CHAPTER THREE
PROCEDURE

CONTENT

3.00 PARADIGM FOR PROCEDURE
3.01 INTRODUCTION
3.02 CHOICE OF METHODS
3.03 THE SURVEY
3.04 SELECTION OF THE SAMPLE
   A) SELECTION OF THE STUDENTS
   B) SELECTION OF THE TEACHERS
3.05 SELECTION OF THE TOOLS
   A) Tools For the Students
   B) Tools For The Teachers
3.06 TRYOUT OF THE QUESTIONNAIRE
3.07 ADMINISTRATION OF THE TOOLS
   A) Students Questionnaire
   B) Teacher's Questionnaire
3.08 RELIABILITY AND VALIDITY OF THE DATA
3.09 PROCEDURE OF THE ANALYSIS OF THE DATA
3.10 STRUCTURE OF THE REPORT
3.11 CONCLUSIONS.
3.00 **PARADIGM FOR PROCEDURE**

- **Section of methods** → **Experiment**
  - **Survey**
    - **Study Habits of the students**
      - Palsane's S.H. Inventory
      - Existing pattern of S.H.s.
      - Random selection of the students sample
      - Administration of the Questionnaire and the Inventory
    - Factors related to study habits
      - Random selection of Teachers
    - Administration of the Questionnaire and the Inventory
  - Teachers' idea about studying
    - Questionnaire
    - Finalization of the Questionnaire
  - Preparation of a Questionnaire for teachers
    - Finalization of the questionnaire

**Discussion in Chapter Ten**
CHAPTER THREE

PROCEDURE

3.01 INTRODUCTION

This chapter contains the discussion of the choice of methods used for research, the tools for data collection, the nature of the data collected, procedure of data analysis and the further plan of the research report.

3.02 CHOICE OF METHODS

As pointed out in chapter one the researcher wanted to find out the existing study habits of the students. As such, it necessitated the collection of respective data from students of different schools about their existing study habits. In other words, the research problem had the inherent need to have survey as a method of conducting the investigation. Again, the review of related literature and the personal experience of the researcher as a teacher had pointed out that good study habits result in good academic performance. If therefore, one had to improve the academic performance of students, one way was to change their study habits in the desired direction by organising a special programme. So the researcher decided to prepare a programme for changing the study habits of students and to test its efficacy. Hence, it was essential to follow the experimental method.
Thus, the nature of the problem for investigation governed the choice of methods of research. Survey would help explore the existing pattern of study habits while experimentation would help try to modify the study habits of the students. The procedure is given separately for both, the survey and the experiment, in order to maintain the proximity of procedures to the data analysis and interpretation. Chapter X contains procedure and analysis and interpretation of the experiment.

3.03 THE SURVEY

In order to carry out the study of existing study habits of Marathi medium students of VIII, IX, X in the city of Pune, following pertinent decisions were taken. They were

(i) Type and size of the sample to be selected
(ii) The various tools to be used
(iii) The methods of data collection
(iv) The way the data would be analysed and interpreted

After the decisions were taken, the actual work of the survey began. The major steps of the work were

(1) Selection and/or preparation of the tools of research
(2) Tryout and finalisation of tools
(3) Administration of the tools and collection of data
(4) Classification and analysis and interpretation of the data

(5) Reporting the results

The description below would put forth the entire effort of the conduct of the survey, with a view that the replica studies of the sort would be possible at other places.

3.04             SELECTION OF THE SAMPLE

The survey was taken in Marathi medium schools in the city of Pune in the year 1983, and the students of VIII, IX, and X formed the population. (Appendix No. 5)

A) Selection Of The Students

In the year 1983-84, the entire student population of VIII, IX, and X, in the city of Pune was 47500. So only 2% of this student population was selected randomly. Thus she got 950 students as a sample which was sufficient for the present study and represented all the categories of family background, financial position and surroundings as it was collected from each and every Marathi Medium secondary school. (Appendix No. 6).
The table below represents the classwise distribution of the sample.

### TABLE No. 3.01

CLASSWISE DISTRIBUTION OF THE STUDENTS (1983)

<table>
<thead>
<tr>
<th>Stds</th>
<th>Population</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIII</td>
<td>17850</td>
<td>357</td>
</tr>
<tr>
<td>IX</td>
<td>16500</td>
<td>330</td>
</tr>
<tr>
<td>X</td>
<td>13150</td>
<td>263</td>
</tr>
<tr>
<td>Total</td>
<td>47500</td>
<td>950</td>
</tr>
</tbody>
</table>

(Source - Education at a Glance; Director of Education, Maharashtra State, Poona, 1983-84. (Estimated Value))

From the above table, it is seen that, the strength of std VIII was 17850, of IX 16500 and of X was 13150. Hence the total population was 47500.

