Chapter-3

Research Methodology
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Chapter 3 Research Methodology

3. Introduction:

Main responsibility of the researcher is to set up a research design capable of providing the solution of the problem while unity of research makes it possible to say that one aspect is more crucial than another design is overall scheme of research and research design is a strategy of investigation. In any research project, design provides the investigator a blueprint of research dictates the boundaries of the project and helps in controlling the experimental extraneous and error variance of the problem under investigation.

The present chapter describes the design or plan of the study and highlights the details about the research procedure followed in conducting the study. As such, it is an important part of the research study and needs to be planned and carried out systematically to arrive at accurate judgments. It includes information about the population, the sampling frame, the nature and form of data collection, tools, methods of collecting data and statistical techniques used for analysis of data etc. In order to achieve the objectives and the stated corresponding hypotheses, the following plan of the study has been followed.

To carry out an activity smoothly and successfully, proper planning is a prerequisite condition. A problem either educational or social can be resolved only if it is investigated in a scientific and planned way. In this chapter, the plan and procedure adopted for the study under reference is discussed and explained in a systematic way, plan and procedure of an
activity clearly give a picture about the means and ways required to complete the study i.e. type of data needed, how the sources of data were selected, and what data gathering devices were employed. Thus, the phrase “while discoveries can not be planned, work must be planned as it leads to discoveries” was followed. The present study is descriptive in nature and aims at examining The Effect of Parental Education, Area and Parental Involvement on Children’s Study Habits, Academic Anxiety and Academic Achievement. Consequently, Score achieved on Children’s Study Habits, Academic Anxiety and Academic Achievement has been taken as the dependent variables while types of Parental education, area and Parental Involvement have been taken as the independent variables.

3.1 Problem of the Present Study

The Effect of Parental Education, Area and Parental Involvement on Children’s Study Habits, Academic Anxiety and Academic Achievement

3.2 Conceptual Clarification

- Parental Involvement

The United States Department of Education defines parent involvement as meaning “the participation of parents in regular, two-way, and meaningful communication involving student academic learning and other school activities, including ensuring that—

(A) Parents play an integral role in assisting their child’s learning;
(B) Parents are encouraged to be actively involved in their child’s education at school;
(C) Parents are full partners in their child’s education and are Included, as appropriate, in decision making and on advisory
committees to assist in the education of their child;

(D) The carrying out of other activities, such as those described in Sec 1118.”

o **Study Habit**

According to Patel (1976) study habit include home environment & planning of work, reading & note taking habits, planning of subjects, habits of concentration, preparation, general habits & attitudes, school environment.

o **Academic Anxiety**

Academic anxiety is a kind of state anxiety which relates to the impending danger from the environment of the academic including teacher, certain subjects like Mathematics, English etc.

o **Academic Achievement**

Random House Webster’s College Thesaurus (1997) states that academic achievement means those qualities or attributes or characteristics or traits of an individual which contribute to or have a direct bearing or effect or influence on the accomplishment or proficiency of performance pertaining to any activity scholastic in nature or any scholarly activity.

### 3.3. Objective of the Study

The prime objectives of the study are as under:

1. To study the role parent’s education on the development of children’s study habits, academic anxiety and academic achievement.

2. To examine and analyze the impact of area in the development of children’s study habits, Academic anxiety and academic achievement.
3. To find out the significant role of degree of parental involvement on study habits, academic anxiety and academic achievement in their children
4. To find out correlation among study habits, academic anxiety and academic achievement in school going children.

3.4. Hypotheses:

The Following hypotheses have been tested to fulfill the objective of the study.

1. There will be no significant difference between children of less involved and more involved parents on study habits.
2. There will be no significant difference between urban and rural children on study habits.
3. There will be no significant difference between children of below and above graduate parents on study habits.
4. There will be no significant difference among various interactions of parental involvement, area and education with regard to study habits.
5. There will be no significant difference between children of less involved and more involved parents on academic anxiety.
6. There will be no significant difference between urban and rural children on academic anxiety.
7. There will be no significant difference between children of below and above graduate parents on academic anxiety.
8. There will be no significant difference among various interactions of parental involvement, area and education with regard to academic anxiety.
9. There will be no significant difference between children of less involved and more involved parents on academic achievement.

10. There will be no significant difference between urban and rural children on academic achievement.

11. There will be no significant difference between children of below and above graduate parents on academic achievement.

12. There will be no significant difference among various interactions of parental involvement, area and education with regard to academic achievement.

13. There is no correlation between study habits, academic anxiety and academic achievement in school going children.

3.5. Variables

The following variables were treated as independent and dependent variable:

(1) Independent Variables:

(I) Parental Education - Below Graduation & Above Graduation

(II) Area - Urban & Rural

(III) Parental Involvement - More Involvement & Less Involvement

(2) Dependent Variables: Score achieved on Children’s Study Habits, Academic Anxiety and Academic Achievement.

