the context of national development, the teacher has the duty to promote learning outside of schools also and to help in preparing learners to make optimum use of learning resources available in the communities for instructional purposes. He must also accept, organise and coordinate the educational potential of such elements as the media of communication, cultural and artistic activities in the community, the specialised knowledge of professionals in various fields. Social relevance and the democratic ethic both require

that the teacher reaches beyond mere instruction to become a guide to his pupils, an effective mediator between the young person and his environment.

With increasing industrialisation, need was felt for educating industrial labourers and their roles and responsibilities in society and in industry. This education should be functional, integrated and tailor-made to meet each individual's specific needs. The programme should be organised in the industrial area for the convenience of the labourers.

For the school leavers, non-formal education falls heire to the mammoth "Unfinished business" of the primary and secondary schools. There was one great gap, however the scarcity of primary school equivalency programmes designed to give a "second chance" to unschooled youth and drop-outs.

Motivation should be intrinsic and mainly based on internal and practical needs of the illiterates. This is why: (a) programmes should be diversified, in order to correspond as much as possible to different environments and various categories of illiterate boys and girls (b) starting from general framework and prototype learning material. This type of non-formal education programme needs a lot of encouragement both before and during the implementation of the programme (use of attractive methods media cultural out-door activities excursion, etc.)

The general objective of non-formal education programme is to create awareness and understanding about the factors affecting development, develop problem-solving abilities, make provision for life-long education, and develop self-confidence to overcome problems.

The social function of education is undergoing a rapid change. Education is looked upon as an instrument to develop a full man to build a society based on justice and equality. It means that in the implementation of this programme, there is a role for a variety of agencies like social workers.

There are several categories of personnel, such as key persons who are responsible for planning and administration, project officers at different levels-regional, provincial and district, supervisory staff, teachers/animators, for the actual teaching of learners a combination pattern of full-time and part-time teacher exists. For the qualitative improvement of programmes, consideration is given to : (1) selecting teaching personnel drawn from the local community, (2) Utilising the services of the teachers from the formal system. But the experiences of other countries where the instructors drawn from other areas (adults, youths, progressive farmers, local and social workers,etc.)

Keeping in view all these main components or dimensions and sub-components, the investigator prepared a list of a large number of items for the purpose of this study. These items varied in their degree of favourableness. Some items showed a very high degree of favourableness, whereas some showed average and very low degree of favourableness. For each component, items were prepared showing various degrees of favourableness to un-favourableness. Bearing in mind the above general principles for writing the items, the investigator prepared a list of 300 items for preparing the attitude scale for the teacher educators.

All the items were carefully worded into a simple language. They were edited again and again with the help of the respected guide. Items were revised in the light of comments.

Lindquist (1955) expresses his views regarding the number of items for try-out. He says, "The number of items should be considerably larger than the number needed for the finished one.".

(F) Check-up of the Language of the Items

Thorndike (1954) states, "It is anxiousness of writing that the author of the statement is not best qualified to judge the clarity of the statement - he cannot appreciate the difficulties that others will have with his ideas."

After constructing the items for the questionnaire the investigator sought cooperation of language experts and experienced persons in the field of education. All the items were checked separately by the experts and some of their suggestions were carried out so that educators may not find difficulty in understanding the language of the questionnaire items. Thus the items were made more practical.

(G) Compilation of the items

Lindquist (1955) says :

> "Once the individual items have been constructed, the problem remains of selecting from among those that survived the review process and tryout those which are to constitute the test, and of arranging the selected items into an appropriate order and avoiding undesirable overlapping among the items".

From these items some were rejected on the basis of ambiguity and similarity. The items, which were slightly different in construction but giving the same meaning were also rejected. While preparing the above list, the investigator has rewritten some of the items in proper language. Thus a list of 171 items was compiled (see Appendix 'A'). The Table 3.1 sets out the number of items included against each component.

Thus 171 items were prepared under seven components and twenty-three sub-components and it is made ready for giving it to the judge for review of the items.

(H) The language of the attitude scale

The attitude scale for teacher-educators is prepared in English for application in the colleges of education.

(I) Form and contents of the attitude scale

Some have argued that use of several, different kinds of items, lend interest to a test through its variety. Lindquist (1955) states, "However, the interest value of a test depends primarily upon the quality of the items, rather than upon their external form, and if the items are completely constructed even though all of one form, there will usually be no problem of maintaining interest". The form of the item chosen was in the statement form and the items consisted of positive as well as negative statements on the basis of Likert technique.

(J) Review of the items

Lindquist (1955) says :

> "Test items should be reviewed, before tryout on any sizeable number of subjects, from three points of view: (1) the accuracy and appropriateness of their subject matter content, (2) their technical merits apart from content, and (3) their editorial quality.

In due consideration of the above views the researcher decided to give a list of 171 items to a group of experts for editing.

(K) Try-out of the questionnaire (Pilot Study)

After items have been written, criticized by experts and revised on the basis of their criticisms, it must ordinarily be tried out experimentally on a sample of teachers.

(a) Objectives of Try-out

The main objectives of the try-out questionnaire, were as follows :

1. To find out gross deficiencies in the items such as correct answers, ambiguous words, etc.
2. To findout the difficulties of the teacher-educators in items.
3. To determine the time-limit for the questionnaire.
4. To study the items for analysis.
5. To provide data needed to determine how many items should constitute the finished scale.
6. To determine the inter-correlations among the items, in order to avoid overlap in items selection and to know how best to organise the item into sub-components.
7. To study the item-analysis.

