

## ***CHAPTER - III***

### ***METHOD AND PROCEDURE***

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Method and procedure employed in an investigation determine its destiny. It constitutes an important part of research. No research project can be undertaken successfully without proper thinking and planning. It is the character of the technique of research on which the degrees of prediction, objectivity and tools are dependent. This must be handled with every caution and profound consideration in respect of the time, cost, experience and the need of research procedure for any study before starting the research.

There are many methods of collecting, analyzing and reporting research data. The decision about the method depends upon the nature of the problem and objectives to be achieved.

Research is purposive, scientific and pointed deliberation. After the selection, definition and delimitation of the problem, the adoption of suitable measures becomes very imperative. Since research is not haphazard task, it requires proceeding in a definite direction along with well- defined line. Collection of mere bits of information is not research. Planning and procedure for study is deemed essential for saving it from becoming a heap of jumbled ideas gathered from here and there. It goes without saying that ultimate success of a research project generally depends upon the methods employed in it.

Once a research problem is identified and the available research evidences pertaining to the research problem are reviewed, the next step of the researcher is to develop a research design. It is the research on which the degree of precision, objectivity, reliability and validity of the research depends. The most requisite in any research is the data. The data are like raw material without which production is not possible.

The fate of research project depends upon the plan & procedure adopted by the researcher for its execution. It is the character of the techniques of research on which the degree of precision, objectivity, reliability and validity of the results depend. As a matter of fact, the

foundation of any empirical study depends upon appropriate research methodology.

Therefore, utter importance has been given to plan and procedure. An attempt has been made by the researcher to provide a detailed outline of the methodological plan and procedure, and details of which have been given in the following section:

3.1 Locale of the Study

3.2 Methodology

3.3 Population and Sample

3.4 Design of the Study

3.5 Variables

3.6 Tools Used

3.7 Data Collection

3.8 Statistical Techniques

### **3.1 LOCALE OF THE STUDY**

The locale of the study was Kurukshetra town in Haryana state. The Kurukshetra town was chosen through convenience sampling technique for the study. For the purpose of study, a list of thirty English Medium Senior Secondary Public Schools was obtained from District Education Office of Kurukshetra town. Through random sampling, twelve schools were chosen out of thirty. Five English Medium Senior Secondary Public Schools affiliated to C.B.S.E. were selected purposively for survey on the basis of their willingness to cooperate and, of their respective representation of Kurukshetra town geographically. From these schools, forty eight Students with Reading Difficulty of VI grade were chosen as the sample of the study. Figure- 3.1 represents the political map of Haryana with the location of Kurukshetra town marked.

#### Locale

State	: Haryana
District	: Kurukshetra
Town	: Kurukshetra



**FIGURE- 3.1**  
**POLITICAL MAP OF HARYANA SHOWING LOCALE**  
**OF THE STUDY**

### **3.2 METHODOLOGY**

The choice of research method depends upon the purpose of the study and the nature of the problem. The present study is aimed to study the Self-Concept and Social-Skills of Children with Reading Difficulties in relation to their Academic Self-Perception and Self-Efficacy. Keeping in view the nature and objectives of the study, Descriptive Survey method of research is used by the researcher. Descriptive research deals with the relationship between variables, the testing of hypotheses, and the development of generalizations, principles or theories that have universal validity.

Descriptive research is sometimes known as Normative Survey Method. It is concerned with the functional relationships. This method of research is related to gathering of evidences in the existing situations. It collects three types of information- what exists, what we want and how to get the goals.

Normative survey investigations may be variously classified on the basis of the fields of study, the purposes they achieve, the geographical areas they cover or the techniques they employ. Under this method, school surveys, achievements testing etc. are studied. In this type of study, the variables cannot be manipulated.

### **3.3 POPULATION AND SAMPLE**

The term population is used in research to describe any group of people or observation in which the researcher is interested. The main purpose of the research is to discover principles that have universal application, but to study the whole population would be impracticable and impossible to test each unit of the population under controlled conditions in order to arrive at principles having universal validity. Some populations are so large that their study would be expensive in terms of time, money, effort and manpower (Koul, 1984). In the present study, the term population refers to class VI students studying in English Medium Senior Secondary Public Schools of Kurukshetra town in Haryana.

