Chapter VI

EXPERIMENTATION AND DATA COLLECTION

To provide definite direction and definite answers to a research inquiry, data are very essential for its scientific and objective conclusion. Data provides the information about experiment done and its impact on different aspects of research problem. For data collection, research tools are administered to the subjects of the sample for collecting evidence of data and to justify the hypotheses.

For the present study, two different research designs were selected nearly to test the hypotheses and it was very difficult, rather impossible to select random samples as the problem under study deals with a specific type of education in school environment. Being in the school situation, it was necessary to take the whole class as a unit because segregating elements of class viz. students, would create a number of complications and the second important factor for sample selection was availability of different classes for experimentation in the area of sex-education. Hence samples were selected in clusters from available school.

For every testing unit, there were two inventories viz. one attitude scale and other adjustment inventory, one socio-economic scale and one test to know the sex-knowledge of the students titled "sex-knowledge test". Inclusion of socio-economic status scale had two important points:

(1) To know the socio-economic status of the students for testing the hypotheses that socio-economic status has direct relation with adjustment.
In the socio-economic status scale students were also asked to write their weight and height. The reason for asking these two informations which are totally irrelevant to the scale was to identify the student in pre- and post-tests as writing the name on the answer sheet was not compulsory. This was done to get maximum reliable data.

Procedure for test administration

Following are the steps for test administration:

1. Students in different schools were given socio-economic scale the previous day and were told to fill it at home and to bring it the next day, the day for test administration. Some of the students who forgot to bring it back were given new sheets of socio-economic scale to fill.

2. The investigator distributed the answer sheets of the two inventories and one test which were clipped together.

3. They were told to clip socio-economic status scale at the end of the given answer sheet.

4. Although all inventories and test were self-explanatory, the investigator herself administered them. Students were asked to fill the necessary information e.g. their date of birth, class, section, father’s name etc. on each of the answer sheets.

5. The investigator explained to them the purpose of the testing. She read the instructions written on the adjustment inventory and explained to them that information given by them would be kept confidential and in no case would be exposed to their teachers and parents and it was promised that the given information would be used only for research purposes.
(6) They were explained how to use separate answer sheets. Although both English and Gujarati versions were written on the top of the answer sheets, what abbreviations 5DA, OA, U, A and SA designated on the answer-sheet of opinionnaire and N, S, U, F, and A designated on an adjustment inventory were written on the black board. Self-knowledge test was also explained to them for using a separate answer-sheet.

(7) The opinionnaire and adjustment inventory were given to them one after another and before giving the next one, the former was taken back from them. They were given full time to do it and when ninety percent of students finished their work on one inventory, other students were also told to work for the next. The same was done with self-knowledge test. The students who finished all work properly were allowed to go.

(8) Before leaving the classroom, students were asked to give their answer sheets to one of the helpers of the investigator who checked whether the necessary informations required were filled in properly.

(9) At the end of the testing session, the investigator thanked all students. Those who gathered to ask some information were given relevant information with pleasing and friendly attitude.

The above mentioned testing procedure was the same for every testing unit. There were two experimental designs to be followed in the present study. Procedure for data collection was different in each experimental design. The following were the three ways of experimentation and their data collection.
EXPERIMENTAL DESIGN - I

(a) Control group - experimental group design.

The Principal of a co-educational school gave permission to use maximum classes for experimentation. Therefore, the investigator took six classes, two sections of each class, VIII, IX and X. One section of each standard was chosen as control and the other section worked as experimental group.

The experiment proceeded as follows:

(1) Socio-economic status scale was given to classes, VIII A and VIII B the previous day, and next day both the classes were given the pre-test. In the same way the pre-test was given to two sections each of standard IX and X.

(2) One section of each standard was kept as the control group and the other section was utilized as the experimental group.

(3) The experimental groups were imparted sex-education programme prepared by the investigator herself and which is elaborately mentioned in the previous chapter. It was divided into four periods of one and half hours each. In between, the students were asked to clear their doubts and misconceptions and satisfy their queries, if any. At the end of each period they were given a questionnaire to work at home so that they could recall what they had learnt in the class. This would accelerate their learning and recondition their mind. No such type of education was imparted to the control groups.