8. Pilot test was to find out the item-item relationship. The item analysis was done by finding out the difference between high-group score and low-group score and 't' technique was applied to 171 items.

(b) Procedure and Administration of the Try-out :

After finalising the pilot draft of the attitude scale the researcher selected 100 teacher-educators of different education colleges situated in various regions of Gujarat for the try-out of the tool. For the convenience of the participating teachers the pilot draft of the tool was printed in English language in booklet form. No time limit was imposed. The questionnaire of 171 items was given to the teacher-educators. Teachers were asked to return the questionnaire to the investigator on completion of their work.

(c) Item-Analysis

After administering the questionnaire, there is need for determining the value of each item for making the questionnaire accurate. If the questionnaire constructor knows the relative value of each item, he could select only the best for inclusion in the final experimental draft of the questionnaire.

The information obtained from the procedure of item analysis may be tested on the following :

1. It supplies information concerning the item as a whole.
2. It gives a measure of the correlation between the item and the criterion.
3. It supplies measure of the item-validation of the questionnaire.

Each item is now subjected to some form of item-analysis. The investigator selected the top and bottom 25 per cent of the subjects in terms of total scores on the item. The top group is called a "high" group and the bottom group is called a "low" group, in terms of total scores. The entire procedure is summarized as follows :

The investigator thought it necessary to construct the final experimental draft of the tool from the pilot test. It is necessary to apply the 't' test technique to all the 171 statements. According to the positive and negative statements two categories of the statements were included. Looking to the positive and negative statements the teacher-educators were asked to give their responses of all mixed up statements (positive and negative) on a five point scale. The scale is as under :

If he fully agrees with the item he has to encircle 'SA'

If he agrees with the item he has to mention 'A'

If he is not certain about the item he has to mention 'U'

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If he disagrees with the item he has to mention 'D'

If he fully disagrees with the item he has to mention 'SD'.

Each item was given the weightage on five-point scale. If the item is positive the weightage is 5, 4, 3, 2, 1 respectively and if the item is negative, the order is reverse.

(d) Enumeration of 't' value

The following procedure was done by the investigator to enumerate 't' value for each item.

1. The retained questionnaires which were used for the pilot test as a sample were arranged into descending order according to the score given by the respondents.
2. The investigator framed the top and bottom 25 per cent of the subjects in terms of total scores on the item according to the scoring of the respondents. High group scored questionnaires were ranged from 565 to 483 scores. Questionnaires which were selected were given ranks H_1 H_2 H_3 H_4 ... H_{13} and L_1 L_2 L_3 L_4 .... L_{13}
3. After deciding high and low group, the investigator stated the response of each statement of the each group of the teacher-educators.

For Example :

Statement - Non-formal education is problem-oriented education

Rank of the Teacher questionnaire	High Group	SA	A	U	D	SD	Low-Group	SA	A	U	D	SD	Rank of the teacher questionnaire
	H_1												L_1
	H_2												L_2
	H_3												L_3
	.												.
	.												.
	.												.
	H_{13}												L_{13}
		7	2	3	1	0	13	1	8	1	2	1	13

4. There were equal numbers of teacher-educators in each group, therefore, the investigator used the following formula in applying 't' technique to each item (i.e. 171 items)

$$t = \frac{\bar{X}H - \bar{X}L}{\sqrt{\frac{\Sigma(XH-\bar{X}H)^2 + \Sigma(XL - \bar{X}L)^2}{n(n-1)}}}$$

where $\Sigma(XH - \bar{X}H)^2 = \Sigma XH^2 - \left(\frac{\Sigma x\ H}{n}\right)^2$

and $\Sigma(XL - \bar{X}L)^2 = \Sigma x\ L^2 - \left(\frac{\Sigma x\ L}{n}\right)^2$

In this way by using the above formula the investigator found out 't' values of each item (i.e. 171 items). Each item was arranged in descending order according to 't' value.

The final selection of the items

The attitude scale was based on an item-analysis using 't' test technique. Out of 171 items, 71 items were rejected on the basis of the low value i.e. less than 1.75 and 100 items were retained for the final experimental draft. There are 56 positive and 44 negative statements in the final form of experimental draft.

Table 3.2 given below shows the range of the 't' values.

	Sections	Range of 't' values
1.	General aspects	-1.02 to 5.32
2.	Need and importance	0.62 to 3.09
3.	Aims and objectives	-0.28 to 3.48
4.	Non-formal programmes	0.33 to 4.32
5.	Process of non-formal programmes	0.34 to 2.65
6.	Organizational aspects	0.15 to 5.71
7.	Suggestions	-1.02 to 2.91

After the item analysis of 171 items, 71 items were to be rejected on the basis of low value (i.e. less than 1.75 value)

Out of 171 items only 100 clear items were found valid, showing high value from 1.75 to 5.71 and therefore, they were retained for final run of the questionnaire. The number of the

items that is in the final form of questionnaire is, determined by the statistical characteristics of the item, and the amount of the time likely to be available or convenient for the administration of the questionnaire. (See Appendix B).

Try-out of the questionnaire (Final study)

Lindquist (1955) says :

"Once the gross deficiencies in the tryout forms have been eliminated, perhaps on the basis of a pre-tryout, it becomes necessary to obtain accurate information concerning the performance of each item in a sample of teachers similar to those with whom the final form of the test is to be used."