3.6. Sample

The sample of the study was comprised of 640 parents as well as their 640 children studying in secondary or higher secondary school. The sample was selected from the both sexes and age range from 35 to 50 and 13 to 17
years for parents and their children respectively. The sample was randomly
selected from various locations of Central and North Gujarat as per the
requirement of research design of this study.

**Research Design**

To conduct the research a 2x2x2 Factorial Design was used for
collecting and analyzing the data from the parents and their children.

**Table No. 3.1**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Parental Involvement (A) ↓</th>
<th>Less Involved (A1)</th>
<th>More Involved (A2)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (B)</td>
<td>Urban(B1)</td>
<td>Rural(B2)</td>
<td>Urban(B1)</td>
<td>Rural(B2)</td>
</tr>
<tr>
<td>B1 = Urban</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>B2 = Rural</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>160</td>
<td>160</td>
<td>160</td>
</tr>
</tbody>
</table>

A= Involvement
A1 = Less = 320
A2 = more = 320

B= Area
B1 = Urban = 320
B2 = Rural = 320

C= Education
C1=Below = 320
C2=Above = 320

3.7. **Tools**

Following standardized tools was used for collecting the data.

(1)**Parental Involvement Scale (PIS):**

To measure parental involvement of a parent’s in their child’s
activities, the Parental Involvement Scale developed by Dr. (Mrs.) Rita
Chopra and Dr. Surabala Sahoo was used. This scale consists 34 items in
three areas—School involvement, Home involvement and involvement through PTA. The scale has standardized on parents of school student (primary and secondary level) by the developer of the scale. The test-retest reliability of the scale was found to be 0.93, split-half reliability was found to be 0.91 and K. R. Formula was to be 0.77 by the developer of the scale. The face validity of the scale is very high suggested by the experts of the field. In present study the Gujarati version of the scale was used for collecting the data.

**Scoring of the Scale:**

The responses given to the items may be converted into scores according to following guidelines:

**Table 3.2 Scoring Pattern of PIS**

<table>
<thead>
<tr>
<th>Categories of responses</th>
<th>Score to be given</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequently</td>
<td>3</td>
</tr>
<tr>
<td>Occasionally</td>
<td>2</td>
</tr>
<tr>
<td>Never</td>
<td>1</td>
</tr>
</tbody>
</table>

- **Reliability:**

Reliability of the Parental Involvement Scale of total involvement obtained thought different methods are presented in table no 3.3:

**Table 3.3: Reliability of the Parent Involvement Scale**

<table>
<thead>
<tr>
<th>Methods Used</th>
<th>Total Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Test-Retest</td>
<td>0.93</td>
</tr>
<tr>
<td>2. Split-half</td>
<td>0.91</td>
</tr>
<tr>
<td>3. K.R. Formula</td>
<td>0.77</td>
</tr>
</tbody>
</table>
• **Validity:**

In fact the validity of any inventory or scale is difficult if it is understood in terms of what the scale purports to measure. In the present case, the validity of the PIS was based on its content outlined. It was established by discussing the statements of the scale with some experts in the field of education. On the basis of their unanimous suggestions and agreements the validity was constructed.

(2) **Study Habit Scale (SHS)**

To identify the study habits of the children involved in the present investigation the Study Habit Scale developed by M. Mukhopadhyay and D.N. Sansanwal was used. This scale consists of 52 items in eight areas of study habit i.e.- Comprehension, Concentration, Task Orientation, Study sets, Interaction, Drilling, Supports, Recording and language. The split-half reliability of the scale was found to be 0.91. The face validity of the scale is very high suggested by the experts of the field. In present study the Gujarati version of the scale was used for collecting the data.

**Scoring:**

The study habit Inventory comprises 52 items pertaining to line sub-components namely Comprehension (12 items), Concentration (10 items), Task Orientation (9 items), Study Sets (7 items), Interaction (3 items), Drilling (4 items), Recording and Language (3 items) which characterize the basis of study habits. The item have been drafted in affirmative (34 items) and negative (18 items) forms.

The responses given to the items may be converted in to scores according to following guide-lines:
Table 3.4 Scoring Pattern of Study Habit Scale

<table>
<thead>
<tr>
<th>Categories of responses</th>
<th>Score to be Positive items</th>
<th>Score to be Negative items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Frequently</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Sometimes</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Rarely</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

(3) Academic Anxiety Scale for Children (AASC):

To measure the level of academic anxiety of children the Academic Anxiety Scale for Children (AASC) developed by A.K. Singh and A. Sengupta was used. It is a brief scale of 20 items and is meant for school students of class 8 to 10th. The test-retest reliability of the scale was found to be 0.60 and split-half reliability was found to be 0.65. In present study the Gujarati version of the scale was used for collecting the data.

3.7.3.1. Scoring:

The maximum possible score of this test is 20. In academic Anxiety Scale for Children, each item of the test is scored as either +1 or 0. There are two types of items – positive and negative. All positive items which are endorsed by the subject as ‘YES’ and all negative items ‘NO’. Thus, high score on the test indicates high academic anxiety and low score on the test indicates low academic anxiety.