Sampling is a technique by which a relatively small number of individuals or measures of individuals, objects or events are selected and analysed in order to find out the characteristics of entire population from which it is selected. It reduces the expenditure, saves time and energy, permits measurement of greater scope or produces greater precision and accuracy .It is not possible to collect data from all the segments of a population, so the researcher resorted to sampling technique. Sample refers to a small number of individuals, events or observations selected from population under study. Within all approaches to research, researcher uses sampling for very practical reasons. In majority of studies, it is just not feasible to collect data from each and every subject. Moreover, sampling makes it possible to draw valid generalizations by studying a selectively small proportion of the population selected for observation and analysis. In the present study, Kurukshetra town of Haryana was the field of study. As far as the sample of the study was concerned, multistage sampling technique was used. The description of the same is given in the following section.

### **3.3.1 Selection of Schools**

The sample of the study was selected using multistage sampling. The Kurukshetra town chosen by researcher through convenience sampling at the schools of Kurukshetra was easily accessible to and within the proximity of place of the researcher. In the first instance, the researcher personally visited the office of District Education Officer (DEO) of Kurukshetra to get the information regarding English Medium Senior Secondary Public Schools of the Kurukshetra town. The researcher requested him to grant permission to conduct the study. A list of thirty English Medium Senior Secondary Public Schools of the town was obtained from the office of DEO. Twelve schools out of thirty schools of the city were randomly selected by lottery method. The researcher personally visited these schools to check the feasibility of the research. Out of twelve schools, five schools were selected from different localities of Kurukshetra i.e. central, east, west, north and south area of the town to reduce biasness of sample and as the authorities were willing to

cooperate in the conduct of the study. Therefore, a purposive sampling technique was used to select the schools for research because without the cooperation of the schools, the study would not have been conducted in the right perspective. The list of surveyed schools is given in table- 3.1.

**TABLE - 3.1**  
**LIST OF SURVEYED SCHOOLS**

<b>SR. NO.</b>	<b>LIST OF SURVEYED SCHOOLS IN KURUKSHETRA TOWN</b>	<b>REMARKS</b>
1.	Aggarsain Public School, Mohan Nagar, Kurukshetra	Selected
2.	University Senior Secondary School, Kurukshetra	
3.	Pooja Modern School, Pipli, Kurukshetra	
4.	Saini Public School, Chanarthal Road, Kurukshetra	Selected
5.	D.A.V. Public School, Urban Estate, HUDA , Kurukshetra	Selected
6.	St. Thomas School, Sunderpur, Kurukshetra	
7.	B.R. International Public School, New Grain Market, Kurukshetra	
8.	Shri Mahavir Jain Public School, Railway Road, Kurukshetra	Selected
9.	Maharana Pratap Public School, Opposite Police line, Kurukshetra	Selected
10.	Millennium Public School, Ansal City, Kurukshetra	
11.	Holy Child High School, Kailash Nagar, Kurukshetra	
12.	Gita Niketan Senior Secondary School, Salarpur Road, Kurukshetra	

### 3.3.2 Selection of Subjects

The sample in the present study consisted of 666 students of grade VI studying in selected five English Medium Senior Secondary Public Schools. It constituted as the initial sample for the research.

**TABLE – 3.2**

**LIST OF SAMPLE SCHOOLS AND STUDENTS OF GRADE VI**

<b>SR. NO.</b>	<b>NAME OF THE SCHOOLS</b>	<b>NUMBER OF STUDENTS IN GRADE VI</b>
1.	Maharana Pratap Public School, Kurukshetra	158
2.	Shri Mahavir Jain Public School, Kurukshetra	58
3.	D.A.V. Public School, Kurukshetra	182
4.	Saini Public School, Kurushetra	80
5.	Aggarsain Public School, Kurukshetra	188
	<b>Total</b>	<b>666</b>

A group of 666 students comprised of boy and girl students of VI grade of different sections of selected schools. At the first instance, for the screening of Children with Reading Difficulties, a list of students was prepared on the basis of their previous academic records. For the purpose, mean scores of three terminals of grade V were taken and 318 out of a group of 666 students were selected who showed average or above average performance in complementary subjects other than English. To measure Intelligence Quotient (IQ) of this group of children, Malin's Intelligence Scale for Indian Children (MISIC)(1966) was used to identify them as learning disabled. Since learning disabled children do not involve low or high intelligence, it is but natural to include children possessing average IQ. Out of 318 students, 173 students were selected out. For further short listing,