The random number technique was used in the selection of the sample units. The units were selected from all the three classes from all the Marathi medium schools. The actual size of the sample (2%) turned out to be 950 students of VIII, IX and X classes. The process of selection helped control the bias of any kind.
B) **Selection of The Teachers:**

The estimated population of science teachers in the city of Pune was about four hundred and fifty. 10% of this population was taken as a sample. Thus forty five science teachers were included in the random sample.

The researcher is a science teacher in secondary school and wanted to tally her observations about the teachers' views towards studying, study time, study activities and study habits. Also the experiment was planned in such a way so as to give extra emphasis on the subjects of science and mathematics. Thus, just to find out what the science teachers did in reality, the decision to include views of only science teachers was taken and it was also kept in view, that most of the science teachers taught mathematics also. So their views also could be covered simultaneously.

3.05 **SELECTION OF THE TOOLS**

As pointed out earlier, the nature of the research problem demanded data about existing study habits and their scores on academic achievement. To satisfy these needs the necessary tools were

A) **Tools For The Students**

1) A tool measuring study habits

II) A tool measuring academic achievement
III) A tool for clarifying related aspects of study habits.

B) **Tool For The Teachers**

A tool, to collect the teachers' view about study habits.

A) **Tools For The Students**

(i) **A Tool measuring study habits**

The mother tongue of the students was Marathi, therefore there was a need of such a tool which was in Marathi.

When a stock of the available standardised tools measuring study habits was taken, it was found that there was only one standardized test available in Marathi which would measure the study habits of school and college students. This inventory referred to the major components of habits and skills which formed part of the concept of study. Thus it could be accepted as a measure of the habits and skills related to study. Again its reliability was tested by test retest method. (Appendix No. 7 & 8). It is used by some other research scholars too for the purpose of measuring study habits. This tool was prepared by Palsane, and was locally available (year 1977).

(ii) **Tools measuring the academic achievements**:

As operationally defined, the performance in annual examinations in terms of percentage scores was taken as a measure of academic achievement. Therefore, the annual results in terms of scores based on the examination on
school subjects conducted by schools were accepted as a tool for measuring academic achievement.

In order to check the validity of the scores of previous school examinations given by the students, a sample check was made referring to the school results. This was done with regard to sample units from the school records of the researchers' own school. The check ensured that students had furnished the scores quite accurately.

(iii) A tool for clarifying related aspects of study habits

It was found in the analysis of the related material of the research problem, that the inventory of study habits would give the quantification of study habits/skills. However, knowledge about the factors which might cause variation in pattern of study habits and skills or what the students thought about the concept, purpose, guidance of study etc., could not be perceived through the scores on study habit inventory. (Appendix No. 9)

In order to understand the variations in the study habit pattern, the background factors of the students and the understanding of their concept of study, it was essential to frame the questionnaire for the purpose.

Thus, the purposes of the questionnaire were

(i) To throw more light on the study habits of the students in the light of their varying socio-economic background.
(ii) To find out what concept of 'study' the students had in mind.

The purposes helped in deciding the main divisions in the questionnaire. They were as under.

(a) General information pertaining to education, occupation, and income of the members in the family
(b) Students' perspective of the concept of study, and methods of studying
(c) Students' time budgetting
(d) Facilities for studying
(e) Guidance for study
(f) Other aspects related to studying.

The Questionnaire was framed in such a way that it would cover the various aspects of the study habit/skill programmes.

For the sake of teachers' view about meaning of study and concept of study habits/skills the Questionnaires were divided into following parts.

(a) General information of the teachers
(b) Meaning of study in the eyes of teachers
(c) Teachers' concept of study habits/skills

Hence this Questionnaire contained similar areas as that of the students Questionnaire. (Appendix No. 10)
3.06 TRY OUT OF THE QUESTIONNAIRES

(1) The selection of items was done through discussion among co-researchers and through try-out. The questions were planned according to the objectives of this study. Some of the questions were open end questions and some of them were a sort of multiple choice. The questionnaire was tried out on the five students of Std. VIII, IX, X of different schools to check whether any question was vague, or not related to the area under investigation. The tryout also gave an idea about the time required for filling in the questionnaire. It was found that the inventory and the questionnaire could be filled in within 30 to 45 minutes.

