# CHAPTER IV

**PLANNING AND PROCEDURE**

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CHAPTER - IV

PLANNING AND PROCEDURE

4.1 Introduction : Importance of Research :

The need for investigation in education is perhaps greater today than ever before. All kinds of innovations are being urged upon the profession of teaching. We live in a time of rapid changes in most aspects of our culture, scientific and technological advancements. Developments inevitably create social problems. The knowledge explosion, population explosion, automation, migration from remote villages to urban centres, changing values and life style etc. all these raise a number of issues and problem for which research is necessary. In a static society function of education can be largely that of transmitting cultural heritage. In the dynamic society education is expected to play a vital and greater role. The role includes efforts in solving problems implied above and in contributing to the construction of society of our own. For education to perform this function as well as its traditional role and efficiently, educational research is
the discovery of generalization relating to various aspects of education. Such generalization help us to decide what we should do or attempt to do in educating people. Many educational research have their immediate purposes, the determination of what the characteristics of education have been in the past, what the characteristics of educational practices and conditions are in the present and what the effects of introducing different practices will be in the future. The tested knowledge thus obtained contributes to solving the problems of what should be done in education. The problems of these types are concerned with what has been, is or will be, by introducing questions of values and such problems are met exclusively scientific although certain educationists do not agree. A person confronted with an educational question may accept an answer without giving the question much serious thought, rather he may derive an answer from experience or casual observation or follow other means for seeking answer, such as these to answer educational research is the total procedure employed in collecting, organizing, summarizing and interpreting data for the purpose of arriving at
dependable answers to questions about education. This statement requires modifications when education research is regarded as including philosophical type of inquiry. The conclusions of philosophical, educational research and decisions based on historical as well as scientific research in education are in the domain of "What should be". The questions with which educational research should be concerned are questions requiring critical thinking. The routine collection of educational data necessary to the administration of schools is not educational research. To justify this statement there must be a novel problem, collection and interpretation of data appropriate to the problem. Most of the so called raw students / research in education are expected to accomplish research on a suitable thesis problem. Obviously these have an incentive to acquire understanding of the methods and techniques of educational research. Professional training for school administration, guidance and counseling necessitates the reading of research reports wherever available. viz. text, journals,
research monographs, dissertations and such reading should be critical characterized by sensitivity to limitations in the material read. A growing number of research scholars in education should devote themselves to such research which requires professional training. Training of the scope exemplified on educational research techniques is far from enough understanding of psychological, sociological and educational theory is essential. In certain areas of educational research a sound and thorough mathematical/statistical background is necessary, and not merely an introductory course in largely descriptive statistics. In this fast advancing world, the courses in experimental design, multivariate analysis and computer applications are growing more and more necessary. Only philosophical and historical, educational researches may safely neglect such training, Thus the investigator has stressed the importance of the research pertaining to thesis writing.

4.2 Need for Planning:

The present world is complex and for carrying out successful completion of any task meaningfully, proper planning in necessary. We see many projects irrespective in education have utterly failed even in most developed countries
including ours have utterly failed due to lack of proper planning, so does in educational processes. The planning in educational research work should be systematic, logical and orderly. For achieving these meticulous care has to be taken by the investigator in the planning, carrying out various procedures viz. sampling, selection of tools and techniques involved in the research problems. The problem centering around aspiration and interest of the SC/ST students of class X needs the consideration of the following:

1. Appropriate Methods.
2. Selection of appropriate sample
3. Selection of appropriate tools/techniques etc.

In fact the need for planning the work measures the half work done. It gives direction for future work on the problem of the research. In this chapter of thesis detailed planning and procedure has been discussed.
4.3 Research Design

A number of studies have been taken up in the field of education by Govt. of India and other agencies. Society deals with educational problems of weaker and disadvantaged groups of society. Some of them are quite relevant to the present study. From the investigation undertaken it would be clear that proper vocational guidance if provided to the SC/ST students the national target would be fulfilled. The communities are the first generation learner. Educational research aims at educational practices most likely to occur when teachers and the administrators use research findings intelligently in making decisions regarding their educational practices.

