CHAPTER III

METHODOLOGY

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III.01: SURVEY METHOD:

A critical study of the educational problems of the textile mill workers' children studying in the secondary schools in Solapur city with a view to suggesting probable solutions.

The study is related to a question 'What is the present position?' "Descriptive research describes what is. It involves the description, recording, analysis and interpretation of conditions that exist. It involves some type of comparison or contrast and attempts to discover relationships between existing non-manipulated variables." ¹

"The terms survey and status suggest the gathering of evidence relating to current conditions. For some studies, "Normative-survey" is an appropriate label, as illustrated by many investigations involving standardized tests. The expression comparative method is

too limited for our purposes, since comparison is a part of description, in interpreting survey data as well as evidence gathered by other research techniques. For present purposes the more inclusive term descriptive-survey studies seems appropriate." ² So descriptive survey method will be the most appropriate name for the present research.

"Normative-survey deals with present events, no doubt, but unlike this method, it is mainly concerned with status and trends, not the causes of educational effects. This method differs from the experimental procedure in that it does not control the variable factors. It, instead makes observations, under normal field conditions and discovers the causes of observed phenomena. It may be taken to be a sort of uncontrolled experimentation." ³

Descriptive or normative survey procedure will be the most appropriate name to find out the existing educational problems of textile mill workers' children.

"There are two types of survey - (1) The frequency-count survey (2) The inter relationship of events type of survey". This will be the frequency count survey.

"Surveys conducted through the administration of tests or through an examination of pupil products have had a long history of utility."

This sentence proves itself that this survey has its own importance.

"Surveys cannot usually show a causal connections; all that they can do is indicate associations or correlates and so we must be careful in our interpretation of results."

So the educational problems of the students will be having association or correlation with their parental jobs of mill working. Those problems will not have causal connection with their parental jobs.

One argument often used against the survey method is that verbal behaviour is quite unreliable, for individuals tend to say what they think is socially acceptable. This is a real problem for survey research,


5. Ibid., P.221

but it does not seem to be unsuperable. The same kind of problem also occurs in the context of the experiment. If individuals can give socially acceptable verbal responses, they can also attempt to act in accordance with what they believe to be the experimenter's expectations. 7

If we give assurance to the respondents that their responses would be kept confidential, research work has nothing to do with the response of the single respondent but it has concerned with the trends of a group as a whole and their true and real responses will be useful to improve the conditions of that group as a whole then the respondents will give reliable responses. So also if the same information is asked in another context there will be internal check to increase the reliability of responses. These checks would be used casually in the questionnaire.

"There is no other method which is as useful as 'Survey' to solve local problems very immediately. Though it is not useful for permanent salvation, it is useful for local decisions. By a questionnaire, interview and other tools, local situation can be understood immediately and quick decisions are taken." 8

"This is one of the most commonly used methods of descriptive research in education and the other behavioural sciences. Surveys involve the gathering of limited data from a relatively large number of cases at a particular time. This method is frequently employed to indicate prevailing conditions or particular trends. It is not concerned with characteristics of individuals as individuals, but it is concerned with providing information about population variables. Thus, surveys are broad studies of a generalised statistical nature rather than indepth studies.

A survey involves a clear definition of the problem and requires planned collection of data, careful analysis and interpretation of the data and skillful reporting of the findings. It may be broad or narrow in scope involving several countries or to be restricted to one nation, local authority or school. Survey data may be gathered from the entire population or from a careful selected sample of the total population." 9

The present problem is related to Solapur City. It is also concerned with the children of textile mill workers. It is not concerned with the characteristics of

individuals but with the information about population-textile mill workers' children studying in high schools in Solapur city. It is not the indepth study but it is a study of a generalised statistical nature.

"The term ex post facto is used here to refer to an experiment in which the researcher rather than creating the treatment, examines the effects of a naturally occurring treatment has occurred. Treatment is included by selection rather than manipulation. For this reason it is not always possible to assume a simple causative relation between independent and dependent variables. If the relationship fails to be obtained then it is likely that no causative relationship holds. But if the predicted relationship is obtained this does not necessarily mean that the variables studied are causally related. Two types of ex post facto designs - the co-relational design and the criterion group design - will be discussed below:

1) Co-relational study - co-relational studies serve a useful purpose in determining the relationship among measures and suggesting possible bases for causality. While correlation does not necessarily imply a correlation. Co-relational studies then are not adequate themselves for establishing causal relationships among variables but may be a useful first step in this direction.
2) **Criterion group design**: The criterion group approach is thus used in two contexts. In the first context, an attempt is made to determine what characteristics are associated with the criterion group and have presumably preceded and thereby caused the criterion behaviour—that is, how have those people who possess the criterion been previously trained, or what experiences have they had or what kind of personalities do they have, and so on. While it is difficult to establish causality, it is possible to identify potential causes which often can then be tested more directly by manipulation.