(2) The tryout of the Teacher's Questionnaire was also taken for the unequivocal responses of the teachers. This tryout was conducted with the help of two science teachers.

After both the tryouts, the researcher understood the faults of the questions. Hence the questionnaires were restructured.

The first questionnaire of the students was clumsy and was time consuming. The number of open end questions was reduced and changed into multiple choice. So it became easy to fill in the Questionnaire.

Care was also taken about the consistency in giving instructions at all classes in all schools.
The letter addressing to the respondents contained the purpose of the questionnaire; also the request to be honest in reactions was made and they were assured that, their data would be kept confidential. The instructions to fill in the questionnaire too were given. The pattern of responding was made similar to Palsane's study habits inventory to avoid any confusion due to difference in the responding style.

The tryout thus helped to arrive at the final version of the questionnaire in all its details. The reliability and validity of the data through this questionnaire was thus assured as no ambiguity in the wording was left. The contents of the students Questionnaire asked only that which the researcher wanted to collect in connection with the background factors of study habits and skills, and the concept of study. The teachers Questionnaire focussed views of teachers about study, study activities and study habits/skills.

3.07 ADMINISTRATION OF THE TOOLS

A) Students Questionnaire

All the Marathi medium schools in the city of Pune, were contacted through mail or phone, to seek prior permission and fix dates for data collection. The researcher, requested the incharge of the school to co-operate with her in collecting the data. (Appendix No. 11)
Excluding the exceptional cases of two schools all the school headmasters co-opted well. Thus the entire data collection could be completed within a short span (from 17th November to 17th December 1983). The researcher was interested in having discussion with students, apart from those covered in the sample. When the researcher was busy in administering the questionnaire, it was observed that the other students were anxious about the whole thing. Hence the researcher discussed the questions included in the questionnaire with them for getting their feel about the questions present in the Questionnaire. Care was taken to be within the school premises during recesses, and to talk with students in groups. Thus the data collected through the study inventory and the questionnaire were supplemented by group discussions with students which were out of the sample units. Due to this, the researcher got an idea about their (other students) concept of study, their outlook towards schooling, their perspective in the matter of study habits and skills, etc. This helped her in the interpretation of the data.

B) **Teachers Questionnaire**

This questionnaire was administered along with the students questionnaire. The assurance about the secrecy of their responses was given to the science teachers. The science teacher who was free at the time of the visit to the school was accepted as a sample unit. While the
science teacher in the sample was engaged in responding the questionnaire, the researcher took the opportunity to discuss the content of the questionnaire with the other science teachers, if there were more than the required units in the sample. Those responses were used as supplementary data—helpful for interpreting data.

There were difficulties in getting back the questionnaires as they were given to teachers from different schools in different parts of the city. Thus, it was impossible to get back filled in Questionnaire at the same time. It was also observed that, the teachers found it a bit embarrassing to answer the questionnaire as it demanded from them their conceptual clarity of study habits and skills of which probably they were unwilling to discuss. In all, fifty teachers were approached and only 45 teachers returned the Questionnaire.

3.08 RELIABILITY AND VALIDITY OF DATA

As mentioned earlier, Palsane's inventory had established its reliability and so data based on the same were naturally assumed to have reliability.

The students' questionnaire was prepared by following the procedure of having an effective tool for the purpose. There was no difficulty to students in responding. The prevalence of no response was not found. The 'no responses'
in the questionnaire were supported by reasons. There was found a clear difference in the related factors to study habits according to the students’ socio economic background. As such the inconsistent and irrelevant data were out of question.

The content validity was taken care of by comparing various areas such as study, study habits and skills of the students’ questionnaire to the discussions of these in the related materials. Apart from the content validity, nothing else could be directly attempted, as the design of study was different from the studies previously conducted. The only comparison that could be made was about the relationship between study habits, social status and academic achievement.

In short due to the rigour in the preparation and administration of tools and in selection of the sample in controlling biases, the reliable and valid data were available for further analysis and interpretation.