The responses given to the items may be converted into scores according to following guidelines:
### Table 3.5 Scoring Pattern of AASC

<table>
<thead>
<tr>
<th>Categories of responses</th>
<th>Score to be given</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive item</td>
<td>1</td>
</tr>
<tr>
<td>Negative item</td>
<td>0</td>
</tr>
</tbody>
</table>

3.7.1.2 Reliability:

Reliability of the Academic Anxiety Scale for Children’s obtained thought different methods are presented in table no 3.6:

### Table 3.6 Reliability of the AASC

<table>
<thead>
<tr>
<th>Methods Used</th>
<th>N</th>
<th>Total Involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Test-Retest</td>
<td>100</td>
<td>0.60</td>
</tr>
<tr>
<td>2. Split-half</td>
<td>100</td>
<td>0.65</td>
</tr>
</tbody>
</table>

3.7.1.3. Validity:

The present test Academic Anxiety Scale for Children’s has been validated against the sinha-anxiety test. Neuroticism scale of MPI and CAAT. Former two tests are the measures of general anxiety and the latter intends to measure academic anxiety among school children. Table 3.7 presented the validity coefficients AASC against these different measures.

### Table 3.7 Validity Coefficient for AASC

<table>
<thead>
<tr>
<th>Test</th>
<th>Criterion</th>
<th>Correlation Coefficient</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Anxiety Scale for Children’s (AASC)</td>
<td>Neuroticism scale</td>
<td>0.31</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Sinha-anxiety test</td>
<td>0.41</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>CAAT</td>
<td>0.57</td>
<td>100</td>
</tr>
</tbody>
</table>
(4) **General Classroom Achievement Test (GCAT)**

Academic Achievement of children will be measured with the help of General Classroom Achievement Test (GCAT) by A. K. Singh and SenGupta. It is a brief scale of 77 items and is meant for school students of class 6 to 8th. The test-retest reliability of the scale was found to be 0.78 and split-half reliability was found to be 0.75 by the developer of the scale. The validity of the test on criterion of examinations ranks, Teachers’ opinion and rating in interview is 0.68, 0.59 and 0.68 respectively. In present study the Gujarati version of the scale was used for collecting the data.

3.7.3.1. **Scoring:**

The maximum possible score of this test is 100. This test consists of three sections namely, English Achievement test (EAT), Science Achievement test (SAT) and Social Studies Achievement test (SSAT). The EAT Maximum of 35 score, the SAT Maximum of 35 score and SSAT has a Maximum of 30 score.

The responses given to the items may be converted into scores according to following guide-lines:

**Table 3.8 Scoring Pattern of English Achievement Test**

<table>
<thead>
<tr>
<th>Question no</th>
<th>Score to be given</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 15</td>
<td>1</td>
</tr>
<tr>
<td>16 to 20</td>
<td>2</td>
</tr>
<tr>
<td>21 to 30</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 3.9 Scoring Pattern of Science Achievement Test

<table>
<thead>
<tr>
<th>Question no</th>
<th>Score to be given</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 9</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>11 to 17</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 3.10 Scoring Pattern of Social Studies Achievement Test

<table>
<thead>
<tr>
<th>Question no</th>
<th>Score to be given</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 30</td>
<td>1</td>
</tr>
</tbody>
</table>

3.7.1.2 Reliability:

Reliability of the General Classroom Achievement Test (GCAT) obtained through different methods are presented in table no 3.6:

Table 3.11 Reliability of the General Classroom Achievement Test

<table>
<thead>
<tr>
<th>Methods Used</th>
<th>N</th>
<th>GCAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Test-Retest</td>
<td>100</td>
<td>0.78</td>
</tr>
<tr>
<td>2. Split-half</td>
<td>100</td>
<td>0.75</td>
</tr>
</tbody>
</table>

3.7.1.3. Validity:

The present test General Classroom Achievement Test (GCAT) has been validated against the Examination Marks, Teachers Opinion and Ratings interview.
### Table 3.12 Validity Coefficient for General Classroom Achievement Test

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Examinations ranks</th>
<th>Teachers Opinion</th>
<th>Rating in interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCAT</td>
<td>40</td>
<td>0.68</td>
<td>0.59</td>
<td>0.68</td>
</tr>
</tbody>
</table>

#### 3.8. Procedure

The sample of the study was comprised of 640 parents as well as their 640 children studying in primary school. The sample was selected from the sexes and age range from 35 to 50 and 13 to 17 years for parents and their children respectively. The sample was randomly selected from various locations of Central and North Gujarat as per the requirement of research design of this study.

The data on study habit, academic anxiety and academic achievement was collected from the students by personal visit in school and subsequently the data was obtained with the help of Parental Involvement Scale from the parents of the concern student.

Obtained score was analyzed as per 2 x 2 x 2 ANOVA method and hence internal effect on the independent factors was examined. After analyzing the information, it put in a various tabular formats and in graphs and based on the tables and graphs, assumptions made for this research analysis checked.