It too has limitations in the identification of causality. Since nothing is created by the experimenter, he or she cannot be sure whether the criterion group characteristic caused the behaviour of the student group or whether the reverse was true." 10

The explanation itself proves the reasons why this design was not chosen for this present research. If the relationship between the educational problems and the textile mill workers' children fails to be obtained then it is likely that no causative relationship holds. But if

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the predicted relationship is obtained this does not necessarily mean that the variables studied are causally related. Then it has been seen that co-relational studies are not adequate themselves for establishing causal relationship among variables. And also it was very difficult in this study to find a small group of students even, which had the same social, economic, educational, cultural level, the same domestic atmosphere, surrounding area except parental job.

"Causal comparative research - closely comparable groups (except on the variable being studied) are essential to the effective use of this method. If the groups are not closely comparable, then results can be due to group differences rather than to the variable being studied." 11

First of all a list of all the high schools in Solapur City, which are recognized by the Government, was obtained by a request to the Solapur Zilla Parishad, Education Section. The list contained total forty five high schools. The tests and questionnaire were in Marathi so English, Urdu, Hindi medium high schools were omitted. One night high school was also omitted because some students were employed, some were more aged. The number of English, Urdu, Hindi medium high schools and night high school was eleven in the year 1983-84. The group should be homogenous so also these eleven schools were omitted. There remained total thirty four Marathi medium, government recognized high schools. (Appendix 'A').

Then two letters were sent to the head masters of thirty four Marathi medium high schools. The first was written by the Principal, Kasturbai College of Education, Solapur and contained that the researcher was a bonafide lecturer of the college and he was doing a research work on the educational problems of textile mill workers' children. It was requested that they should give required information and co-operate the researcher.
The second letter was written by the researcher.

It was requested to send the total number of students in VIII, IX and X standards whose parents were workers in Laxmi Vishnu Mills, Narsing Girji and Jam Mill. Seventeen head masters sent the information immediately. Sixteen sent the information after one or two visits but one head master could not send the information. The researcher tried to meet him very often but when he could meet, the head master told the researcher that he was very busy with the school work and he would send the information by himself in his leisure time. The researcher tried to pursue him but he could not send the information. In this way the number of students was received of thirty three high schools out of thirty four.

The total number of students received was 1165.

Then two separate lists of these schools were prepared. The first list contained those high schools where the children were below forty. The second list contained those high schools where the children were forty or above. First list contained twenty six high schools and second list contained seven high schools. (Append.'E'). The first list contained 397 students and the second list contained 762 students.

It was practically very difficult to include all the schools (thirty three) in the research because
once a school has been included it requires minimum twenty visits for administering three tests, a questionnaire, teachers' questionnaire, for achievement score, for head master's permission. There are unit tests, co-curricular activities and discriminatory holidays of schools where there is no uniformity in all the schools. These things add the number of visits. It means it requires a contact indepth with the school. To keep contact with thirty three schools in such a limited span of one year was impracticable.

The second reason why all the schools were not selected for research was that the number of mill workers' children was very less in some schools e.g. Adarsha High School - Two, NIlkantheshwar Vidyalaya - four. The number should be fixed somewhere, where one can arrange and administer various tests in a class room situation. So the number forty was fixed. Two lists were prepared and it was decided to consider the schools of list number two only. Thus, the population under consideration came to 768. Forty percent of these were selected by the random sample. However, till the completion of the study, one per cent students left for one or the other reason. As a result 300 students were available for the study.
Fifty out of these 300 students were selected by random sample with a view to interviewing their parents.

Fifty teachers from the selected high schools were chosen by random method to administer a questionnaire. Out of these fifty, twenty seven responded. Twenty three could not respond. There might have been various reasons like teachers' apathy or some personal difficulties.

