CHAPTER- III

METHODOLOGY
METHODOLOGY

- Statement of the Problem
- Objective
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  - Sample
  - Variable
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**Statement of the Problem:**

“A Comparative Study of Personality (CPQ) Differences and Academic Achievement among School Children of Various Medium Of Instruction”

**Objectives:**

- **To study the effect of medium of instruction on students’ personality traits namely:**
  - ✓ Factor A : (Reserved vs. Outgoing)
  - ✓ Factor B (less Intelligent vs more Intelligent.)
  - ✓ Factor C (Emotionally less stable vs Emotionally stable)
  - ✓ Factor D (Phlegmatic Temperament vs Excitability)
  - ✓ Factor E (Submissiveness vs Ascendance (Dominance)
  - ✓ Factor F (Sober vs Happy-go-lucky)
  - ✓ Factor G (Expedient vs Conscientious)
  - ✓ Factor H (Shy Vs Venturesome)
  - ✓ Factor I (Tough minded vs Tender minded)
  - ✓ Factor J (Zestful vs Reflective)
  - ✓ Factor N (forthright vs shrewd)
  - ✓ Factor O (Placid vs Apprehensive)
  - ✓ Factor Q₃ (Uncontrolled vs controlled)
  - ✓ Factor Q₄ (Relaxed Vs Tense)

- **To study the effect of gender on students’ personality traits namely:**
  - ✓ Factor A : (Reserved vs. Outgoing)
  - ✓ Factor B (less Intelligent vs more Intelligent.)
✓ Factor C  (Emotionally less stable vs Emotionally stable)
✓ Factor D  (Phlegmatic Temperament vs Excitability)
✓ Factor E  (Submissiveness vs Ascendance (Dominance)
✓ Factor F (Sober vs Happy-go-lucky)
✓ Factor G (Expedient vs Conscientious)
✓ Factor H (Shy Vs Venturesome)
✓ Factor I (Tough minded vs Tender minded)
✓ Factor J (Zestful vs Reflective)
✓ Factor N  (forthright vs shrewd)
✓ Factor O (Placid vs Apprehensive)
✓ Factor Q<sub>3</sub> (Uncontrolled vs controlled)
✓ Factor Q<sub>4</sub> (Relaxed Vs Tense)

- To study the interactional effect of medium and gender on students’ personality traits namely-

  ✓ Factor A : (Reserved vs. Outgoing)
  ✓ Factor B (less Intelligent vs more Intelligent.)
  ✓ Factor C  (Emotionally less stable vs Emotionally stable)
  ✓ Factor D  (Phlegmatic Temperament vs Excitability)
  ✓ Factor E  (Submissiveness vs Ascendance (Dominance)
  ✓ Factor F (Sober vs Happy-go-lucky)
  ✓ Factor G (Expedient vs Conscientious)
  ✓ Factor H (Shy Vs Venturesome)
  ✓ Factor I (Tough minded vs Tender minded)
  ✓ Factor J (Zestful vs Reflective)
  ✓ Factor N  (forthright vs shrewd)
To compare the students’ level of academic achievement in relation to their language as a medium of instruction.

To study the effect of gender on students’ level of academic achievement

To study the interactional effect of language (Medium of Instruction) and gender on students’ level of academic achievement

Hypothesis:

a) There will be no significant effect of medium of instruction on students’ personality traits namely-

✓ Factor A : (Reserved vs. Outgoing)
✓ Factor B (less Intelligent vs more Intelligent.)
✓ Factor C (Emotionally less stable vs Emotionally stable)
✓ Factor D (Phlegmatic Temperament vs Excitability)
✓ Factor E (Submissiveness vs Ascendence (Dominance)
✓ Factor F (Sober vs Happy-go-lucky)
✓ Factor G (Expedient vs Conscientious)
✓ Factor H (Shy Vs Venturesome)
✓ Factor I (Tough minded vs Tender minded)
✓ Factor J (Zestful vs Reflective)
✓ Factor N (forthright vs shrewd)
b) Girls and boys will be not significantly differ on their personality traits namely-
- Factor A : (Reserved vs. Outgoing)
- Factor B (less Intelligent vs more Intelligent.)
- Factor C  (Emotionally less stable vs Emotionally stable)
- Factor D  (Phlegmatic Temperament vs Excitability)
- Factor E  (Submissiveness vs Ascendance (Dominance)
- Factor F (Sober vs Happy-go-lucky)
- Factor G (Expeditious vs Conscientious)
- Factor H (Shy Vs Venturesome)
- Factor I (Tough minded vs Tender minded)
- Factor J (Zestful vs Reflective)
- Factor N  (forthright vs shrewd)
- Factor O  (Placid vs Apprehensive)
- Factor Q₃  (Uncontrolled vs controlled)
- Factor Q₄  (Relaxed Vs Tense)

