Chapter – 3
Method of Study

CHAPTER – III
METHOD OF STUDY

3.1 SAMPLE OF THE STUDY

A well designed study/research procedure and use of appropriate techniques defines the methodology of Research. It not only make the study scientifically sound and plausible but also gives credibility to the findings. In the words of *Karlinger (1982)* "Sample is a part taken from the population wholly and truly".

For the selection of sample following things were done : identification of schools, consulting the principal for permission approaching teachers and obtaining a list of those students who are studying in their Mother Tongue, (i.e. Hindi). The purposive sampling technique has been used for the selection of the sample. Bhopal city has been selected for the present study. The sample consist of 80 students from seven public school of Grade V.

3.2 METHOD OF SAMPLING

Keeping in view the nature of the problem and population under investigation its availability, suitability, suitable time, money and man power, purposive sampling method was used.

Selection of private English Medium and Hindi Medium School.

Students continuing in the same school from Grade IV to Grade V.

Schools with students from similar family socio-economic status.

A sample of 80 students (boys & girls) from the same board (i.e. M.P.

Board) from the Grade V in the age group of 10-11 years was drawn from the seven public schools of Bhopal, on the basis of their access and criteria for selection. 40 from English Medium and 40 from Hindi Medium schools.

The mother tongue of all the students taken was Hindi.

Table No. 1 – Description of the Sample

S.NO.	MEDIUM	CLASS	BOYS	GIRLS	TOTAL
1.	English	V	22	18	40
2.	Hindi	V	28	12	40
					80

The sample was controlled regarding intelligence and Socio-Economic status. They were given Raven's Test of intelligence to find out their intelligence. It was found that both the groups were comparable with regard to their intellectual level.

The Socio-economic status of the students was assessed on the following criteria :

Father's educational qualification, Mother educational qualification, Father's occupation and monthly income of the father. In educational qualification following categories were taken :

1. Matriculation and +2.

2. Graduation

3. Post-Graduation.

In the same way following categories were taken in father's occupation :

1. Government Job.

2. Private Job.

3. Business.

Lastly, monthly income of the father is categorized as :

1. 4000-8000.

2. 8001-12000.

3. 12001-16000.

4. 16001-20000.

3.3 VARIABLES OF THE STUDY

Variables are attributes/quality which exhibit difference in magnitude and which vary along certain dimension. Variables taken into consideration in this study were :-

A) INDEPENDENT VARIABLE

It is that factor which is measured manipulated, or selected by which the experimenter determine its relationship to an observed phenomenon.

B)   DEPENDENT VARIABLE

The dependent variable is that factor which is observed and measured to determine the effect of the independent variable i.e. that factor that appears, disappears or varies as the experimenter introduces, removes or varies the independent variable.

C)   CONTROLLING VARIABLE / MODERATE VARIABLE

Those variable whose effects must be neutralize or controlled arte called control variable.

They are defined as those factors which are controlled by the experimenter to cancel out or neutralize any effect they might otherwise have on the observed phenomenon.

VARIABLES USED IN THE STUDY

Independent Variable	-	Reading Comprehension
Dependent Variable	-	Mathematics Achievement
Controlling Variable	-	A. Intelligence
		B. Socio Economic Status

3.4   DESCRIPTION OF TEST

The subjects were assessed regarding their reading comprehension mathematics achievement and intelligence.

3.4.1 READING TESTS

A. Word Identification (English)

B. Passage Comprehension (English)

C. Word Decoding (Hindi) and

D. Passage Comprehension (Hindi)

Word identification and passage comprehension tests in English included in the Woodcock Reading Mastery Tests – Revised (Form G). (Wood cock, 1987) were used.

For Hindi, decoding and comprehension test developed in Hindi by Das (1995) on the line of the English tests were used. The tests are described below.

DECODING TEST

The word identification (English) test consisted of 106 items where as the word decoding (Hindi) test consisted of 100 items. The subjects were asked to read the word one by one in a clear manner.

The examiner must know the correct pronunciation of the test words before administering the word identification test. Attention should be paid in particular to the pronunciation of unfamiliar words. If the subject does not respond to the first item presented, the examiner scores that items zero; the examiner then says the word and asks the subject to repeat it. The examiner may not tell the subject any other words during the test.