Again, the validity of the data was checked by the age groups of the students of the Std. VIII, IX, and X. The table below shows the age group of VIII, IX, and X standard students.
AGE GROUP OF THE STUDENTS

TABLE No. 3.2
AVERAGE AGE OF STANDARD VIII, IX, AND X,
ACCORDING TO THEIR INCOME GROUPS

<table>
<thead>
<tr>
<th>INCOME GROUP STANDARD</th>
<th>I_1</th>
<th>I_2</th>
<th>I_3</th>
<th>I_4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIII</td>
<td>13.61</td>
<td>13.61</td>
<td>13.38</td>
<td>13.44</td>
<td>13.37</td>
</tr>
<tr>
<td>X</td>
<td>15.43</td>
<td>15.02</td>
<td>15.02</td>
<td>14.55</td>
<td>14.99</td>
</tr>
</tbody>
</table>

From the above table, it is seen that all the four groups show the same age of each standard. Only in I_4 group the age of Std. X students is slightly low and I_1 shows slight high age. Entry of the primary school may be responsible for this difference.

3.09 ANALYSIS OF THE DATA
1) The researcher was interested in finding out the concepts, the students held about study, study habits and skills.

The review of related literature had pointed out that study habits are correlated with socio-economic status. For the present study, the students who belonged to the monthly income level up to Rs. 500 were given
the group number as $I_1$, category students, similarly the categories (Rs. 501 to Rs. 1000) were $I_2$, (Rs. 1001 to Rs. 1500) were $I_3$ and (Rs. 1501 and above) were given to $I_4$ groups.

In order to verify the association between the S.E.S. and study habits, the entire responses of the students were classified according to income groups. Such income groups would be homogeneous in own behaviour pattern but may differ from other income groups.

While classifying the entire data collected, it was codified under these four categories. The table below illustrates the distribution of nine hundred and fifty students with reference to their income.
<table>
<thead>
<tr>
<th>STD</th>
<th>Income Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rs. 500</td>
<td>Rs. 1000</td>
</tr>
<tr>
<td>VIII B</td>
<td>39</td>
<td>60</td>
</tr>
<tr>
<td>VIII G</td>
<td>17</td>
<td>45</td>
</tr>
<tr>
<td>IX B</td>
<td>34</td>
<td>53</td>
</tr>
<tr>
<td>IX G</td>
<td>24</td>
<td>41</td>
</tr>
<tr>
<td>X B</td>
<td>32</td>
<td>56</td>
</tr>
<tr>
<td>X G</td>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>170</td>
<td>282</td>
</tr>
</tbody>
</table>

B : Boys

G : Girls.

It was understood that the social status of the four categories was different and \( I_1 \) indicate respondents from low social status while \( I_4 \) the high social status. \( I_2 \) indicated lower middle social status and \( I_3 \) indicated the middle social status. The standards of living and
value patterns associated with each of the social status would naturally be different. In interpreting the results, help would be taken of these different status factors.

(ii) The question order as introduced in the questionnaire was not maintained while organizing the content in chapter, for ease of analysis.

(iii) The number of the students of each group are mentioned above. These numbers were taken as the base for the percentages generally, and are not indicated in each table. But whenever the bases are differs from this original number, it is mentioned on the top of income groups. For the interpretations of the responses collected through the questionnaire, the intragroup comparisons were done. The percentage difference was the only statistics used for understanding the trend of study habits/skills.

The data were interpreted for finding out the general trend of the study habits/skills and for finding out the difference between the trends of different income groups, the intra group comparisons were done.

The section VI was introduced in the questionnaire, for testing the self reliance of the students. The section was subdivided into three questions and asked them to write a situation which can explored the self—
reliance of the students, however no one could correctly answer, showing the self reliance. Hence this section was not analysed and introduced in the present study.

The number of tables were given as per the chapter numbers.

In the writing of the report the symbols such as * ** ☻ ☼ are used for the thoughts of the educationists or references only.

The list for the short forms is given below:

s.h. - study habits.
S.E.S. - Socio-Economic Status.

3.10 STRUCTURE OF THE REPORT

Further plan of the presentation of the chapters is as under:

(i) The Problem
(ii) The Review of Related Literature
(iii) The Procedure
(iv) Socio-Economic-Status of the Students and Students' Facilities for Studying.
(v) Students' View of Study
(vi) Students' Study Activities and Study Habits
(vii) Students' Time Budgetting
(viii) Students' Facility of Guidance for Studying.
3.11 CONCLUSIONS

For the present study the 'survey' as well as the 'Experiment' methods are used. The procedure of the experiment is explained in the chapter ten. The survey was undertaken with the help of students and teachers in the different schools. They were selected randomly. The data were analysed by percentage differences which gave a trend of study habits of the students. In the last paragraph the structure of the entire research report is given.