Eleven experts also were approached for the better insight into the problems.
There are various factors which affect pupils' academic achievement. These factors are intelligence, achievement motivation, study habits, personality factors, self-concept, extraversion, introversion, anxiety, attitudes, interests, adjustment, neuroticism, physical facilities available in school, method of instruction, pupil teacher relationship, socio-economic status of parents, parental encouragement and parents' educational orientation, home environment etc."

But it is all the while impossible to study all these factors in a single study. The study endeavoured to find out the relationship between the factors responsible for the creation of educational difficulties of the children and their achievement. The following factors were thought important and selected for the study. These factors were grouped as follows:

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1) **Factors within the learner** :-

   i) Intelligence.
   
   ii) Adjustment.
   
   iii) Self-concept.
   
   iv) Scholastic achievement in the previous class.
   
   v) Interest and aspiration regarding study.

2) **Factors around the learner** :-

   i) Home.
   
   ii) Neighbourhood.
   
   iii) School facilities.
   
   iv) Teachers.

3) **Achievement includes** :-

   i) Scholastic achievement.
      ( 1983 - 84 )
   
   ii) Participation in co-curricular activities.
      ( 1983 - 84 )
The following tools were used to collect the relevant data:

1) For the factors within the learner:
   i) Raven's Standard Progressive Matrices (SPM) - for intelligence.
   ii) Adjustment Inventory by Palsane - for adjustment.
   iii) Self-concept Inventory by Jogawar - for self-concept.
   iv) 'A' part of the questionnaire for the children - for scholastic achievement in the previous class and for interest and aspiration regarding study.

2) For the factors around the learner:
   i) 'A' part of the questionnaire for the children, parental interviews and interview of experts for home background.
   ii) 'B' part of the questionnaire for the children, and observation chart used at the time of fifty home visits for neighbourhood.
   iii) 'C' and 'D' part of the questionnaire for the children, a questionnaire for the teachers, school gradation booklet prepared by S.I.E. Maharashtra - for school facilities and teachers.

3) School records for achievement score of the year 83-84, and 'E' part of the questionnaire for the children's performance in the co-curricular activities (83-84).

All the tools mentioned above are described in detail hereonwards:
Intelligence:

For measuring intelligence there were many tests open to use. "1) C.M. Bhatia's contribution: An important contribution in this direction was made by Dr. C.M. Bhatia who prepared the Battery of performance Tests of Intelligence. This battery is widely used in India and consists of the following five tests:

1) Koh's Block Design Test.
2) Alexander's Pass Along Test.
3) Pattern Drawing Test.
4) Immediate Memory Test for Digits.
5) Picture Construction Test.

The detailed description of the battery is given by Dr. Bhatia in his book 'Performance Tests of Intelligence under Indian Conditions' (Oxford University Press, Bombay, 1955) The tests are meant for children between eleven and sixteen years of age. Dr. Bhatia has been actively associated with the Bureau of Psychology, U.P., which has developed Hindi group verbal tests.

2) The non verbal test of intelligence constructed by G.H. Nafde consists of four subjects comprising eighty items, is meant for children of ten plus. The test carries instructions in English, Hindi, Gujarati and Marathi. Norms are available for this test." 13

3) Raven's standard progressive Matrices. This is a non-verbal, culture free universally used test. The scale consists of sixty problems divided into five sets of twelve.

The first test was individual test so also time consuming, the second test was not easily available. So the third test which was easily available from Adarsha College of Education and Research, culture free, easy to administer, standardized, nonverbal was selected. The separate sheets were got printed. The printed books were only forty so in two schools where the sample-strength of the respondents was above forty the test was twice and thrice administered. The follow-up work was done for the absent students and the 300 students' work of administering standard progressive Matrices was completed without any trouble. The concerning students of seven high schools were given necessary instructions and they were also requested to co-operate wholeheartedly in that and the remaining tests.

Adjustment :-

Then it was decided to administer adjustment inventory. At first it was fixed to administer Saxena's adjustment inventory but then the decision was changed. Palsane's adjustment inventory was in Marathi. The test
prepared and standardized on the students who were having resemblance to this group. So that test was given the preference. It was available from Anand Agencies, Pune. There are total 375 statements. The students have to mark cross on T or F or question mark. The instructions and statements are in Marathi. The test is rather exhaustive. It took nearabout two hours to complete this inventory in every school. The 300 respondents liked it. They were not tired to answer.

