CHAPTER IV
METHOD AND PROCEDURE

The purpose of this chapter is to discuss the method and procedure employed in the present study. In the present study, the problem is entitled "A comparative study of academic achievement, locus of control and self-concept of learning disabled and normal primary school students belonging to different levels of intelligence."

OPERATIONAL DEFINITIONS OF THE TERMS USED

Academic achievement

In the present study, Academic Achievement is the percentage of aggregate marks in all subjects secured by the student in the previous two examinations.

Locus of control

Locus of control is the extent to which the child is self-motivated, directed or controlled and/or the extent to which the environmental factors (luck, chance etc.) influence his behaviour (Pal, 1982).

Self-concept

Self-concept is individual's awareness of and identification with organism, cognitive powers, modes of conduct and performance accompanied by specific attitude towards them (Singh, 1990).

Learning disabled

Learning disabled children are normal in vision, hearing and having average or above average intelligence, but they have specific learning problems or difficulties in reading and spelling. Specific learning disability (reading, spelling) means a disorder in one or more of
the basic psychological processes involved in using language which may manifest itself in an imperfect ability to read and spell (Newton and Thomson, 1982).

Normal

Normal children are those whose age grade and age progress status or physical, mental, social and moral development are average or typical for their age group and who have secured 50 percent and above in all subjects.

Intelligence

In the present study, intelligence was the level of mental development and power of observation as measured by Raven’s Coloured Progressive Matrices (1975).

DESIGN OF THE STUDY

The main purpose of the present study was to compare the learning disabled and normal children at different levels of intelligence with respect to academic achievement, locus of control and self-concept. The study was also designed to find out the differences as well as the relationship among the variables under study at three levels of intelligence.

The present study was a descriptive survey study. Descriptive survey method was followed to conduct the study which involves collection of data through administering various tools and techniques. The study was designed to collect data from primary schools at Bhawanipatna, Kalahandi District, Orissa.

Pictorial form of the design of the present study is represented in Figure 4.1.
Fig. 4.1: Represents the Design of the Study

Kalahandi is an underdeveloped district. In the field of education, Kalahandi is a very backward district. The percentage of literacy rate is very low. Bhawanipatna is the headquarters of Kalahandi district. There are four English medium schools. Out of four schools, one school Principal refused permission to collect data due to the ongoing examination.

In the present study, intelligence has been classified into three levels on the basis of Kelley’s (1939) criterion of top and bottom 27% cases. Cases of top 27% have been considered as high intelligence, while the bottom 27% of cases are considered as low intelligence. Rest of the students who are not classified into either of the above groups have been regarded as the average intelligence group.
HYPOTHESES

As per the objectives of the study and various researches in the file, the following hypotheses were formulated for the present study:

1. A significant percentage of school going primary school children do suffer from learning disabilities.

2. No significant differentials exist on the variables of academic achievement, locus of control, self-concept and intelligence between learning disabled and normal.

3. No significant differentials exist on the variables of academic achievement, locus of control and self-concept between learning disabled and normal belonging to different levels of intelligence i.e. high, average and low.

4. No significant differentials exist on the variables of academic achievement, locus of control and self-concept between learning disabled belonging to different levels of intelligence i.e. high, average and low.

5. No significant differentials exist on the variables of academic achievement, locus of control and self-concept between normal belonging to different levels of intelligence i.e. high, average and low.

6. No significant class-wise differentials exist on the variables of academic achievement, locus of control, self-concept and intelligence between learning disabled and normal.

7. No significant gender differentials exist on the variables of academic achievement, locus of control, self-concept and intelligence among learning disabled.
8. No significant relationships exist among the variables of academic achievement, locus of control and self-concept among learning disabled.

9. No significant relationships exist among the variables of academic achievement, locus of control and self-concept of normal.

SAMPLE

Multi-staged randomized technique has been used in the present study.

Stage-I

The list of existing English Medium schools of Bhawanipatna Town was collected from D.I. Office. There were only four English medium schools in the Town. Out of the four, data were collected from only three schools. One school Principal refused permission to collect data due to annual examination.

Stage-II

Initial Sample

During the second stage, teachers were made aware of the learning disabilities of the children. Then teachers’ referral forms were given to teachers to assess the children’s learning disabilities from each of the three schools purposively selected. Learning disabled children were selected from class fourth and fifth by the teachers’ references. Children fulfilling the following criteria were included in the initial sample:

1. Children between the age range of 9 to 11 years and belonging to class IV and V.
2. Children who scored 65% and above in the teachers’ referral form.
3. Children not found absent from school frequently.
4. Children without any apparent emotional disturbances.
5. Children having reading, spelling disability.
Thus, 235 referred children constituted the initial sample of present study.

Stage-III
Final Sample

In the final stage children between the age range of 9 to 11 years who were referred by the teachers as having reading and spelling problems were administered Coloured Progressive Matrices by Raven (1975), Aston Index (Newton and Thomson, 1982), Academic Achievement from school records, Locus of Control by R. Pal (1982) and Self Concept (Singh, 1990).

On the basis of Aston Index, the children who were retarded in word reading and spelling for at least a year and above were considered as learning disabled in the present study. On the basis of above criteria, out of 235 children, 83 students were identified as learning disabled.

Since it was a comparative study, 83 normal children were also identified purposively on the basis of 50 percent and above marks secured in different subjects.