Constructing questionnaire items on the basis of pilot study is not sufficient and efficient procedure for a good questionnaire. It needs to be standardized if it is to be a really good, useful, valid and reliable questionnaire to be widely used. This standardization procedure takes into account a number of further steps besides the pilot study. These steps as given by all authors of questionnaire construction include selecting adequate sample for pilot study, administering the pilot form of the questionnaire, item analysis and item selection for the final form of the questionnaire on the basis of difficulty value and discrimination power and also testing the validity and reliability of the questionnaire.

The main purpose for the final administration of the questionnaire was to provide data necessary for standardization of the tool, i.e., for determining the validity and reliability of the tool. As mentioned above, the pilot study was carried out to study, how the questionnaire worked out and to make the questionnaire more efficient and valid.

This proved that the questionnaire is reliable and made it ready for final administration. The investigator has given the name of the questionnaire. An investigation to study the attitude of teacher educators towards the programmes of non-formal education leading to life-long education in the State of Gujarat (See Appendix B).

(a) Reliability and Validity of the Tool :

Reliability has been worked out using a test-retest technique with a two-week interval in between the two testings. The value obtained on a population of sixty teacher-educators was 0.76 with application of Pearson-product moment method. The coefficient is large enough to establish the reliability of the tool.

(b) Validity of the tool :

The tool was validated on the basis of principals and college teachers. The description of the tool was read

carefully by the principals of twenty selected colleges of education. These twenty principals were asked to identify two teachers from their colleges whose attitude was positive and negative towards the programmes of non-formal education. After identification of teachers the tool was given to the two teachers of their colleges for judging the items in the tool.

To find out the difference between the judgements of the two groups of the teachers 't' technique was applied. The mean attitude score of the teachers of the positive group was higher than that of the teachers of the negative group. The 't' value was 2.83 and was significant at .01 level.

Table 3.3 shows the number of items included in the Pilot draft as well as final draft of the tool.

Table 3.3 : Number of items in each section in the attitude Scale

Section		No.of items in the pilot draft	No.of items in final draft
1	General aspects	21	15
2	Need and Importance	14	09
3	Aims and objectives	14	11
4	Non-formal programmes	37	25
5	Process of non-formal Education	10	33
6	Organisational aspect	47	
7	Suggestions	28	07
	Total	171	100

As seen above the research tool is consisted of six aspects. Each aspect consists of Likert type statement, the respondents indicate to what extent they agree with each item. The respondents registered their answers on a five point scale. The method adopted for scoring the responses registered on the items of the attitude scale is as under :

Score

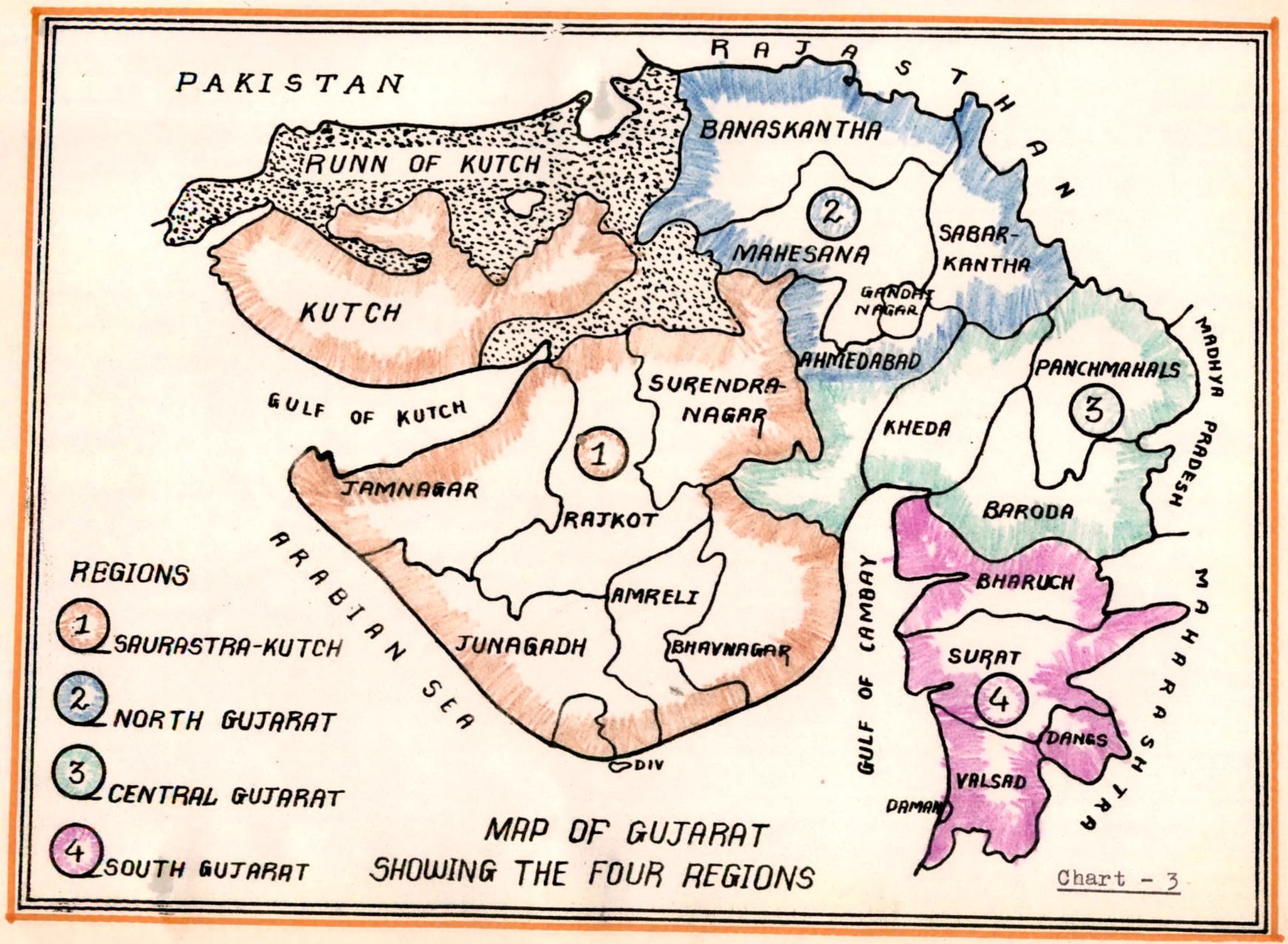
1. Strongly agree
2. Agree
3. Undecided
4. Disagree
5. Strongly Disagree