**Self-concept**

Then the question came of administering self-concept inventory. Jogawar's self-concept inventory was found suitable because it was in Marathi then it was prepared on the high school students and it was prepared on the students in Nagpur City means urban area. So the test was found completely suitable to the sample group. The test was administered on the same sample group. There are good instructions for the respondents in Marathi and there are sixty three adjectives. Some are socially desirable and some are socially undesirable. There are three columns against every adjective 1) perceived self 2) social self 3) ideal self. Again there are four brackets in every column 1) very much 2) much 3) little 4) very little. The students have to make one cross in
one of the four brackets in every column. This inventory was also administered on the sample group of 300 students.

**Parental Interview:**

Then it was decided to take interviews of fifty parents. The names of three hundred students - sample group were written on the separate slips of paper. Slips were rounded and kept into the box. The slips were very well shaken and fifty slips were taken out of it. The list was prepared. Their addresses were found out from the printed forms which they have filled in while appeared for the test of Raven's intelligence matrices. The main objective behind this interview was to observe the surrounding area where the students live, to understand their home atmosphere and facilities available to them for study and to find out their fathers' views and opinions about their children's education. "The interview is, in a sense, an oral questionnaire. Instead of writing the response, the subject or interviewee gives the needed information verbally in a face-to-face relationship.

With a skillful interviewer, the interview is often superior to other data-gathering devices. One reason is that people are usually more willing to talk than to write. After the interviewer gains rapport, or
establishes a friendly, secure relationship with the subject, certain types of confidential information may be obtained that an individual might be reluctant to put in writing. The interviewer can explain the purpose of the investigation and can explain more clearly just what information he or she wants. If the subject misinterprets the question, the interviewer may follow it with a clarifying question. At the same time, he or she may evaluate the sincerity and insight of the interviewee. It is also possible to seek the same information, in several ways, at various stages of the interview, thus providing a check of the truthfulness of the responses.

Through the interview technique the researcher may stimulate the subject to greater insight into his or her own experiences, and thereby explore significant areas not anticipated in the original plan of investigation. The interview is also particularly appropriate when dealing with young children, illiterates, those with language difficulties and those of limited intelligence." 14

The concerning parents were prior intimated. Their children were informed to tell about the purpose of

Interview. Their warm welcome and hospitality encouraged the interviewer. They appreciated the task undertaken. Nine homes had to be revisited because the parents were out of homes due to shift system. The format (Appendix 'D') was just a skeleton. There had been a thorough discussion with most of them.

Try out:

Then the questionnaire for the students was to be administered as per plan. "Questionnaires administered personally to groups of individuals have a number of advantages. The person administering the instrument has an opportunity to establish rapport, to explain the purpose of the study, and to explain the meaning of items that may not be clear. The availability of a number of respondents in one place makes possible an economy of time and expense and provides a high proportion of usable responses." 15 Interviews and questionnaires are similar in many ways. They are both used to measure some of the less observable characteristics of people, such as values, goals, opinions, attitudes, preferences, and so on...

The questionnaire offers certain advantages over the interview. Specifically, a larger sample can be reached

15. Ibid., p.167.
economically, and greater anonymity can be provided to the respondents. The first advantage increases the generalizability of the data. The second can result in people being more willing to respond openly and honestly to the questions." 16

Before the final form was prepared and distributed to the respondents, try-out or pretesting of the questionnaire was essential, for the purpose of validation in terms of practical use. The try-out probably would lead to revision of certain questions, deletion of useless questions, and addition of other items. Tabulation of the try-out responses in rough tables would indicate whether the answers could be tabulated satisfactorily and whether answers to the major questions were forthcoming.

There were two high schools where the strength of the children of the mill workers was thirty nine each. The name of the first high school is Kuchan High School and the second Siddheswar Prashala. Kuchan High School was selected for try-out purpose because the overall level of the Kuchan High School students was thought to be similar with the overall level of sample group.

The questionnaire was administered. The following useful suggestions were received from the tabulation.

1. It requires minimum one hour to solve this questionnaire where there are total ninety seven questions.

2. Question Number A thirty eight : 'What does your father want you to be?' After this, one question is essential 'Does your father want you to serve in the mill? Yes / No.' In the refined form this question was added.