Teacher's Observation Check List (SCERT,1989) was applied on 173 students with the help of concerned teachers teaching English to these students. English language teachers from each school were selected purposively on the basis of their availability and willingness to cooperate and sixty two students were selected out of 173 students. Finally, a Diagnostic Test of Reading Disorders was administered on the screened out students and a sample of 48 students having Reading Difficulty was identified. The list of 666 students from five selected schools of VI grade for the study is given in table- 3.2 & final sample drawn/screened is given in table- 3.3.

**TABLE – 3.3**  
**SCREENING OF CHILDREN WITH READING DIFFICULTIES**

<b>SR. NO.</b>	<b>NAME OF IDENTIFICATION MEASURE</b>	<b>NUMBER OF STUDENTS</b>
1.	Previous Academic Records	318
2.	Malin's Intelligence Scale for Indian Children(MISIC)	173
3.	Teacher's Observation Check List(SCERT)	62
4.	Diagnostic Test of Reading Disorders(DTRD)	48
		<b>N=666</b>

### **3.4 DESIGN OF THE STUDY**

The design of the study outlines the research plan. It describes in detail what would be done and how would it be done; what type of sample would be selected and what data collecting devices would be used. The present study involved the survey of five schools of Kurukshetra town of Haryana State. The design comprised of two operational stages as identification stage and assessment stage:

- i) Identification Stage:** The first stage involved screening and identification of subjects on the basis of Previous Academic Records, Malin's Intelligence Scale for Indian children(MISIC), Teacher's Observation Check List(SCERT), Diagnostic Test of Reading Disorders(DTRD) and finally drawing out a sample of 48 Children with Reading Difficulties. It took six weeks to identify the sample.
- ii) Measuring Stage:** In the second stage of school survey, the assessment of Self-Concept, Social Skills, Academic Self-Perception and Self-Efficacy of children was done for two hours per day for twenty days. The tools, used to collect data were Children's Self-Concept Scale, Matson's Evaluation of Social Skills with Youngsters (Hindi version), Academic Self- Concept Scale and The Children's Self-Efficacy Scale. The design of the study is given in table- 3.4.

**TABLE – 3.4**  
**DESIGN OF THE STUDY**

<b>STAGE</b>	<b>DESCRIPTION</b>
Identification of Children with Reading Difficulties	(a) Previous Academic Record (b) Malin's Intelligence Scale for Indian Children (MISIC) by Arthur J. Malin (1966) (c) Teacher's Observation Check list (SCERT,1989) (d) Diagnostic Test of Reading Disorders (DTRD) by Smriti Swarup & Dharmistha H. Mehta (2003)
Measurement of Children with Reading Difficulties	(a) Children's Self-Concept Scale by S.P.Ahuwalia (1971) (b) Adapted Hindi Version of Matson's Evaluation of Social Skills with Youngsters (MESSY) by Sharma (1997) (c) Academic Self-Concept Scale by Liu & Wang(2005) (d) Children's Self-Efficacy Scale by Albert Bandura (1996)

### 3.5 VARIABLES

Variables are the conditions or characteristics that the researcher manipulates, controls or observes. The independent variable is the condition or characteristic that the researcher manipulates in order to observe its impact/influence on dependent variables. Dependent variables are the measurable changes in subjects' performance or behaviour as a result of the influence of the independent variable or exposure to a treatment phase.

- i) **Independent Variables:** The independent variable is a factor that is selected by the researcher to determine its effect on dependent variables. In the present study, independent variables are Academic Self-Perception and Self-Efficacy.
- ii) **Dependent Variables:** Dependent variable is a response or output. The dependent variable is the factor that is observed and measured to determine the effect of independent variable. In the present study, dependent variables are Self-Concept and Social-Skills.
- iii) **Intervening Variables:** Variables like age of the respondents, their IQ level, grade level, willingness to cooperate, gender, previous knowledge in English language were intervening variables. These were successfully controlled by choosing the subjects, who scored between 33 to 60 percent marks in previous class as an aggregate, and got the similar percent in English subject, and 40 to 70 percent in other complementary subjects.