Thus the maximum possible score for a respondent is 100x5=500. The responses for positive statements will be scored as they are listed above. The choices of the negative statements in the tool will be scored using a reversed scale.The scores that will be obtained for each college teacher will be used for testing the hypotheses related to biographical characteristics of the respondents and the mean scores obtained for colleges through the responses of the teachers of the respective colleges will be used to study the hypotheses related to institutional variables.

3.9 THE SAMPLE

As the present study is concerned with the attitude of teacher-educators towards the programmes of non-formal education leading to life-long education in State of Gujarat with four regions viz., Saurashtra and Kutch, North Gujarat region, Central Gujarat region and South Gujarat regions with 40 education colleges spread all over the State. The investigator has selected all the education colleges of Gujarat State.

The region of Saurashtra and Kutch were divided into innumerable states and backward in the field of education. Kutch region is known for its sandy and salty land and backward in education. Total literacy according to the Census (1971) is 29.44 per cent. Males are more literate (37.40 per cent) than female (21.58 per cent). The difference of literacy is found between urban and rural areas also. Majority of the people are ignorant and spend their life in agriculture and cattle rearing while Saurashtra Region has the land of volcanic Lava. North Saurashtra has sandy fertile land. The Gulf and the seashore of Saurashtra are found fertile. The region is backward economically and educationally. Very few districts like Junagadh, Amreli, Rajkot and Bhavnagar are far advanced. They are developed in education due to their prosperity. The main occupation of this region is agriculture. The


PAKISTAN
RAJASTHAN
RUNN OF KUTCH
BANASKANTHA
2
MAHESANA
SABAR-
KANTHA
GANDHI
NAGAR
KUTCH
AHMEDABAD
PANCHMAHALS
3
MADHYA PRADESH
GULF OF KUTCH
SURENDRA-
NAGAR
KHEDA
1
JAMNAGAR
RAJKOT
BARODA
ARABIAN SEA
BHARUCH
AMRELI
GULF OF CAMBAY
JUNAGADH
BHAVNAGAR
SURAT
4
MAHARASHTRA
DANGS
VALSAD
DAMAN
DIV
REGIONS
1 SAURASTRA-KUTCH
2 NORTH GUJARAT
3 CENTRAL GUJARAT
4 SOUTH GUJARAT
MAP OF GUJARAT
SHOWING THE FOUR REGIONS
Chart - 3

region is fast developing in Groundnuts, Bajra and Wheat crops on account of agricultural technology. The Gulf and hilly areas like Gir, and Central Saurashtra are backward and cattle rearing is their main occupation. Amreli district is found forward in education due to the introduction of compulsory primary education since 1906 by the attempts of the former Maharaja Sayajirao III of Baroda. The investigator has selected all the eight education colleges for final data collection.