(4) After completing comprehensive and short sex-education programme, students of the experimental group were shown two films borrowed from the Family Welfare Centre, B.J. Medical College, Ahmedabad. Anatomy and physiology of male and female reproductive parts were shown in "Human Reproduction"
and the other film "Puberty" showed the physical development at adolescent age. The films were shown after school hours to minimize the outer environmental distraction, to help understand the recall to the maximum level, and to remove doubts and misconceptions, if any. Another reason for showing the films after school hours was that students were in a relaxed mood due to no more school teaching for that day.

(5) After one month, all groups, control as well as experimental were tested for their attitude towards sex, social adjustment and sex-knowledge. They were also given socio-economic scale to fill up. This was done to maximize the identification of students in the post-test.

(6) All the clipped answer-sheets of the post-test were identified with the pre-test.

(8) Pre-test-Post-test design

Two schools S and C were available for the replication of the pre-test post-test experiment. In school S, all classes VIII to X were used for the experiment and in school C, class VIII and Class IX could be used, because the American visitors had already imparted sex-education in class X. The procedure of the experimentation was same as previous one except there was no control group.

The socio-economic status scale was given to the students to fill it at home and bring it the next day. The pre-test was given to all the three classes in both schools. The sex-education programme was imparted as done earlier in Part A which had been prepared by the investigator herself. Incidentally standard X in school S could see the actual preserved human organs including external genitals and internal reproductive organs which were
demonstrated by students of a local medical college under the social service scheme. This demonstration during those days when the investigator was imparting sex-education helped the girls to collect their courage to know exactly what they hesitated to ask.

After every unit the students were asked to satisfy their queries and clear their doubts or misconceptions, if any. The following are the questions which were asked by girls students:

1. Do lungs play any important part in the menstruation cycle? (They know that lungs purify the blood that is why menstrual blood is clear red in colour).

2. What should be the time period between two menstruation periods? (Menstruation usually occurs exactly after the 28th day).

3. What are the reasons for delay or early occurrence of menstruation?

4. Is there any harm in taking bath during menstruation?

5. Should one take part in games and dancing during the first three days of menstruation?

6. How to use and manage sanitary napkins?

7. What are the proper ways for hygiene during menstruation?

8. Today's parents do not understand the demands and needs of the present age. How to make them understand? (Types of clothes to be worn, selection of friends, control on reading etc.)

9. Why do parents pry into every activity thinking that girls are very innocent and that they could be easily seduced?
(10) How to improve and change the decisions forced on girls by parents?
(11) What is meant by safe and unsafe period?
(12) What is condom?
(13) What is the loop and the copper T?
(14) How are twins born?
(15) What are the reasons for the birth of a deformed child? (Older parents sometime produce a mongoloid child)
(16) Why is caesarian required?
(17) What is a blue baby?
(18) What is the significance of the social custom prevailing for the period of menstruation and childbirth?
(19) Do boys experience pain during ejaculation or semenation?
(20) What is the significance of honeymoon?
(21) Why is the government thinking to be a "Mitri Karar" (friendship bond)
(22) What are the reasons for infertility?
(23) What are proper ways for hygiene during menstruation?
(24) How to behave in teenage parties?
(25) What happens at the time of menopause?

These were the questions which were asked by girls during and after the sex-education programme. A post-test was given to students of school 0 and 0 after the programme. The procedure of data collection was the same as in the control - experimental group design.

Part B worked as replication of Part I without a control group.
EXPERIMENTAL DESIGN II

Only post-test design:

For the purpose of data collection for "only post-test design" schools from different cities were contacted. Only a few of them gave permission for the test administration. The investigator visited different cities herself and collected the data for the same. The procedure of test administration and data collection were the same as in the previous designs.

Here only the post-test was taken to know the cultural differences. Table 7.14 shows the cities, schools code, class and number of students who were taken for experimentation.

For the comparison of attitudes towards sex adjustment and sex-knowledge of girls and boys, studying in the same school environment, data were borrowed from a project on a similar problem conducted by K.G. Desai and the experimenter. K.G. Desai administered the programme to boys because adolescent boys generally do not cooperate with young ladies specially for topics such as sex-education as they feel quite hesitant to ask and answer or talk on such topics with a lady. These data for boys could be used for comparison with those of girls.