### 3.6 TOOLS USED

Like the tool in the carpenter's box, each research tool is appropriate in a given situation to accomplish a particular purpose (Best, 1986).

“The right tools are essential to doing a job well, and yet everyday, people are asked to accomplish their task with tools that are ill conceived, ill designed and inadequate. The only tools worth having are those that create and enhance value”(Schrage,1990).

In the study, the researcher used two types of tools:

### **3.6.1 Identification Tools**

Three types of identification tools used for identification of Children with Reading Difficulties:

- Malin's Intelligence Scale for Indian Children(MISIC) by Arthur J. Malin(1966).
- Teacher's Observation Check List by SCERT(1989).
- Diagnostic Test of Reading Disorders(DTRD) by Smriti Swarup and Dharmishta H. Mehta (2003).

#### **3.6.1.1 Malin's Intelligence Scale for Indian Children (MISIC)**

At the initial stage, Previous Academic Records of the students were used for screening of children with Learning Disability (LD). At first instance, a list of students was prepared on the basis of their Previous Academic Records. For this purpose, mean scores of the three terminals of Grade V were taken. The students who scored between 33 to 60 percent in English and 40 to 70 percent and above in other complementary subjects were selected. Out of 666,318 students were selected & administered MISIC.

Malin's intelligence scale for Indian Children (MISIC), an adaptation of the Weschler Intelligence Scale for Children developed by Arthur J. Malin (1966) of Nagpur, was used to assess the intelligence of children. This is used for children aged 6 to 15 years. This battery comprises 11 Sub-tests, 6 of which form the verbal Scale and 5 the performance scale. The tests in the verbal scale include information comprehension, analogies, arithmetic, vocabulary and digit span. The tests on performance scale include picture competition, block design, object-assembly, mazes and coding (Appendix-I). The neuropsychological functions tapped by the various sub-tests include attention, concentration, working memory, vigilance, recall, mathematical reasoning, judgement, visco-spatial construction and visual integration.

Like most intelligence tests, it is split into two halves. The first aims to assess child's intellect by what he/she can say about things and the second

to test what he/she can perform through visual and manual task that requires no speaking. The test is divided because verbal skill is generally governed by the left half of the brain, and visual & manual performance by the right half. Most people score equally well or equally bad in both the sets of tests. So, if there is a big difference between children's verbal & non-verbal ability this will show that one half of his/her brain is working much better than the other. This kind of imbalance will throw the learning process out of tune and can result in learning difficulties such as Dyslexia.

### **Reliability of MISIC**

The reliability of the original WISC was calculated by the split half method with appropriate correction for full length of the test by the Spearman-Brown formula and yielded a total co-efficient of .91.

The Indian adaptation (MISIC) established its reliability with the Test Retest method and yielded a Pearson's Product-moment correlation co-efficient of 0.91 for the full-scale IQ results. It has also established concurrent as well as congruent validity. The former, was obtained from school ranking and came to be 0.61, whereas Congruent validity was obtained from an adapted version of the California Short Form Test of Mental Maturity for the upper age levels and from the good enough Draw-a-Man test for the lower age levels, both yielded a co-efficient of .63.

### **Scoring Procedure of MISIC**

The scores or raw scores of each test are totaled and then converted on the principle of the 'Deviation IQ' into derived scores. In the original WISC, these derived scores are standard scores called "Scaled Scores" which in turn must be converted into IQs by means of a table each for Verbal, Performance and Total Full Scale IQs. The adapted MISIC avoids the use of "Scaled Scores" and by means of a Table converts the raw scores directly into 'Test Quotient', which are actually IQs. The Sub-Test IQs are then added and group averaged (Verbal Performance) and the Total or Full Scale of both groups is similarly obtained without the use of a Table.