On subsequent items, if the subject does not respond within about thirty seconds, the examiner scores that item zero then points to the next word. The

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examiner may point to each word in the test if necessary. For a response to be considered correct, the subject must produce a natural reading of the word in about five seconds. Subjects are not to be penalized for mispronunciations resulting from speech defects, dialects, or regional speech patterns. If a response to a word is not clear, the examiner waits until the page has been completed and then asks the subject to repeat all the words in the row in questions.

PASSAGE COMPREHENSION TEST

Both the English and Hindi passage comprehension tests consisted of 68 items. The subjects were asked to read each sentence or item and suggest an appropriate word in the blank space.

To begin the passage comprehension test all subjects are administered a sample item to ensure that they understand the response format of providing a word that belongs in the blank. The examiner reads the sample item around; no other items or words may be read aloud to the subject during the remainder of the test. The examiner is not to begin actual testing until the subject has responded correctly to the sample item.

The examiner then records a one as the score for the sample item, after the sample item has been completed, the examiner refers to the table of suggested starting points on that page to begin the test.

The subject should read all test items silently and then respond. Only single word responses are correct, if the subject responds with more than one word, the examiner should request a one-word answer, if the subject does not respond to an item within about 30 seconds after completing reading of the passage, the examiner

should encourage a response. (The examiner will usually be able to determine when a subject has completed reading a passage by watching the subject's eyes). If the subject does not respond after being encouraged, the examiner records a zero for that item and proceeds to the next item.

The test book presents a variety of acceptable responses, the test record gives the preferred response only. Any responses listed as correct in the test book may by scored correct on the test record. Any listed in the test book as queries are to be followed with a question by the examiner.

Those listed incorrect should be scored with a zero (The examiner may wish to record the subjects error responses, for later analysis).

The passages are intended to be read silently by the subject. However, some subjects particularly those who are young start to read aloud. If this happens, the examiner should ask the subject to persist in reading aloud, the examiner should not insist upon silent reading.

3.5 ACHIEVEMENT IN MATHEMATICS

To assess achievement in mathematics, subject's, mathematics marks of their Annual Examination of Grade IV were collected from school record.

3.6 INTELLIGENCE TEST

RAVENS COLOURED PROGRESSIVE MATRICES (RCPM)

The Ravens Coloured Progressive Matrices (RCPM) consists of 36 items in three sets of 12; A, A$_B$ and B. The subject were asked to observe he Geometrical figures. Here some part are missing in the patterns, child were asked to choose the

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correct alternative which fits in the missing part & complete the figure. It is designed for use with young children and old people, for anthropological studies, and for clinical work.

The three sets of 12 problems constituting the RCPM are arranged to assess the chief cognitive processes of which children under 11 years of age are usually capable.

The three sets together provide three opportunities for a person to develop a consistent theme of thought, and the Test of 36 problems as a whole is designed to assess, as accurately as possible, mental development upto intellectual maturity.

- Children are first able to distinguish identical figures from different figures.

- Some time after this, they are able to appreciate a figure's orientation with respect to themselves & other objects in the perceptual field.

- Later they are compare analogous changes in the characters perceived, and adopt this as a logical method of reasoning.

- Subsequently they are able to analyze the perceived whole into its constituent elements, or "Characters" and distinguish between what is gives and what they themselves contribute.

  Finally, they are able to apprehend two or more discrete figures as forming a whole or organised individual entity.

SCORING

The data regarding student's intelligence test was collected through a scoring sheet. It was administered among the class V students of sample schools. The intelligence test was administered to the students in groups.During   the

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administration of the intelligence test, all the students were asked to sit comfortably and rapport was established with the students. Instructions printed on the test were read by the researchers.

If there was any confusion regarding the instructions students were asked to raise their hands. There was no fixed time limit for the test but ordinarily the students took 25-30 minutes time for completing the test.

The researchers assured the students that their answer would always remain confidential and made every effort in secure the sincere co-operation from the students. As soon as the students finished answering, the answer sheets were collected.

3.7   STATISTICAL TECHNIQUES

Various statistical technique were used i.e. Mean, S.D., t-test, Coefficient of Correlation ('r') for knowing all the distributions & differences between categories, gender and influence of medium.