c) Girls and boys will be not significantly differ according to their medium of instruction on their personality traits namely-
- Factor A : (Reserved vs Outgoing)
- Factor B (less Intelligent vs more Intelligent.)
- Factor C  (Emotionally less stable vs Emotionally stable)
Factor D (Phlegmatic Temperament vs Excitability)
Factor E (Submissiveness vs Ascendence (Dominance)
Factor F (Sober vs Happy-go-lucky)
Factor G (Expeditious vs Conscientious)
Factor H (Shy Vs Venturesome)
Factor I (Tough minded vs Tender minded)
Factor J (Zestful vs Reflective)
Factor N (forthright vs shrewd)
Factor O (Placid vs Apprehensive)
Factor Q3 (Uncontrolled vs. controlled)
Factor Q4 (Relaxed vs Tense)

d) There will be no significant effect of medium of instruction on students' level of academic achievement.

e) Girls and boys will be not significantly differ on their level of academic achievement.

f) Girls and boys will be not significantly differ according to their medium of instruction on their level of academic achievement

METHODOLOGY:

Sample
Local of the present investigation was confined to the English and Gujarati medium schools situated in Gujarat state. The stratified randomized sample taken into consideration. The whole sample comprised of total 200 students which were equally selected from different English (n =100) and Gujarati (n =100) medium
schools. Both groups were made with equal number of boys (n =50) and girls (n =50) students. The distribution of total sample is depicted as follows:

Table 3.1

Sample Distribution

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Medium</td>
<td>N=50</td>
<td>N=50</td>
<td>N=100</td>
</tr>
<tr>
<td>Gujarati Medium</td>
<td>N=50</td>
<td>N=50</td>
<td>N=100</td>
</tr>
<tr>
<td>Total</td>
<td>N=100</td>
<td>N=100</td>
<td>N=100</td>
</tr>
</tbody>
</table>

Variable

The variables in this part will be treated as follows:

Independent Variable:

A: - Language (Medium of Instruction)
   A1: - English
   A2: - Gujarati

B: - Gender
   B1: - Boys
   B2: - Girls

Dependent Variable:

- Personality (CPQ)
- Academic Achievement

Research Design

2 X 2 Factorial design was employed viz depicted as follow:
Table 3.2

2 x 2 Factorial Design

Gender (B)

<table>
<thead>
<tr>
<th></th>
<th>Boy (B1)</th>
<th>Girl (B2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English (A1)</td>
<td>$A_1B_1$</td>
<td>$A_2B_1$</td>
</tr>
<tr>
<td></td>
<td>N = 50</td>
<td>N = 50</td>
</tr>
<tr>
<td>Medium (A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gujarati (A2)</td>
<td>$A_1B_2$</td>
<td>$A_2B_2$</td>
</tr>
<tr>
<td></td>
<td>N = 50</td>
<td>N = 50</td>
</tr>
</tbody>
</table>

Where

A1 – Students of English medium
A2 – Students of Gujarati medium
B1 – Boys students
B2 – Girls students
A1B1 - Male Students of English medium
A1B2 - Female Students of English medium
A2B1- Male Students of Gujarati medium
A2B2- Female Students of Gujarati medium

Research Tests
Table 3.3
List of Tests

<table>
<thead>
<tr>
<th>Aspect studies</th>
<th>Test and scale</th>
<th>Developed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Achievement</td>
<td>General Classroom</td>
<td>A. K. Singh &amp; A. Sen Gupta (1971)</td>
</tr>
<tr>
<td></td>
<td>Achievement Test (GCAT)</td>
<td></td>
</tr>
<tr>
<td>Personality</td>
<td>Children’s Personality Questionnaire (C.P.Q.)</td>
<td>Porter &amp; Cattle in 1968-Form A</td>
</tr>
</tbody>
</table>

Description of the tests-

Children’s Personality Questionnaire (C.P.Q.)

To measure the various personality traits, Children’s Personality Questionnaire (C.P.Q.) developed by (Porter & Cattle in 1968- Form A was used. The C.P.Q. is one of the personality questionnaires developed by institute of personality and ability testing for different age group in U.S.A. For student of Gujarati medium translated Gujarati version was used.