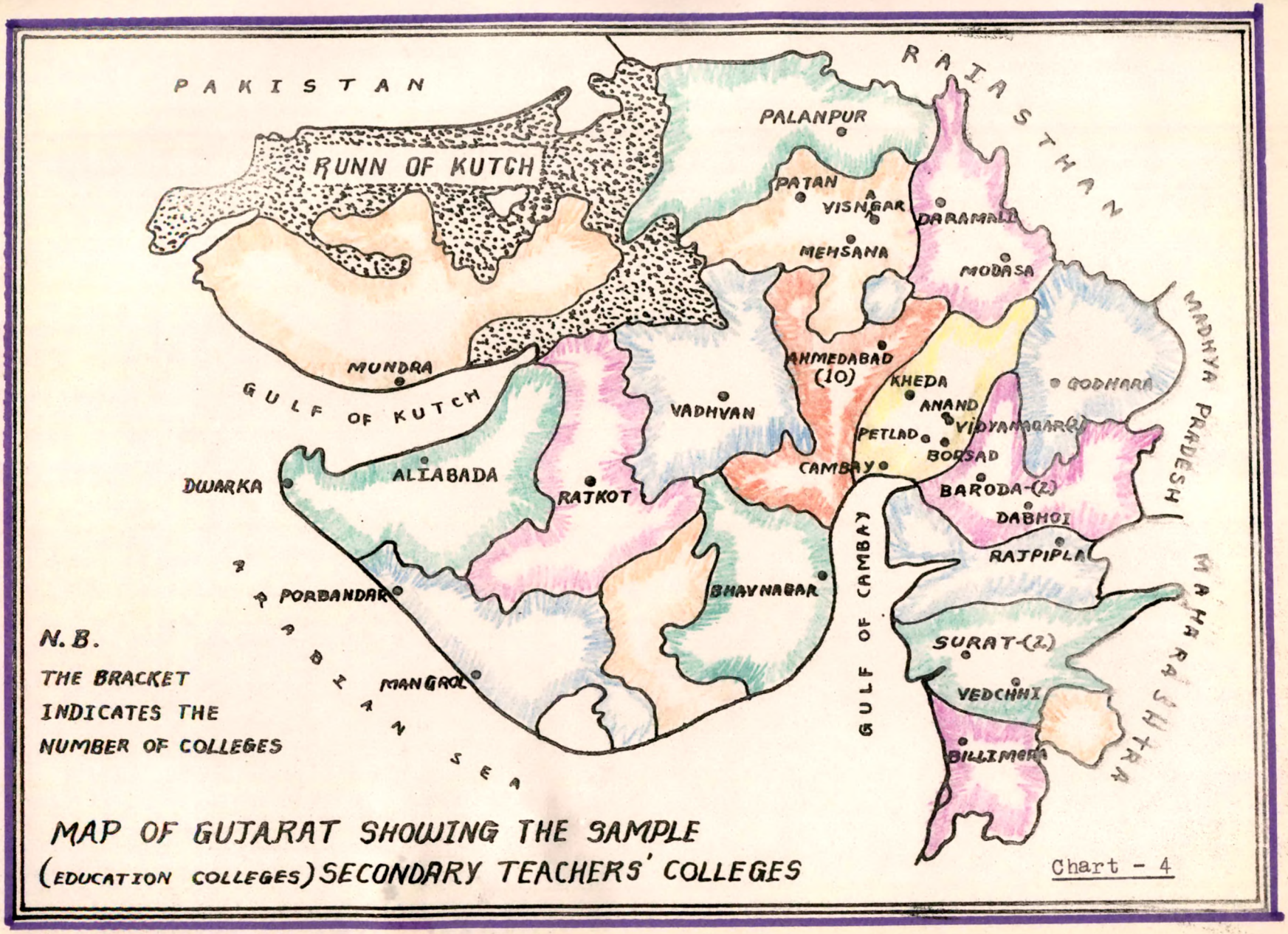
North Gujarat region is slowly developing region.The region is economically, socially and educationally not so forward as Central and South Gujarat region. But with regards to Saurashtra and Kutch the north region has so many opportunities for developing in commerce and trade. It is developing in education on account of enterprising nature of the people as compared to Saurashtra and Kutch region. North Gujarat region had the benefit of development in education much more before Kutch due to dairy textile and woollen handcraft. The region is less developed in education as compared to Central and South Gujarat region and consequently their attitudes are moulded towards their main needs i.e. going to fields for work according to long standing traditions that only farmers are considered better off in the society, for having their own lands and supplying goods to all. But the majority of the land

in this region is found shallow and has less fertility. Only Sabarkantha and Mehsana districts are found forward in agriculture and education. These districts have developed their trade and commerce. With regards to literacy in these districts literacy is 35.82 per cent in rural areas and 52.16 per cent in urban areas. Proportion of males in literacy aspect is found more (47.77 per cent) than female (27.46 per cent). The investigator selected all the 15 education colleges of this region for final data collection.

The Central region is noted for its economic prosperity, social conservatives of an educational advancement. In the Central region the Baroda district is carved out of the former Baroda State which was educationally more advanced than its neighbouring districts administered by the British. The Baroda district is industrially rapidly developing. But in the same region Panchmahals district is inhabitated by a large section of schedule tribes. It is also a hilly track of land and therefore very slowly developing socially, economically and educationally. The Central region manifest a number of silent characteristics of Gujarat State. These characteristics are pertaining to experimentation in agriculture and the successful organization of cooperatives, spread of education at school level and even at higher education level. The growing state

of economy trends towards urbanization and industrialization. The investigator selected all the 10 education colleges of this region for collecting the final data.

South Gujarat region has started the schools quite earlier and have long standing institutions taking care of education. It is called enlightened region of Gujarat. Our present education system has developed under the influence of the English, who established in India first at Surat in South Gujarat. Hence the educational institutions in South Gujarat were developed much more before than any other parts of Gujarat. Gujarat was a part of composite Bombay State in which Bombay university of S.S.C.E. Board, Poona, controlled the school education system.South Gujarat region being nearer to Bombay had the benefit of early advancement in education. Only the Dang district is backward due to hilly track of land and forested areas. The district is inhabitated by a large section of schedule-tribes. It is backward socially, economically and educationally. But the district (Dang) is now slowly developing due to Saputara, the health resort (hill station). On the whole the region is rich, prosperous as compared to other regions. The investigator selected all the four colleges of education of this region for final data collection.



N.B.