The subtests in the Scale are grouped as follows:

## A. Verbal Sub Tests

- i) **Information:** This is aimed to assess child's range of general information and knowledge of the world around him/her, as well as his/her memory for facts which he/she may have learned at school and home. It consists of 30 items. Each item is scored one or zero. Maximum scores are 30.
- ii) **General Comprehension:** This tests the subject's practical judgment, common sense and awareness of why things are done as they are. Maximum scores are 28. It consists of 14 items. Each item is scored 2,1 or zero. It is discontinued after three consecutive failures.
- iii) **Arithmetic:** Here, the child is given mental arithmetic problems to test his/her arithmetic ability, concentration and memory. All the questions can be worked out by common sense without any specialized knowledge of mathematics. Maximum scores are 16 scores. There are 16 items. Each item is scored 1 or zero. The test failures discontinued after three consecutive attempts.
- iv) **Similarities:** To check the abstract reasoning, the subject is asked in what way pairs of things are alike. To begin with, the similarities should be obvious and simple and the questions then get progressively harder. Maximum scores are 32 scores. It includes 16 items. Each item is scored 2, 1 or 0. Test is discontinued after 3 consecutive failures.
- v) **Vocabulary:** This test normally gives the best scores to child's intelligence. She/he asked to define a number of words, the questions ranging in difficulty. Maximum score can be 80. There are 20 words to test the vocabulary. Each word is scored 2, 1 or 0. Test is discontinued after 5 consecutive failures.
- vi) **Digit Span:** The examiner says out loud a random sequence of number and asks the child to report them both forward and backward. Although, the subject's score on this test is not used to calculate his

IQ, it provides useful information about his or her attention and memory for number - lack of which is a possible pointer to dyslexia. There are 14 items in digit span. Child, score is the highest number of digits repeated without error. Thus, if he/she only repeated five digits his/her score is 5. Total score combines forward and backward.

### **B. Performance Sub Tests**

- i) **Picture Completion:** All the Performance Tests are timed. The 1st is designed to find out how good the child is at distinguishing the essential details of a picture. She/he is asked to say what is missing from a series of drawings. It consists of 20 items. Each item is scored one. Maximum exposure is for 15 seconds. This subtest is discontinued after 4 consecutive failures. Maximum score is 20.
- ii) **Block Design:** To check the child's spatial co-ordination he/she is asked to make patterns with blocks to match patterns shown in a booklet. It includes 7 items of block design.
- iii) **Object Assembly:** This is for assessing similar skills to the previous test. The subject is asked to assemble parts of an object-a face, perhaps into a whole. He/she is told what the object is supposed to be in the 1st two items but has to guess for himself in the last two. Scoring is done as per the manual. Maximum scores are 34.
- iv) **Coding:** This is a speed test of child's fine muscular coordination and his/her ability to learn a new task and to translate numbers into symbols. Training is for 120 seconds. Scoring is done as per the manual. Maximum score is 50.
- v) **Mazes:** This is a speed test for child's fine motor control and his / her ability to learn a new task. Time is printed beside each maze. Scoring is done as per the manual. Maximum score is 20.

### **Administration**

The test was given to a small group of students seated comfortably with sufficient space so as to avoid copying. They were made to sit in a manner that all of them faced the researcher. The researcher distributed the

test booklets, answers sheets, and pencils to each subject and asked them to fill the needed information on front page of the answer sheet. They were instructed not to open the test booklets until they are asked to do so. The Students were asked to open the test booklet and answer sheets were collected after the expiry of stipulated time period.

### **3.6.1.2 Teacher's Observation Check List**

An observation checklist developed by the State Council of Educational Research and Training (SCERT, 1989) in Haryana had been used in the second phase (Appendix-II). The checklist comprised eleven items with yes/no. Instructions were given to the teachers to put tick mark (✓) if they found any observational and functional behavioural problems related to Reading Skill Deficits among children in English language. English teachers who had been teaching the grade VI were asked to fill the checklist of students who had poor and unsatisfactory performance in English or failed in English subject at school consistently. The checklist was used as a screening test.

### **3.6.1.3 Diagnostic Test of Reading Disorders (DTRD)**

Diagnostic Test of Reading Disorders by Smriti Swarup & Dharmishta H. Mehta (2003) was used to test the reading ability in the present study. The Diagnostic Test of Reading Disorders (DTRD) is an individually administered instrument for diagnosing the reading disorders in children aged 8 to 11 years. It covers a range in reading ability from IV to VI Grade. The test does not provide any normative data as it is believed that each child with reading difficulty would vary in terms of manifestations of symptoms and deficits in processes, and hence the variation in diagnosis. It is a non-timed test but it is advisable to record the total time taken by individual child. On an average, a child takes 45- 50 minutes to complete the test at each level. Each child has to be administered both Level-I and Level-II of the test. If the child fails to complete correctly the Level-I, then Level-II of the test should not be administered (Appendix-III).