The Action Research motivates teachers to more professional efforts in the institution. It has tendency towards inadequate planning. Administrators and the teachers conduct research in efforts to solve immediate local problems with simple and appropriate techniques and generalization restricted to local situation can be of adequate dependability for decisions. The reports of such studies are restricted to the studies in schools/institutions. The Institutional Research has
To solve the problems stemming from institutional and administrative practices. The studies conducted may be extremely helpful to the administrator in formulating decision with respect to pupil-teacher enrolment character of school studies, building SES attribute to school districts.

Generally all research whether on the descriptive or hypothetic deductive level begins with recognition of problem. In fact the research begins with problem. In other words a problematic situation emerge out the research. The situation may be an encounter with some unexpected or inadequately explained phenomenon, and immediate problem in determining which facts are relevant rather than formulation of hypotheses on tentative solutions. In other types of research work a problem may call for observation, description and classification of facts. Here inductive method plays its role and generalization obtained are empirical. To have such generalization is to have theory from which hypothesis would be deduced, a theory of greater complexity a problem may still initiate research.
NCERT in its published document laid emphasis on "Higher Secondary Education" and its vocationalization as a result of wide ranging consultation in a national conference in Sept. 1976. This documents contains many important and forward looking teachers i.e. flexibility in the choice of education vocations determining vocations, and expressed need for district wise survey of economic activities, potentialities and opportunities to work Micro-planning at district level and assessment of man-power needs special attention should be given to raising facility and equality of life in the rural areas. Provision for guidance and counselling for careers and courses to the students etc.

This included SC/ST rural development in one of the main objectives in the pursuit of village upliftment. The integrated rural development programme follows integrated tribal development with optimum utilization of local human biological and material resources and appropriate input of self-technology. Therefore micro level planning in education must be geared to the strategies for rural development and village upliftment.
4.4 Research Methodology:

It includes research techniques and discusses the methods used in conducting research work. People with various ideas, approaches adopt different methods in investigating into the problems. Likewise for different problems different research methods emerge as a result of this one can find a number of research methods exist in the field of education. It includes setting of sample, the instrument used and the procedure followed in the collection and analysis of the data which would be discussed after some major research generally adopted.

The major techniques followed in research methodology are:

1) Descriptive  (2) Metric  (3) Clinical  (4) Correlational  
(5) Experimental  (6) Historical

1) Descriptive techniques is an old technique which includes normative and survey technique. This provide sound basis for improvements of instructions as well as improvement of text books and reading materials. 2) Metric method advances in psychometric methods and has given us improved
4.10 measures of general mental ability, aptitudes, personality and other individual dispositions/traits also assist in studying and diagnosing interaction of groups of persons.

3) Clinical Method This technique involved technique of clinical psychology valuable in the field of educational guidance and counselling and individual child studies. There has been considerable use. Such instrument for testing, appreciation, drawing test, analysing biographies, directive and non directive interviews etc. 4) Correlation Method In almost all type of research techniques there is some form of relating one variables to other variable i.e. type of school and size of school (Relationship) between characteristics of school population and location. 5) Experimental techniques These has been a very popular techniques/device for individual research. Pupils in an experimental class are matched on certain variables viz. achievement intelligence, age by a control group. This device has been further discussed in greater details further in this chapter.

The control group is the main constraint while making use of this device. The control groups would be instructed in some
subject i.e. spelling by conventional method and experimental group would be instructed in the same subject by the experimental method. The gains in these two groups are then compared in the belief that they are identical or that conditions are controlled in all respects observable differences are attributed to a single variable of differences in the method of introduction and all the evidences would be based on test and measures used as dependent variables. The experimental designs are distinguished on the basis:

1) Group experimentation 2) Parallel or equivalent group experimentation 3) Rotation group equivalent experimentation.

Like other type of scientific research experimental research begins with a problem as mentioned earlier. Some other methods generally followed in the research problem are as. The method assumes a single variable at a time applied with great success where significant factors are fully controlled, and is classified one.

Historical Method:

This method deals with the events occurred in the past "Educational Historiography ". Research on events and the ideas of the past education can be a most challenging kind of an enquiry. Many of the problems to be investigated require
knowledge, skills, attitudes and ideas acquired after years of training and experience. The range of difficulty of problem and the range of ability of those who research in the history of education are striking. This type of research aims at person and places and events occurred in the past. A knowledge of history of school and similar other institution are considered important as far professional training of teachers and its administrative procedures. Hence teachers and school administrators tend to foster prejudices in favour of familiar methods. In real sense it is preliminary to educational reforms. Also it serves to present educational ideas in the light of past and enable the educationists to avoid mistakes that had occurred in the past. It inspires respect for sound scholarships and reverence for great teachers.\footnote{1}

Historical Research has some characteristics in common with for scientific research. History involves two distinct operation one a investigation in the field of science while other literary presentation is the field of art.