The Children's Personality Questionnaire (CPQ) useful in understanding and evaluating a pre-adolescent's personal, social, and academic development. It provides a psychologically insightful understanding, as well as a precise, quantitative evaluation of those aspects of a child's personality that contribute to, or detract from, performance in school and social adjustment, both inside and outside the classroom. The CPQ report also provides narrative interpretations relative to traits such as creativity, emotional stability, self-concept level, excitability, and apprehension, as well as derived scores and predictions for extraversion, anxiety, and other broad trait patterns. The CPQ employs the same personality scales that are measured by the IPAT personality instruments for
children of other ages - the Early School Personality Questionnaire for ages 6-8 and the 16PF Adolescent Personality Questionnaire for ages 11-22. The C.P.Q. yields a general assessment personality by measuring 14 distinct dimensions which have been found by psychologists to assess a total personality. The factors are given here in their usual alphabetic order. This symbolism having originally arisen from placing the total personality sphere as checked by several studied. In present study, form A, which contains 140 items, is taken. It is a questionnaire, which comprised 14 personality factors bipolar in nature. Score can be done by using scoring key. The interpretation of obtained score for each factor as follows-

**Factor A : (Reserved vs. Outgoing)**
The person, who scores low in this factor 'A' tends to be stiff cool, detached and critical. He likes the things or words to people. He is uncompromising. The person who scores high on factor A tends to be good-natured, easy - going, warm hearted, participating. He readily forms active groups. He is generous, or has personal relations, less afraid of criticism.

**Factor B (less Intelligent vs. more Intelligent.)**
The person scoring low on factor 'B' tends to be slow to learn, grasp and is dull, His dullness may be simply reflection of low intelligence. The person who scores high on factors 'B' tends to be quick to group idea. He is bright, abstract thinker, and fast learner and intelligent.
Factor C (Emotionally less stable vs. Emotionally stable)
The person who scores low on factor 'C' tends to be emotional unstable when frustrated. He is low in frustration tolerance for unsatisfactory, easily emotional and annoyed. The person scores high on factor 'C' tends to be emotionally stable, realistic & possessing ego-strength.

Factor D (Phlegmatic Temperament vs. Excitability)
The person who scores low on factors 'D' tends to be deliberates, inactive and cannot be easily jealous. The person, who scores high on factor 'D' tends to be excitable, demanding, self-assertive, destructable, and show many nervous symptoms.

Factor E (Submissiveness vs. Ascendance (Dominance))
The person who scores low on the factor 'E' tends to be docile and conformed. He is often dependent, He is confessing, anxious for obsession correctness. He can easily upset by authority. The person who scores high on factor 'E' is assertive, self-assured, and independent minded. He tends, to be authoritarian and disregards authority.

Factor F (Sober vs. Happy-go-lucky)
The person who scores low on factor 'F' tends to be restrained, introspective. He is sober and dependable person. He is sometimes dour and pessimistic. The person who scores high on factor F tends to be cheerful, active, talkative, frank and expressive. He is frequently chosen as an elected leader.
Factor G (Expedient vs. Conscientious)

The person who scores low on factor 'G' tends to be unsteady, in his purpose. He is often casual and lucky in effort for group understanding and cultural demands. His freedom from group influence may lead to unit social acts. The person who scores high on factor 'G' tends to be exciting in character, demented by sense, duty responsible and moralistic.

Factor H (Shy Vs Venturesome)

The person who scores low on factor 'H' tends to be shy, withdrawing, cautious, and retiring. He usually to be slow. The person who scores high on factor H is sociable, bold, ready to try new things, spontaneous and "thick - skinned". He tends to by pushy and actively interested in opposite sex.

Factor I (Tough minded vs. Tender minded)

The person, who scores low on factor 'F', tends to be practical, realistic, but susceptible to culture pattern differences. He is self-reliant. The person who scores high on factor 'I' tends to be tender minded daydreaming, artistic, and feminine. He is some times demanding of attention and help impatient, and impractical. He is imaginative in inner life and conversation. He is over protected. He dislikes crude people and rough occupation.

Factor J (Zestful vs. Reflective)

The person show scores low on factor, on tend to be sentimental, liking group action, attention seeking, likes personality in group enterprise, and accept common standards. The person who scores high on factor 'J' tends to be
individualistic, guarded, wrapped up in self, and evaluates coldly. As might be expected, high score 'J' students tend to be unpopular with other students.