3. Question Number A forty : 'Does your father guide you regarding the method of study?' Yes / No. After this one question is essential.
   A 40(a) : What is your percentage in the last annual examination? What is your percentage in the last terminal examination?

4. The following questions require some explanation at the time of administering the questionnaire. Question Number A 26 : 'Name the various religious activities which are performed at your home?' The term 'religious activities' requires some explanation.
   Question number six : Some pupils do not know the meaning of a word 'shift'. It must be explained.

5. The school which has been selected for 'try-out' has been situated in the complete opposite direction to
the cloth producing mills area, there are no special chawls prepared by mill for workers. The school is having a good building. On the contrary, the schools, which have been selected for research purpose, have been situated very near to those mills. There are many chawls nearby. The atmosphere is not educationally favourable. The school buildings are new as well as old.

Having made the comparison of these two contradictory situations and having gone through the percentage of ninety seven answers of the questionnaire, it had been decided firmly to continue the same questionnaire with the above mentioned minor alterations.

Questionnaire for children

The refined questionnaire was got cyclostyled. There were five instructions for the students. There were five sections i.e.

A) About home - 44 questions.
B) About surrounding - 18 questions.
C) About class-room - 17 questions.
D) About teachers - 9 questions.
E) About co-curricular activities - 9 questions.

There were ninety seven total questions in the questionnaire. (Appendix 'C')
The questionnaire was administered to the sample group - 300 students.

**Questionnaire for teachers:**

Then one questionnaire was constructed for the teachers. There were total twenty three questions. (Appendix 'E') The sample was selected from seven schools. The questionnaires were given to the teachers of those seven schools. Seven teachers from every school were selected by simple random procedure and they were given the questionnaire. Only in the first school eight teachers were selected to make the figure fifty. It was expected that the concerning teachers would respond freely if their names were not expected to be written on the questionnaire. The main objective of this questionnaire was to know the teachers' experience, qualifications, method of teaching, their professional growth and their opinion about the workers' children.

**Interview of Experts:**

Then eleven experts were interviewed. The persons, who were working with the workers and who were having a deep interest in workers' improvement, were given the preference in this list. Three of them (eleven) were clerks and actually working for the benefit of workers.
Two experts were labour officers. Two were working in M.S.W. departments in Solapur, out of them one is the head of the department. One expert was chosen from mill workers' union. One was doctor of one mill. One expert was the general manager and one is labour welfare officer. Experts were selected taking into consideration of all dimensions of the problem. They were given a list of twelve questions. (Appendix 'F'). The questions were for the sake of guidelines. The experts had expressed their deep knowledge, views and opinions about the problem. Their views had been included in the thesis.

The abovementioned data had been collected in the academic year 83-84, from June to the end of April.

Achievement Score :-

In the month of June 84 the seven schools were visited to get the achievement score. The percentage in the annual examination 83-84 of all the 300 students were taken down from the result sheets. This achievement score was considered as the product variable. The achievement scores of annual 82-83 and terminal 82-83 were also collected for the sake of one of the factors within the individual.
There is one hand-book prepared by The State Institute of Education, Pune named as 'Madhyamic Shalanchi Pratawari'. It has been prepared in the year 1978. The copies have been free circulated to all the secondary schools of Maharashtra State. In the twentyeight pages of the hand-book there have been a list of criteria for the self evaluation of the school. The head master is supposed to give the marks according to the instructions. He should make a total. If the school receives aggregate ninety per cent or above and minimum seventy per cent in each section the school will be given 'A' grade by the head master.

If the school receives aggregate seventy five per cent or above and minimum sixty per cent in each section then 'L' grade.

If the school receives aggregate sixty per cent or above and minimum forty per cent in each section then 'C' grade.

If the school receives aggregate forty per cent or above and minimum thirty per cent in each section then 'D' grade.

If the school cannot complete the above mentioned criteria then 'E' grade.
When the grade is confirmed for the last year it is to be reported to the education officer of the Zilla Parishad. The inspectors verify and give guidance according to these grades.

So the work was comparatively easy for the investigator because it was one of the hypotheses of the study (No.4). It is given below.

Unfavourable school factors have a positive relationship with the educational problems of the children.