THE BRACKET INDICATES THE NUMBER OF COLLEGES

MAP OF GUJARAT SHOWING THE SAMPLE (EDUCATION COLLEGES) SECONDARY TEACHERS' COLLEGES

Chart - 4

3.10 CONCLUSION

Most of the people in these four regions are ignorant and spend their life on labour in the agricultural occupation and cattle rearing. Majority of the land is sandy and not fertile except south and central regions. While Saurashtra, has very few districts which are far advanced. Most of the districts were princely states like Surendranagar. Junagadh, Jamnagar. Due to the princely States they were developed in education. But they have no more irrigation facilities, and have no more fertility of the land. The main occupation of the Saurashtra region is cattle rearing in the hilly areas like Gir, and the region is fast developing in Ground-nuts and Bajra due to modern agricultural technology. Only the Amreli District is developed in education due to the introduction of Compulsory primary education since 1906 by the former Maharaja of Baroda. But Kutch district is the most backward due to sandy land and they have no more opportunities in education due to other economic and social conditions.

(ii) Personal Data Sheet :

This was constructed by the investigator to collect some basic data of the teacher educators such as sex, age, qualifications, teaching experience etc. which can be used as static variables.

The study was a perception study. The subjects whose perceptions were used, were the teachers of the sampled 40 colleges of education who were randomly selected. The total number of respondent teachers was 277.

Table 3.4 presents some biographical or personal data about this 277 respondents. The data pivot around variables of (a) sex, (b) age, (c) qualifications, (d) teaching experience, (e) average monthly income, (f) academic visit to a foreign country, (g) number of the dependent members of the family, (h) occupation of the father and his education. Reference to the Table 3.4 reveals that apparently the number of male teachers respondents is found approximately four times of the number of the female teachers. In the case of age and experience of responding teachers the data shows that the majority of them were found in their ages within the range of 40 to 49 years and their experiences within the range of above five years. For their qualifications it is seen from the table that majority of them are post-graduates (79.4 per cent). Regarding the foreign visit of the respondents, there were very few teachers (6.5 per cent) who had experience of either teaching or learning abroad.

The percentage of the sample of teacher-educators selected for this study is 64 per cent which should be highly fair enough to yield meaningful data.

Table 3.4 : Personal data regarding the respondents

Sl. No.	Variable	Number	Percentage
1.	Area - Location		
	i) City (urban	135	48.7
	ii) Town (Semi-urban)	142	51.3
2.	Region		
	i) Saurashtra-Kutch	48	16.3
	ii) North Gujarat	114	41.5
	iii) Central Gujarat	88	32.5
	iv) South Gujarat	27	9.7
3.	Age		
	i) 30 to 39 years	101	35.99
	ii) 40 to 49 years	150	56.17
	iii 50 and above	26	8.74
4.	Sex		
	i) Male	221	79.7
	ii) Female	56	20.3
5.	Qualifications		
	i) Graduate	3	1.8
	ii) Post-graduate	219	79.4
	iii) Ph.D.	55	18.8
6.	Teaching Experience		
	i) Below 5 years	42	15.1
	ii) Above 5 years	235	84.9
7.	Average yearly income		
	i) Rs.1 to 10 thousand	53	19.1
	ii) Rs.11 to 20 thousand	217	78.3
	iii) 20 thousand and above	7	2.6
8.	Academic visit to foreign country		
	i) Visit to a foreign country	18	6.5
	ii) Non-visit	259	93.5
9.	Number of dependent members in the family		
	i) Below 5	118	42.7
	ii) Above 5	159	57.3

cont..

NUMBER OF RESPONDENTS & THEIR PERCENTAGE
(INDEPENDENT VARIABLES)