The types of research problems dealing with his form of education are reasonably representative of different kinds of research in the field. An investigator planning a research in history of education should obviously use aid of locating educational informations skillfully.

2. Survey Sample Method:

This method is much concerned with study of conditions or relationships that exist practices that prevails, beliefs point of views/attitude that are held processes that are going on, effects that are being felt and the trends that are developing at the present time. Such survey render important results since they secure limited perspective through series of cross-sectional factors of similar conditions at different times. Further helps fashion many tools pertaining to research viz. in the developing of instruments/tools for measuring many aspects in qualitative type of research. The investigator found survey method most suitable for study because it helped the investigator to solve the immediate practical problem. It helped in developing the tools for measuring many aspects pertaining to his study based on evidence and are not unduly influenced by the climate of public opinion. It helped in
getting a number of information from the schools administration including headmasters and teachers for the purpose of research work. The survey method provides background ideas of data from which many more refined studies pertaining to the laboratories results of controlled experiment at causal relations are made.

In school survey a wide variety of data relevant to many aspects of the school system are usually collected which may include enrolments training and experiences of teachers, summeries and analysis of the test scores and characteristics of school buildings and other facilities for objective data collection i.e. study of attitudes of teachers and pupils. Survey sample methods is, broadly divided in to the following :

1. **Simple Random Sampling** :-

   It is helpful in calculating means and standard Deviations, coefficient of correlation and percentile.

2. Shukla, S.P.,Mehrotra, P V and Mehrotra, R N

   Elements of Educational Research, New Delhi,

   Allied publishers, Pvt. Ltd. P. 182.
2. **Stratified Random Sampling**

   It provided greater precision in estimating population. It is useful for assessing levels of abilities different types of schools (Urban & Rural).

3. **Cluster Sampling**

   It assists in population of individuals is divided into groups of same size. It is least precise but least costly type of sampling of a large population. An ideal example of cluster sampling is random selection of sample.

4. **Systematic Sampling**

   It helps obtain systematic sample than a sample random one viz. if one has a card file of the individuals to be sampled and 1/10 th are to be chosen first individual is randomly selected from first 10.

**The setting:** For the study in hand the investigator has taken advantage of survey sample method since it does not aim at comparative study and has involved a problem to measure the present condition. The study has been conducted on secondary
4.16 School (Class X SC/ST students of district of Bulsar predominately enrolled in these school. Sample of 600 students both boys and girls from 14 schools was selected.

4.5 Population of the research and sample:

The size of the sample is core and thought that goes into the Research Plan. "Sampling is the process of selection." It is highly impossible and sometimes unnecessary to obtain data from entire population. Therefore the investigator selected the representative sample from the representative of the population which had all the characteristics of the entire population for the research purpose. Selection of the sample for the present study includes the students fall in the age group of 15+ - 16 exclusively from the SC/ST communities who were enrolled in the schools during 1987 - 1988. The schools represented in the sample included semi government schools, aided schools and privately managed schools of Bulsar district in Gujarat. Out of total sample of 600 students 190 SC boys and 116 ST boys, 184 SC girls and 110 ST girls were included, with a view to studying various hypotheses by taking into account sex, school, community, surrounding environment, parents education and economic condition and I.Q. etc. as major variables acting upon.

The sample schools were totally rural.
## Schoolwise SC/ST Students Sample Populations