A child's performance on the test items will indicate the adequacy/inadequacy with regard to the functioning of his/her cognitive processes. The scores on the individual items are best interpreted in combination with the scores on the other items. The DTRD measures through its two levels i.e. Level-1 and Level-II, each consisting eight items which are elaborated as follows:

## **ITEMS**

### **Level - I**

- i) Sound- Symbol Association (SSA)
- ii) Blending of Sound (BS)
- iii) Phonic Analysis (PA)
- iv) Visual Conditioning (VC)
- v) Semantic Closure (SC)
- vi) Lexical Processing (LT)
- vii) Language Internationalization (LI)
- viii) Copy Writing (CW)

### **Level-II**

- i) Grapheme Phoneme Association (GPA)
- ii) Verbal Phonetic Coding (VPC)
- iii) Phonemic Synthesis (PS)
- iv) Verbal Visual Correspondence(VVC)
- v) Verbal Memory (VM)
- vi) Listening Comprehension (LC)
- vii) Reading Comprehension – Aloud (RC-A)
- viii) Reading Comprehension – Silent (RC-S)

### **Level-I**

#### **Item-I**

#### **Sound-Symbol Association (SSA)**

This item seeks to assess the child's sound-symbol association

(grapheme – phoneme correspondence). No reading is possible unless this association is mastered i.e. mastery over the alphabetic code of language. Further, the child’s ability to decode phonemes from letter clusters is measured through this item. Children scoring low on this item may also show weak short term and working memory as they fail to use the required control processes to recognise and establish the letter- sound association.

## **Item - II**

### **Blending of Sounds (BS)**

This item attempts to judge the child’s ability to blend sounds. Once a child learns to blend the sounds he/she has a means of working out pronunciations of written words. Fluent readers who are familiar with sound blending can decode automatically, for them reading becomes a smooth and an effortless process. Decoding new and unfamiliar words is possible when a child is proficient in phonetic blending. A child who is unable to perform correctly on this item has difficulty in sound blending and word recognition.

## **Item III**

### **Phonic Analysis (PA)**

This item seeks to ascertain if the subject is able to analyze the phoneme sounds in a non-word. Here, the sounds are not-tested in isolation. The child is expected to hear and remember the first and the last phoneme of the word. A child failing in this item will have problems in reading and spellings.

## **Item IV**

### **Visual Conditioning (VC)**

This item aims at testing the visual conditioning of the subject towards reading. Two similar sounding words are presented, though both the words read the same, only one is written correctly. A Familiarity with the word in its written form would enable the child to delineate the correct word from the incorrect one. Children with adequate visual memory are able to do this task correctly.

**Item V****Semantic Closure (SC)**

This item purports to measure child's ability for semantic closure. Reading precludes semantic closure. Since semantic and syntactic cues are dependent on the reader's linguistic competence, the development of language skill is crucial to successful reading. This would facilitate development of listening and reading comprehension.

Child failing in this item lacks automation in language, a prerequisite for any reading. It is, therefore necessary that before actual reading skill development is attempted, focus should be geared at his/her language development.

**Item VI****Lexical Processing (LP)**

This item aims at testing phonic skills in the context. Here the subject, who fails to read correctly, fails to utilize contextual cues. The student must learn to master the skills of relating the various words in such a way that a logical sequence of words is formed in the sentence. The student must learn to master the skills of relating the various words in such a way that a logical sequence of words is formed in the sentence.

**Item VII****Language Internalization (LI)**

This is a close test and seeks to test the child's acquisition of language, within a context; the child is expected to fill in correct word. Internalization of the language structure, familiarity with its rules of usage and the ability to visualize the events are a prerequisite, for its correct performance.

**Item VIII****Copy Writing (CW)**

This item seeks to ascertain if the subject is able to analyze the phoneme sounds in a non-word. Since the words used in this item are non-

meaningful, the subject is required to “recode” first then decode the non-word. Here, the sounds are not tested in isolation. The child is expected to hear and remember the first and last phoneme of the word. A child failing in this item will have problems in reading and spellings.