The grade which has been given by the head master by self evaluation and which has been examined and approved by the education inspector is the real symbol of the position of the school.

The grades were collected from all the seven schools and verified from the Education Officer Zilla Parishad Solapur. At the same time S.S.C. results of two years 82-83 and 83-84 were also collected from the seven schools.

In this way all the required data were collected.
III.05 : CLASSIFICATION AND TABULATION OF DATA:

The complete data were collected. The data were as good as raw data. It was the most important work to keep in systematic manner. Because the data were in scattered form and to draw conclusions upon the data was very difficult. To get the clear understanding from the data, two processes were essential. 1) classification 2) tabulation. The following objectives, suggested by Bajpai, were kept in mind. "1) To express the complex, scattered, halfhazard into concise, logical and intelligible form. (2) To make the points of similarity and dis-similarity clear. (3) To afford comparative study. (4) To avoid strain on mind in understanding the significance. (5) To display underlying unity of the items." 17

A manual was ready to assess the correct answers and to give percentile-rank for Raven's standard Progressive Matrices. The percentile ranks of 300 students and then conversion into I.Q., these two procedures were done.

A manual was there to assess the adjustment inventory answersheets. There were five scoring stencils for the five scales. There were separate norms
for male students and female students. Percentile ranks were ready of the male and female students.

There was no separate manual for self-concept inventory. So Dr. Jogawar was personally visited. His thesis was read and the marking scheme and other information were collected from the thesis. Jogawar also guided regarding that.

Regarding the parental interview a list of twenty one aspects was prepared and tallies were marked and counted.

To study the educational surrounding of the children of textile mill workers, was one of the objectives of the study. So while visiting the fifty parents for an interview, one table with the indicators of unfavourable educational atmosphere or surrounding was also taken with. It was also tick marked. There were six indicators named as 1) Humming and noise 2) Quarrels among the members, 3) Dirty atmosphere 4) Neglected education 5) Lack of competition 6) Surrounding which has no faith in education and cultural values.

These indicators were marked -
1) Exist or 2) Do not exist

With the personal observation and discussion with the parents.
If the indicator existed one mark was given, if not zero mark.

In this way surrounding was also valued.

A classification of questionnaire was little bit vast work. Because in the proposal it was decided to classify the parents under three categories.

1) Skilled Worker.
2) Semi-skilled worker.
3) Un-skilled worker.

The definition of these three categories described in the factory act 1948 is given below.

"Skilled: A skilled employee is one who is capable of working efficiently, of exercising considerable independent judgement and of discharging his duties responsibly. He must possess a thorough and comprehensive knowledge of the trade, craft or industry in which he is employed.

Semi-skilled: A semi skilled employee is one who does work generally of a well-defined routine nature, where in the major requirement is not so much of the judgement, skill and dexterity, but of proper discharge of duties assigned to him for a relatively narrow job and where important decisions are made by others. His
work is thus limited to the performance of routine operations of limited scope.

**Unskilled**: An unskilled employee is one, who does operations that involve the performance of simple duties which require the exercise of little or no independent judgement or previous experience, although a familiarity with the occupational environments is necessary. His work may thus require in addition to physical exertion familiarity with a variety of articles or goods.  

So the investigator visited the three cloth producing mills of the Solapur city to get a list of skilled, semi-skilled and unskilled workers. The names of the workers, millwise, who were parents of these 300 students-sample group were enlisted. But after meeting the high officials of these three mills it was said that there is no classification in any mill as skilled, semiskilled and unskilled. So there was a problem of the classification of the students filled up questionnaires. One way was found out to overcome that difficulty.

It is not a matter of dispute that the child of a skilled worker should be having comparatively better

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educational atmosphere and financial position at home than a child of a semi-skilled worker. So also a child of a semi-skilled worker should be having comparatively better educational atmosphere and financial position at home than a child of an un-skilled worker. If the educational atmosphere and financial position of the home are given due weightage in terms of marks and three categories will be formed, these categories will be somewhat parallel to skilled, semi-skilled and un-skilled categories. The following marking scheme was fixed.