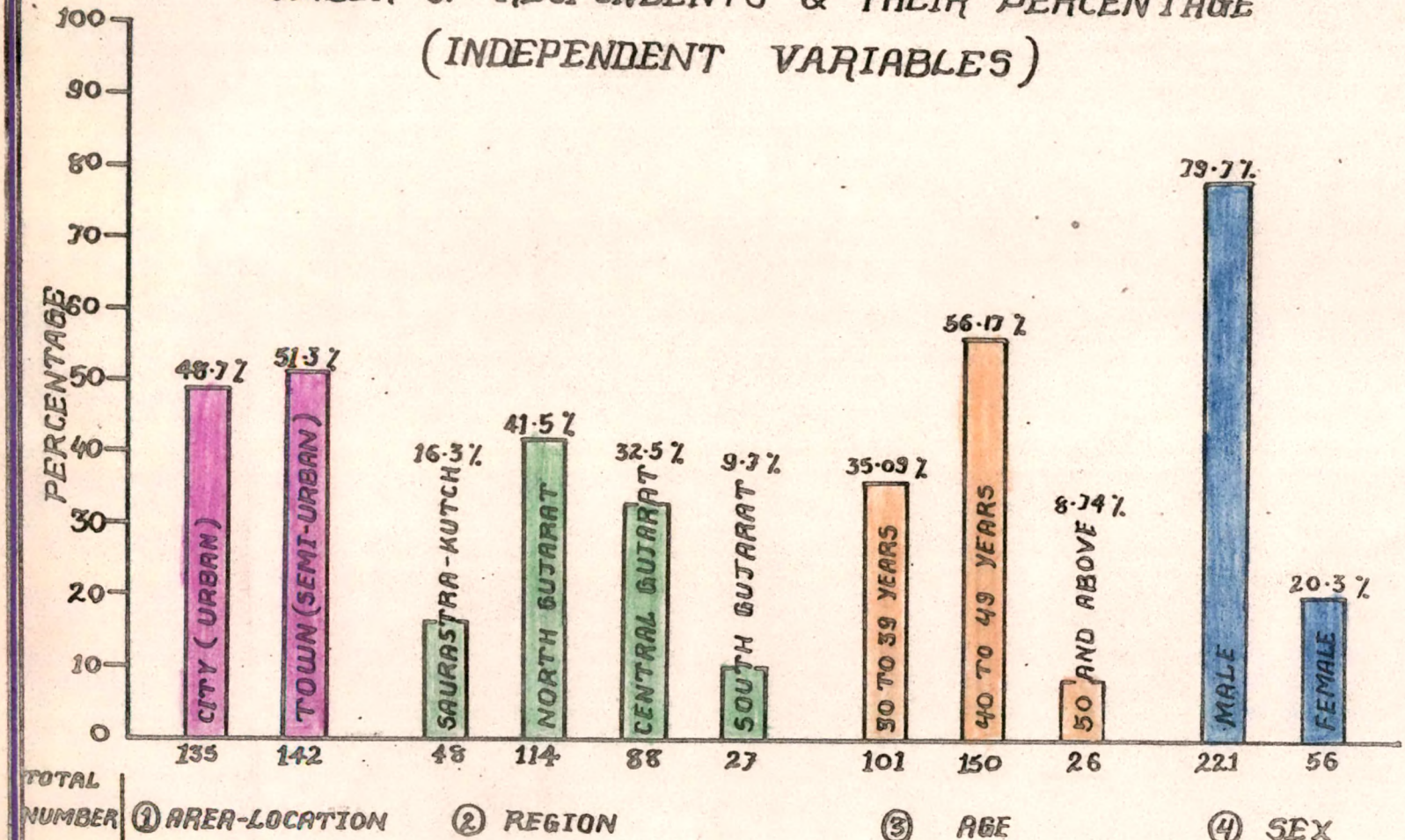


Chart - 5 cont. P.T.O.

Chart - 5 contd.

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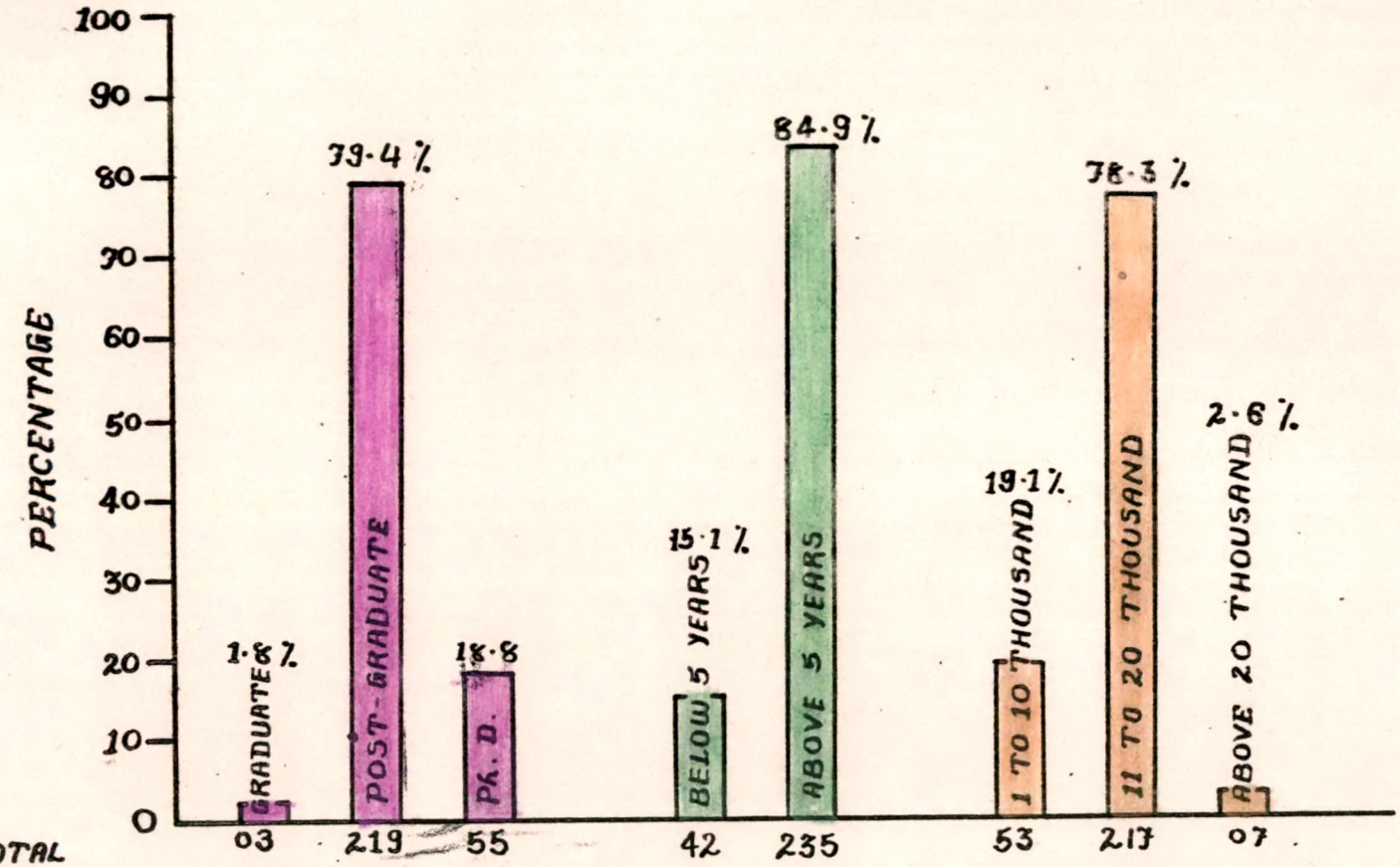

Chart - 5 cont... P.T.O.