## **Level-II**

### **Item I**

#### **Grapheme Phoneme Association (GPA)**

This item attempts to measure the child’s acquisition of sound symbol association at a higher level. Reading blends is possible only when the sound symbol system is mastered. This item purports to identify the blends of sounds. It calls for perception of the auditory stimuli, which then gets translated into organized experience. It is through perception that symbol achieves its meaning and gets translated into oral code.

### **Item II**

#### **Verbal Phonetic Coding (VPC)**

Reading is always a two way process, the identification of the symbols and association of meaning with them. In this case, meaningfulness refers to the configuration of letters that forms the word. Rapid automatic reading of these isolated words ensures a sound auditory integration and language familiarity.

This item sees to ascertain the child’s ability to read words. Level appropriate words have been selected in this item.

### **Item III**

#### **Phonemic Synthesis (PS)**

This item aims at assessing the child’s ability to read “non-words”, toughest for children with Dyslexia. It is a distinct test of decoding i.e. Internalization of Sound Symbol association. The child cannot generalize and apply the knowledge of the linguistic code of the language without a stabilized sound-symbol association. This ability is also a precursor to enabling the child to read new and unfamiliar words. This explains why the

dyslexics read generally only 'over-learnt' words. They may see letters as un-analyzable wholes whose structure cannot be differentiated.

#### **Item IV**

##### **Verbal Visual Correspondence (VVC)**

This aims at measuring the child's verbal-visual correspondence, amidst distracters. An adequate attention, perception and familiarity with the word in its spoken and written form necessitate its correct performance. The basic identification skill is the 'seeing' of the sound in the printed word, the association of the phonogram with the phoneme. Ausubel (1967) noted that word-recognition is more a matter of rational problem solving than random guessing. It is the process of lawfully decoding the unknown written word through the application of one's knowledge of grapheme-phoneme correspondence.

#### **Item V**

##### **Verbal Memory (VM)**

Reading is an associative process. Generally the child needs more than one association between the stimulus and meaning. Repetitive practice makes the association habitual. The more varied the word associations, the richer the language. The child's performance on this item requires a 'bottom-up' processing of the information. In this item, the child is confronted with some unconventional pairs of words. He also has to perceive a new association between the pair of words and try to remember it in the light of already stored information(Reid,1980).

#### **Item VI**

##### **Listening Comprehension (LC)**

Listening Comprehension entails the child's attention, familiarity with the language, and enough background knowledge to make sense of the verbal input. Cognitive processes like comparing, judging, imaging, superimposed on iconic and echoic memory makes comprehension possible.(Lerner,1976) this item seeks to study if the child has adequately developed iconic and echoic memory. Difficulties with this memory

integration could lead to deficient working memory. Working memory is regarded as a system needed to process and temporarily store linguistic segments as clauses and sentences. Listening Comprehension of language imposes a severe demand on selective attention and working memory. A child having difficulties in arousal of attention, selective attention and working memory performs poorly on such tasks.

### **Item VII**

#### **Reading Comprehension- Aloud (RC-A)**

The nature of a language too contributes to the degree of dyslexia from mild to severe. The letters of the alphabet in English, in varying combinations represent different sounds. The short passage is composed of such varying combinations, represented as words. Intact psychological integrities (attention, perception, memory) and a regular practice in reading develop a skill in reading aloud. With dyslexics, this is difficult, (Christopher et al. 2012). Unless the child can decode the symbols correctly he will not be able to read aloud. Incorrect reading could lead to incorrect comprehension-a consistent difficulty with the dyslexics.

### **Item VIII**

#### **Reading Comprehension- Silent (RC-S)**

This item seeks to fathom the child's skill in silent reading. Silent reading assumes a fluency in attention, decoding, and intact cognitive processes to enable one to read (Anderson & Pearson, 1984). It is the highest level of reading where the purpose is to extract information. A child able to perform this task is one who has internalized reading skills, reads automatically, effortlessly, and to extract information he is reading 'to know'. The one unable to do this task is yet in the process of learning 'to read'. Inability to perform appropriately on this task may be due to deficits in attention, perception and memory (any one or more.)