(All Rural)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the School</th>
<th>(Boys)</th>
<th>(Girls)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>K. K. Desai Sarvaj H.S. Dhamdhucha</td>
<td>18</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Nutan Vidyalaya, Solsumbha</td>
<td>12</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>D. P.Os High School, Pardi</td>
<td>14</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>Seth P. P. Mistry H.S. Udwada (RURAL)</td>
<td>25</td>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>D. P. Patel Sarvaj H.S. Motawagchupa</td>
<td>12</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>J. V. B. Sarvaj High School, Umarsadi</td>
<td>12</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>D. R. G. D. N. P. &amp; P. M. J. High School, Parniya</td>
<td>14</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>8</td>
<td>G. H. &amp; D. J. Sarvaj High School, Bagwada</td>
<td>11</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>I. C. Sarvaj High School, Rohina</td>
<td>12</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>10</td>
<td>J. N. C. High School, Maroli</td>
<td>14</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>11</td>
<td>S. G. Dhaakle Sarvaj High School, Sanjan</td>
<td>13</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>12</td>
<td>J. G. Sarvaj High School, Khatalwada</td>
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<td>15</td>
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<tr>
<td>13</td>
<td>Bhagat Jalaram High School, Nargol.</td>
<td>15</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>14</td>
<td>B. M. &amp; B. P. Wadia High School, Fansa</td>
<td>6</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total:**

<table>
<thead>
<tr>
<th>SC Boys</th>
<th>ST Boys</th>
<th>SC Girls</th>
<th>ST Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>190</td>
<td>116</td>
<td>184</td>
<td>110</td>
</tr>
</tbody>
</table>
The purpose of sampling is to study small groups i.e. assumed to the representative of the large group from where the sample was drawn. The small group is a sample and large one is a universe. The generalizability of the conclusion mostly depended on appropriate sample of the population state, low sample was selected. The scores of the students were computed.

4.6 Tools and Technique for the Data Collection :-

An educational research begins with the selection of a problem. The analysis of the problem for investigation should result in a carefully formulated statement of the problem which includes questions to be answered or hypotheses to be tested. For collection of unknown data required for study investigator may need to use various devices. For every research work certain instruments together new facts to explore new fields are to be used. The instruments thus employed as means which include development, description, selection etc. are called tools/ techniques. The selection of suitable tools/ instrument for the purpose is of vital importance for carrying out successful research. Different
tools are suitable for collecting various kinds of informations for various purposes. Hence the research work may find use of one or more tools or in combination for the purpose.

Implications of the type of the work undertaken for investigation vocational environment is quite obvious. Alexander (1961) in a longitudinal study found positive relationship of environment to intelligence and achievement. Herr (1965) found that students perception of the psychological pressures in the school are very much related to the levels of academic achievement and participation in extra-curricular activities. Implications for this type of study generally thought that the parents and school personnel should be sensitive to the students perceptions of forces impinging upon them. The home, the school and the community should attempt to provide climates that maximises the possibility of educational vocational goals being achieved effectively. The family is important both from the social and educational point of view. It is the first natural grouping of individual. Parent-child relationship
influence the development of child's personality and his educative process. Home plays important role. Educationalists, sociologists point out that schools should recognize the limitations of the present-day home. The school should give education which was earlier given by home in the form of informal education. Schools should help pupils in vocational development and create vocational environment in schools as to how school subjects viz., language, Maths, Physical education, Science, Social Science help pupils in vocational planning and how leisure - times activities help in vocational development.

Besides the students' aspirations and interest, an attempt was made to consider to some extent the processor characteristics of variables in the study constitute -

1) Parental Aspiration

The parents concern for further education in making provision for vocational and professional training, parents educational and occupational aspirations helping to their wards in determining educational and vocational goals, his attainment and orientation for his success in achieving life - goals.
2) **Vocationality of Home**:

It concerns with process characteristics and availability and encouragement to inculcate reading habits viz. books, newspapers, magazines availing TV/Radio facilities, availability of tools for minor repairs thereby developing manipulative skills.

3) **Family Status**:

This constitutes process characteristics as parents encouragement for planning further education, educational and vocational aspirations for their wards. The parents stress these dispositions on wards and freedom extended for taking their decisions independently.

4) **Status of School**:

It concerns with process characteristics as making available to the students diversified curricular courses, viability in fetching good and more students with flexibility in curricular according to the need particularly for the benefit of low achievers.
Keeping in view the objectives and hypotheses formulated by the investigator used the following tools in his research problem. Among these tools some were readymade and some were prepared by the investigator himself.

### Intelligence Test:

In order to measure I. Q. (Intelligence coefficient) of the students general mental ability, various tests which are standardized are effectively in operations for research purposes/ data collection etc. I. Q. tests help him characterizing representativeness of the students and content.

**Group Test of Intelligence** Intelligence or scholastic aptitude test data are useful in survey prediction and experimental studies. The trend in group testing and general ability afford to measure a single global ability. These tests yield separate verbal and non verbal scores or verbal and quantitative scores in addition to their total scores and non verbal scores are useful in the studies of educationally disadvantaged pupils.