### TABLE 1.2
THE SCHEME OF CLASSIFICATION

<table>
<thead>
<tr>
<th>Educational achievement of every member of the family except the child</th>
<th>Total Income of the family per month.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Illiterate</td>
<td>Rs.</td>
</tr>
<tr>
<td>2) Literate (I to IV Std.)</td>
<td>400 to 600</td>
</tr>
<tr>
<td>3) V Std. to VII Std.</td>
<td>601 to 800</td>
</tr>
<tr>
<td>4) VIII Std. to SSC</td>
<td>801 to 1,000</td>
</tr>
<tr>
<td>5) Above S.S.C. to Graduation</td>
<td>1,001 or above</td>
</tr>
<tr>
<td>6) Vocational training or Diploma</td>
<td>Additio­nal</td>
</tr>
<tr>
<td></td>
<td>1 Mark</td>
</tr>
</tbody>
</table>
In this way the marks of every family were calculated. The educational achievement of every member of the family except the respondent was given the marks according to the scheme. Total income of the family per month was taken into consideration and it was also given the marks according to the marking scheme. The total was made. Then three categories were fixed in the following way.

1) Marks received per family from 1 to 6 - Lower group equivalent to unskilled group.

2) Marks received per family from 7 to 12 - Middle group equivalent to semi-skilled group.

3) Marks received per family from 13 onwards - Higher group - equivalent to skilled group.

L, M, H One syllable out of these three was written on the questionnaire.

The school grades were also received from the seven schools. Three schools were of 'B' grade and four were in 'C' grade. All the respondents were studying in one of these seven schools. The grades of the respondent's school was also written on the questionnaire near the letters L or M or H. Now there were six categories of 300 questionnaires.
1) BH - 48 children: This group was from higher educational and financial home background and from 'B' grade schools. Maximum benefitted group.

2) BM - 84 children: This group was from middle educational and financial home background and from 'B' grade schools.

3) BL - 49 students: This group was from lower educational and financial home background and from 'B' grade schools.

4) CH - 33 children: This group was from higher educational and financial home background but from 'C' grade schools.

5) CM - 48 students: This group was from middle educational and financial home background and from 'C' grade schools.

6) CI - 38 students: This group was from lower educational and financial home background and also from 'C' grade schools. Maximum sufferer group.

Regarding teachers' questionnaire twenty three questions were tallied accordingly.

The opinions and views expressed by the experts at the time of interview were written separately, included in the thesis. These opinions and views were
also considered at the time of interpretation of the data, conclusions and recommendations of the study.

Percentages were calculated from the achievement score and school grades were taken as they were. In this way the data were classified.
III.06 : STATISTICAL TREATMENT:

The data were given the following statistical treatment.

1) Percentage:

To interpret ninety seven questions from the questionnaire for the children, twenty one items from the parental interview and twenty three questions from the questionnaire for the teachers the simple arithmetic percentage technique was used. This technique was used in the following factors also.

- Academic Achievement 83-84.
- Adjustment score.
- S.S.C. result.

2) Chi-square:

To interpret the difference among higher, medium and lower groups and the difference between 'C' and 'E' grade school going children's performance Chi-Square technique was used.

Formula:

\[ x^2 = \sum \left( \frac{(fo - fe)^2}{fe} \right) \]

in which \( fo \) = frequency of occurrence of observed or experimentally determined facts.
fe = expected frequency of occurrence on some hypothesis.  
P. 253 Garrett.  19

iii) T Value:

To interpret the following:

a) Comparisons of achievement,  
b) Comparisons of intelligence,  
c) Comparisons of self-concept.

**Formula:**  \[ t = \frac{M.D.}{SE \ of \ M.D.} \]

in which:  
D = Mean of difference  
SEMD = Standard error of mean of difference

Page 282-283 Iokesh Koul Methodology.  20

iv) Correlation:

This technique was used to the following:

Correlations between achievement and I.Q.  
Correlations between achievement and adjustment.  
Correlations between achievement and self-concept.

**Formula:**  \[ r = \frac{\xi xy}{\sqrt{\xi x^2 \times \xi y^2}} \]

where \( x \) and \( y \) are deviations from the actual means.  P.139 Garrett.  21


The study was undertaken in the month of January, 1983. The background reading i.e. the study of related literature and research, preparation of tools and collections of tools were completed up to June, 1983. The data collection work began in June, 1983 and completed in the month of June, 1984. From July, 1984 to February, 1985 the attention was given to classification, analysis and interpretation of the data. March, 1985 to December, 1985 was the period of writing the report and typing.