TOOL USED

The following tools were used:
1. Teachers' referral form prepared by Bains (1997),
2. Aston Index by Newton and Thomson (1982),
3. Locus of Control Scale for Children by Pal (1982),
4. Self-Concept Scale for Children by Singh (1990),
TEACHERS REFERRAL FORM

Teachers’ referral form prepared by Bains (1997) was used. This form is designed to obtain teachers’ perception of the nature of various learning difficulties experienced by the students in the primary classes. This referral form contains the items related to various specific learning difficulties like reading, writing, spelling, vocabulary, comprehension and various other problems related to memory, attention, motor coordination, language, social adjustment, motivation, emotion, and work habits/study skills.

Scoring: The scoring of this form is very simple. Each positive score is given one score and each negative score is given zero score. Total scores are seventy-two.

ASTON INDEX

Aston Index (Newton and Thomson, 1982) is widely used by teachers. It helps them in the early recognition of educationally “at risk” children. It enables teachers to assess the various learning skills needed for success in acquiring literacy and predict possible ‘barriers to learning’ in the individual child. For the present study, the tests selected from Aston Index were:

1. Schonell Reading test and
2. Schonell Graded Spelling test.

Schonell Reading Test

The child is required to read out aloud a series of graded words to obtain a reading age. The score is the total number of words correctly read. Norms are provided to derive the reading age.
Schonell Graded Spelling Test

The child is required to spell a number of graded words. Words from the Schonell spelling test are said aloud, followed by the words said in a sentence, followed by the word said on its own once more. The child is then required to write the word down on the paper. Spelling age is calculated as spelling age (SA) = \[
\text{Number of words correctly spelt} + 5 \]
\[10\]

The scores are noted on score sheet.

LOCUS OF CONTROL SCALE FOR CHILDREN

Locus of Control Scale was developed by Pal (1982). This scale consists of 25 items. There is no right or wrong response for the test. Much care has to be taken at the time of scoring. It is a five point rating scale. Only one response of a statement should be considered while scoring.

In the present study, the total composite scores are considered as the indices of the subject's locus of control.

The reliability of the test has been calculated by split half method as well as test-retest method with an interval of one month. The reliability coefficient was found to be 0.75 and 0.82. The validity coefficient was found to be 0.78.

SELF-CONCEPT SCALE FOR CHILDREN

The Self-concept Scale by Singh (1990) contains twenty two traits of descriptive adjectives. It is a self-rating word list, rather than a check list, to be rated by the subject on five points scale. Out of 22 adjectives, 19 adjectives relate to positive and 3 are considered negative. There is no
right or wrong answer. In the present study, the total composite scores are considered as the indices of the subject self-concept.

The tool is self-administering. It can be administered to an individual as well as to a group. It takes hardly 15 minutes for administration.

The test-retest reliability of self-concept was established with the time intervals of two weeks and the correlations are significant beyond 0.01 level.

**COLOURED PROGRESSIVE MATRICES (CPM)**

Coloured progressive matrices (CPM-1975) by Raven, was used to measure intelligence in the present study.

The Coloured Progressive Matrices (CPM) is designed for use with school going children from 5½ -11 years. It is a popular non-verbal as well as individual test of intelligence, but not more than 8 or 9 children should be tested at any one time.

The three sets of 12 problems constituting the CPM are arranged to assess the chief cognitive process of which children under eleven years of age are usually capable.

A child’s raw score in the scale is the total number of problems he solves correctly.

For the present study the raw scores were used. The reliability of the test by test-retest method varies between 0.6 and 0.8 respectively.

**ACADEMIC ACHIEVEMENT**

The aggregate marks obtained by the students in all subjects, in class III and IV. Half-yearly and annual examination were taken as a measure of academic achievement. The total marks of both examinations
were added to get a composite score in order to enhance the reliability of achievement data.

The SSC Board, Maharashtra (1960), obtained a reliability coefficient of 0.76 for the aggregate marks. Empirical studies by Dutta (1967) and theoretical analysis by Vernon (1940) and Harper (1969) indicates that the total marks of all papers of an examination are more reliable than the marks in a single paper.

PROCEDURE OF DATA COLLECTION

The data of the present study were collected in the following three phases.

Phase-I: In the first phase of data collection Principals' of English medium schools were contacted and permission was sought for data collection. English teachers of fourth and fifth classes were contacted and made aware of various specific learning difficulties of school children. Teachers' referral forms were distributed to the teachers of fourth and fifth class students.

Phase-II: During phase-II, various tests were administered to all the referral cases who were selected for the final sample under various sessions. Astone Index by Newton and Thomson (1982) was administered, individually to assess their reading and spelling age. Schonell's graded word reading test and Schonell's graded spelling test were administered in the first session and Coloured Progressive Matrices by Raven's (1975) was administered individually in all IVth and Vth classes in order to test their non-visual ability in the second session.

Phase-III: In this phase, data were collected in different sessions. In the first session academic achievements were collected from school records.
In the second session Locus of Control Scale was administered to
measure the locus of control and in the third session their self-concept
was measured through Self-Concept Scale.
On the basis of teachers referral and Schonell’s Reading and
Spelling Test, 83 students were identified as learning disabled. Though it
is a comparative study, 83 normal students also identified purposively
on the basis of those who secured 50% and above marks in different
subjects.

STATISTICAL ANALYSIS
Various statistical techniques were employed for testing research
hypotheses. A brief description of these techniques is being made here as
follows:
1. Descriptive statistics namely mean and standard deviation for all
variables were obtained.
2. t-test was applied to find out the differences between learning
disabled and normal students on all variables.
3. Correlation matrix was used.
4. Graphic representation was done wherever necessary.