Chart - 5 contd.

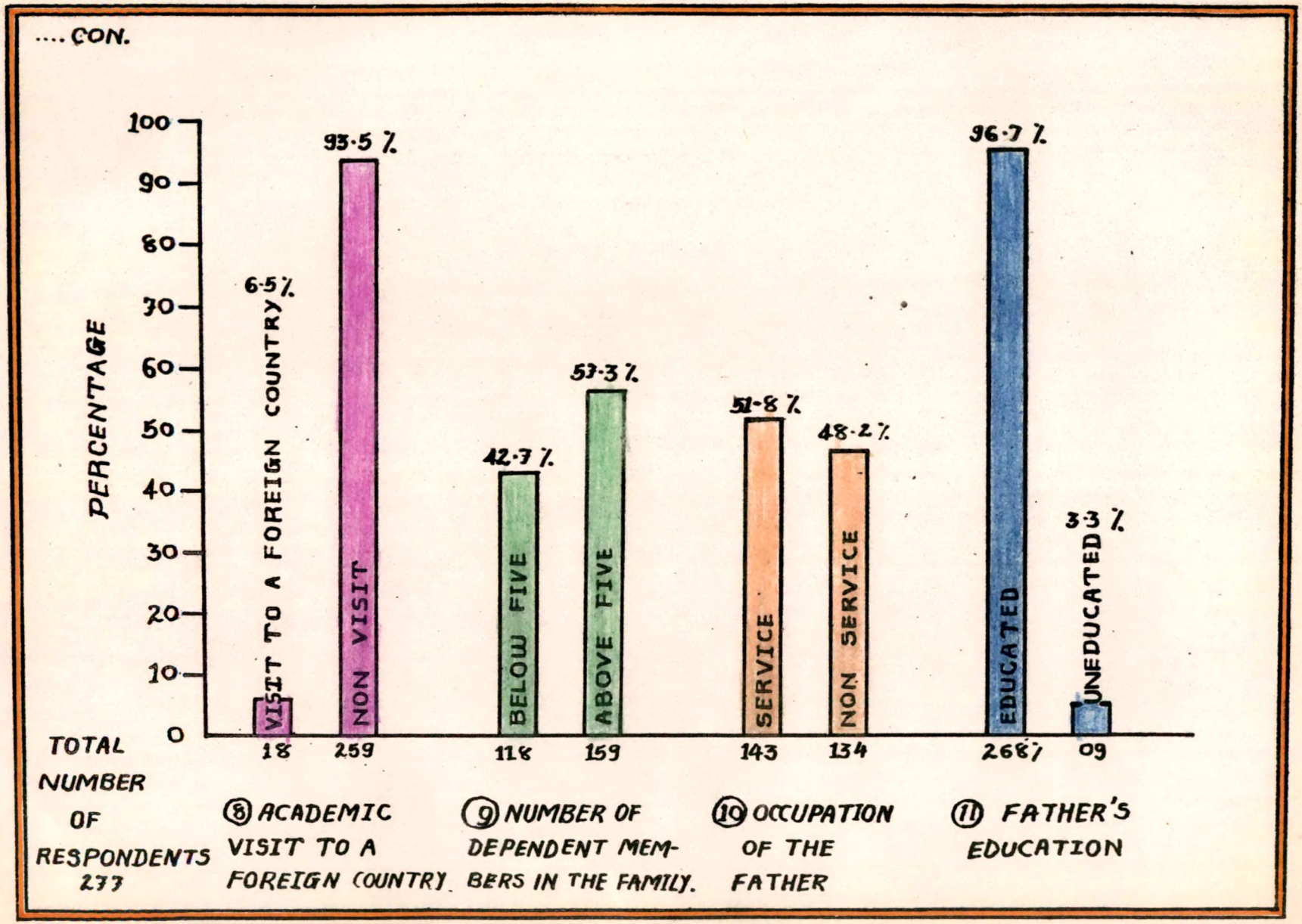

Table 3.4 (contd.)

Sl. No.	Variable	Number	Percentage
10.	Occupation of the father		
	i) Service	143	51.8
	ii) Non-service	134	48.2
11.	Father's education		
	i) Educated	268	96.7
	ii) Uneducated	9	3.3

5.10 THE PROCEDURE OF ANALYSIS AND INTERPRETATION OF THE DATA

The following statistical techniques were employed to analyse the data collected.

Statistical procedure in analysing the data yielded the research instrument will be -

1. A 't' test technique will be used to test each prediction, the hypotheses will be rejected if the 't' ratios for the difference between means where statistically significant at .05 level.
2. In order to explore the 21 hypotheses further, the study will apply correlation technique to compute coefficient of correlation between dependent variables and independent variables using data from all the 37 colleges of Gujarat State.

3.11 CONCLUSION

To conclude, the present chapter gives a complete account of the procedure followed for construction and standardization of the scale. On the basis of the data obtained in the tryout, the items were selected and assembled into finished questionnaire. The finished scale was then ready for a final administration. Linduist (1955) says :

> "The trial administration, as it is defined serves to indicate in actual use. This means that nominal changes can be made after the trial administration and that the sample employed must be essentially like the group with whom the test is to be used. The trial administration is a final check on line limit and on the procedure of administration."