All tests and inventories were scored and categorized and further analysed and interpretation was done to reach the conclusions to test the hypotheses.
OTHER DETAILS

Meaning of data

The tools, when administered to a sample, could yield data in the form of scores. Since the independent variables were measured by a socio-economic status scale and an intelligence test, their scores are also part of data which describe the attributes of the sample.

The dependent variables were measured by a sex-knowledge test, an opinionnaire and an adjustment inventory which also yielded scores.

Research design

As stated earlier, two research designs were employed in this investigation: The first one is:

(a) Control group = Experimental group
(b) Pre-test = Post-test design

In this design, the girls of the sample were divided into two groups — a control group which was not given a sex-education programme and an experimental group in which the subjects were given a sex-education programme prepared by the researcher. Thus the design was as follows:

<table>
<thead>
<tr>
<th>Control group</th>
<th>Experimental group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>Pre-test</td>
</tr>
<tr>
<td>—</td>
<td>Sex-education programme</td>
</tr>
<tr>
<td>Post-test</td>
<td>Post-test</td>
</tr>
</tbody>
</table>

The second design was employed where the girls had earlier been subjected to a formal or informal sex-education programme either in the same grade or in many previous grades in a staggered manner as part of family life.
education or even moral education. Thus no sex-education programme was administered to these girls. The tools were administered to them only once and so this was called a post-test design. There would be no control group here. The design would be as follows:

Informal or formal sex-education programme administered earlier.

Post-test

Procedure of test administration

Since three tools were prepared for the dependent variables, they were administered in different orders as follows so that no tool would be influenced by the previous one(s):

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Sex-educ. Qu.</td>
<td>Opinionnaire</td>
<td>Adj. Invt.</td>
</tr>
<tr>
<td>(iii) Adj. Invt.</td>
<td>Sex-educ. Qu.</td>
<td>Opinionnaire</td>
</tr>
</tbody>
</table>

This sequence was followed for administration to three grades in consecutive order irrespective of it being VIII, IX or X or even XI & XII in some cases.

The following steps were observed in the administration of the test and inventories:

1. The pupils were explained the purpose of the test and inventories.
2. The pupils were asked to bring information for the socio-economic status scale prepared by K.G. Desai which was given to them the previous day. The pupils were expected to answer as many items of the scale as possible. If somebody failed to write the income of parents it was adjudged from other information given regarding the number of rooms in the residence, the type and number of vehicles and the actual vocation of the parents.
The otoor tools were administered in different orders as stated earlier. The answer-sheets of all the four tools were pinned in the order in which the tools were to be administered. They were distributed first. The question paper of the first tool to be administered was first distributed among all pupils.

Although the test and inventories have full instruction, the investigator herself read them with the girls and explained wherever needed. The meaning of some unknown terms like dating, petting and necking were written on the black-board.

Since the instructions and also the statements of questions were printed in two languages, English and Gujarati, the pupils had no difficulty in understanding them. Full time was given to them to finish the test or inventory. If somebody did not understand some word or phrase, she had to raise her hand and the investigator went to her and explained its meaning to her.

After one test or inventory was over, the girl would exchange the question paper with the investigator and start reading the instructions on the new one. However, when almost all pupils had finished a tool, the experimenter would explain to the whole class what procedure was to be followed in the next one and so on.

When the whole work was over, the investigator would collect all answer-sheets from all pupils.

Scoring and tabulation of score

After the administrations of a day were over, all answer-sheets used would be numbered and then scored with the help of a stencil. For the sex-knowledge test, a stencil was prepared on an answer-sheet to have perforations
at the correct answers in Part I. It was also checked whether some item on an answer-sheet bore more than one answer. That item was then cancelled and if one of the answers was correct, the score was accordingly reduced. For Part II of the same test a stencil with correct answers was prepared and the answer-sheets were scored by comparing the answers given with those on the stencil.

The scoring of the opinionnaire and the adjustment inventory was relatively simple. First totals of each column were counted and then all totals in the row were summed up to give the total score obtained. No stencil was needed to score these two tools, since the answers on them were not be scored as right or wrong.

Tabulation of the scores on pre- and post-tests of some groups and on the post-test in others was done in a register against the name of the pupils. The socio-economic status was given three numbers, 1 for the lowest, 2 for the middle and 3 for the advanced or the highest level. The scores of the intelligence test were also listed in the same register with scores on tools measuring the dependent variable.