1. **Readymade Tools**: (I. Q. Test) **(To be made on)**

The investigator administered the readymade test constructed by Dr. K. G. Desai & C. Bhatt which was in Gujarati.
4.22 This test is standardized one on high school students on large basis on the validity and reliability with the help of this test the I.Q.s of the sample students were computed. The procedure for administering the tool are given in details later, part.

2. SES Scale :

This test / scale was used by the investigator was prepared by Dr. K. G. Desai is a valid test. With the help of this scale the students were categorized in the following three major groups after computing the responses:

1) Students with Higher Status
2) Students with middle status
3) Students with lower status

As per the above social status the students were further categorized as higher income group students, Middle income group students and Lower income group students respectively. A Ten point scale which served as the marks based on the various facilities and income of the parents etc. were considered for making the use of the scale.
3. Previous Year Record:

The result of class IX students' achievements/attainment were collected from the school record. The teachers concerned and the headmasters were contacted/consulted for this purpose and the percentages subjectwise were taken into account (percentages of marks) and professions/vocations the students interested in were kept in view while computation of overall performance and its effect on making the selection of vocations was considered for computation. On the basis of the school marks record students were categorized in three following heads: (1) Higher achievers (2) Middle achievers and (3) Lower achievers.

4. Interview Schedule:

A diary was maintained by the investigator for this purpose. The investigator interviewed the headmasters and the respective teachers of the sample schools. The pertinent feed-back questions pertaining to students' general attainment, aspirations, their interests in vocations, and surroundings etc. A few questions are as under:

4.23

...
4.24 1) Whether the respective schools has coeducation system.
2) Whether there is any vocational guidance programme existed.
3) And if so whether the responsibility of running this programme is being shouldered by the teachers who has been trained in the field of vocational guidance and counselling and career development.
4) Whether the headmaster was willing to set up vocational guidance corner in the school and if Yes whether the vocational guidance material on career development was displayed for the benefit of the students in general and for SC/ST students in particular. (Very recently two periods have been alloted in the time table towards acquainting the students which various vocations available in the vicinity as prevocational knowledge.)
5) Dose the students put extra efforts in making remedial teaching programme for their improvement of studies etc.

5. Investigator's Constructed Questionnaire :- (Take read as 1)

The investigator constructed the above questionnaire for measuring vocational aspirations and interests of the students under study, was administered. The questionnaire constituted major five parts 1) General Instruction 2) General Information on the
4.25 students 3) Marks obtained in class IX 4) Aspiration and interest of the students 5) Educational background and Economic conditions of guardians/parents/Factors affecting vocational selection and vocational maturity and study habits etc.

The above questionnaire constituted 48 questions covering almost all the above mentioned areas. All the necessary tools administered have been given in the Appendix. While preparing the questionnaire Shri K.C.Bhatt, Shri D.S.Parikh, Shri C.J.Doshi, Dr. Shrish Kapadia and Dr.C.B.Patel, experts in the field rendered Administration of the Instrument guidance in preparing and correcting it.

In February 1988 required number of the copies of the research instruments/tools were administered in the selected sample schools for necessary data collection. Covering almost all the questions related to the research problem, and finally the data was gathered. The responses collected were kept confidential. Since direct presentation of the stimuli is not considered desirable in psychological testing and introductory and motivating talks were given every time to establish the rapport between the respondent and investigator were given

This involve affecting testing. While administering all the tools for data collection the investigator had to face a number of difficulties, such as checking the attendance of the students, their physical arrangement in the class room.
Instructions felt necessary as explained in the manual were
strictly followed by the investigator. After scoring all the
answer sheets data was subjected for computation keeping
in view the major objectives / hypotheses formulated earlier.
The raw scores obtained were converted into final score
according to the tables of manual. Separate scoring and
recording of the identical items was done. These items were used
for finding internal consistency of variables. The data collected
was classified in different tables and the details of the
data classification are given in the subsequent chapter i.e.
Analysis and interpretations of results.

The subsequent chapter discusses analysis and interpreta-
tion of the results on different variables viz. professional
choices of the students, parents economic conditions students
stream / vocation selection, their aspirations and interests,
I.Q. computations etc.