**Factor N (forthright vs. shrewd)**

The person who scores low on factor 'N' tends to be unsophisticated, sentimental, and simple. He is sometimes crude and contents with what comes. He has blind trust in human nature. The person who score high on factor 'N' tends to be polished, socially aware, and shrewd. He is often hardheaded and analytical. He has an intellectual, unsentimental approach to situations. N + pattern of high score on N is repeatedly associated with reactions of dislike of school classroom accepted academic goodness.

**Factor O (Placid vs. Apprehensive)**

The person who scores low on factor O tends to be placid. He is matured, anxious, confident and has capacity to deal with the things. The person who scores high on factor, 'O' tends to be depressed, moody, worrier. He has child like tendency to anxiety, in-difficulties he does not feel accepted in-group. He is unpopular with peers.

**Factor Q₃ (Uncontrolled vs. controlled)**

The person who scores low on factor 'Q₃', will not be bothered with will control. He may feel maladjusted. The person who scores high on factor 'Q₃', tends to have strong control on his emotions and general behavior, he is also inclined to be socially aware and careful.
**Factor Q₄ (Relaxed vs. Tense)**

The person who scores low on factor 'Q₄' tends to be relaxed and satisfied. The person who scores high on factor 'Q₄' tends to be tensed, excitable, restless, and impatient. He is often fatigued but unable to remain inactive.

The test – retest reliability of each factor were reported by the authors of the test are Factor A (0.59), Factor B (0.72), Factor C (0.67), Factor D (0.67), Factor E (0.67), Factor F (0.70), Factor G (0.66), Factor H (0.58), Factor I (0.72), Factor J (0.59), Factor N (0.70), Factor O (0.60), Factor Q₃ (0.61) and Factor Q₄ (0.58). The validity of CPQ is determined by concept validities which vary from .29 to .87 for form A and B.

**General classroom achievement test (GCAT):**

General classroom achievement test (GCAT) has been developed by Singh A.K. in 1971. The test aims to measure general classroom achievement of pupils of class VI & VII. Here general achievement has been defined as success in social studies, English and science. Social studies measure knowledge in the area like history, geography and civics. English includes knowledge of general rules regarding composite and grammar. General science measures knowledge in the area like mathematics, chemistry and physics. All these subjects constitute the core subjects in the general school achievement.

There is no fixed time limit but generally half an hour to 45 minute time is sufficient to complete the test. Students are asked to choose the correct answer by making () out of three options given against each item in the test. The maximum possible score on this test is 100.
The test retest reliability of the GCAT (VI) with a gap of 14 days on a sample of 100 students was .82 and the same was .78 for GCAT (VII). The split-half reliability of the GCAT (VI); was after full length correlation was .67 and GCAT (VII) was .75 respectively.

The GCAT for class VI as well as VII has been validated against the following criteria, depicted in table

- Examination Marks
- Teachers' Opinion
- Rating in Interview

### Table 3.4

**Validity Coefficient for General Classroom Achievement Test**

<table>
<thead>
<tr>
<th>Group</th>
<th>Examination Marks</th>
<th>Teachers' Opinion</th>
<th>Rating in Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCAT(VI) N = 40</td>
<td>.65</td>
<td>.53</td>
<td>.67</td>
</tr>
<tr>
<td>GCAT(VII) N= 40</td>
<td>.68</td>
<td>.59</td>
<td>.68</td>
</tr>
</tbody>
</table>

**Procedure:**

**Pilot Study**

The Pilot study was conducted in order to decide the appropriateness of tests used and sample in conducting the final study. It was conducted on 40 male and female students from English and Gujarati medium. On the basis of the pilot study few modifications were made, which are as under-

- Deciding the type of sampling for ease in further analysis
- The pilot study also gave direction about the coding method and the statistical procedures that could be used for final study
Main Study

In Order to decide the initial sample the schools of various English and Gujarati medium were visited, and then a written permission was sought out from the respective Principals after discussing the purpose of the present study. Accordingly, schedule was fixed in each school and then students were approached.

The primary information will be gathered by giving personal information form to each student. The data was collected from the respondents on Children personality Questionnaire (CPQ) and on General Classroom Achievement Test. These tests were administrated in-group. To fill the test subjects were given general instructions belongs to each test.

After conducting both test data were obtained by using fixed scoring pattern concern with each test separately.

Statistical Analysis:

The data were analyzed as follows;

The mean with graphical representation for medium (English & Gujarati) and gender (Male & Female) on subjects’ personality and academic achievement. A 2x2 factorial design was used viz. technique of Analysis of variance (ANOVA) in order to examine the roll of main variables as well as their interaction effects subsequently on subjects’ personality and academic achievement motivation.