### **Reliability of DTRD**

The reliability coefficient was computed using the test-retest reliability method. The test was administered twice with a time gap of 20

days. The reliability coefficient for each time was computed by correlating the scores obtained by the students, on the two administrations. The reliability coefficient and reliability index for the test (Level-I and Level-II) are presented in the following table- 3.5.

**TABLE- 3.5**  
**RELIABILITY COEFFICIENT OF DTRD**

**Level-I**

<b>Item</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>	<b>V</b>	<b>VI</b>	<b>VII</b>	<b>VIII</b>	<b>IX</b>
<b>Sub Areas</b>	SSA	BS	PA	VC	SC	LP	LI	CW	N=550
<b>Total retest</b>	0.68	0.76	0.81	0.61	0.72	0.61	0.58	0.62	0.71
<b>Reliability</b>	0.81	0.86	0.84	0.77	0.89	0.75	0.83	0.76	0.81
<b>Index</b>									
<b>Level-II Sub. Ar.</b>	GDA	VPA	PS	VCC	VM	LC	RC(A)	RC(S)	N=550
<b>Test Retest Ref.</b>	0.78	0.62	0.68	0.72	0.71	0.73	0.64	0.70	0.70
<b>Ref. Index</b>	0.71	0.89	0.73	0.84	0.88	0.75	0.89	0.79	0.78

**Validity of DTRD**

Validity of the test items was established by applying the procedures of item analysis. Item analysis determines the discriminatory power of each item with regard to delineation of students with and without reading disorders.

**Scoring procedure of DTRD**

Since DTRD is not a norm referenced test, therefore, individual scores on the test items have to be analysed in light of scores obtained by the same subject in each of the test items and the total score. The total score of the test including both the levels i.e. Level-I and Level-II is 200;

comprising 100 for each level. The scoring of each item was discontinued after three successive errors. The total time taken by each child was also recorded at the end of performance. The scoring procedure of DTRD for both the levels is as follows:-

### **Level-I**

#### **Item I :- Sound Symbol Association (SSA)**

This item consists of two parts having maximum scores of 10 divided into 2 and 8 respectively.

- a) In part “a” even if one error occurs, the score comes out to be zero.
- b) In part “b” :-
  - For 4 and more correct responses, a score of 8 is given.
  - For 3 correct-responses, a score of 6 is given.
  - For 2 correct responses, a score of 4 is given and
  - For 1 correct response is given a score of 2.

#### **Item II : Blending of Sounds (BS)**

This item consists of 5 sounds with maximum score of 5, which the child has to blend. A score of 1 for every correct response is stipulated.

#### **Item III : Phonic Analysis (PA)**

In the third item, the first and the last sounds in a word have to be identified. There are five words, having ten sounds with maximum score of 5. A word comprises two sounds, the first and the last. A score of 1 for both correct sounds is awarded, provided if the initial and end sounds are found correct.

#### **Item IV : Visual Conditioning (VC)**

The item consists of 10 pairs of words for VC with maximum score of 10. A score of 1 for every correct response is to be marked.

#### **Item V : Semantic Closure (SC)**

In this item, the respondent has to write a closing word for ten

sentences. The maximum score for this item is 20, awarding 2 marks to every correct answer in written as well as well as when orally responded.

**Item VI : Lexical Processing (LP)**

While performing this item, a child has to read aloud five of its parts which will provide his/her scores in the ascending order. The first and second parts add 3 scores each; the third part adds 4 scores, while fourth and fifth parts add 5 scores each to his/her scores.

**Item VII : Language Internalization (LI)**

This item marks the respondent fill up the blanks with appropriate words. The maximum score for this item counts 10 and a score of 1 for every correct response will be marked.

**Item VIII : Copy Writing (CW)**

The maximum score for this item is stipulated to be 20. A score of 2 is to be awarded for every word correctly copied.

**Level II**

**Item I : Grapheme Phoneme Association (GPA) .**

The respondent is to associate 10 mixed sounds with an equal number of letters, having score of 1 for each correct association.

**Item II : Verbal Phonetic Coding (VPC)**

There are 10 words for reading consisting of 1 score for each word.

**Item III : Phonic Synthesis (PS)**

This third item contains of ten non-words for reading, providing or adding 1 score for each correct response to the total score of the respondent.

**Item IV : Verbal Visual Corresponding (VVC)**

This item comprises five sets of words, each set having a group of four words with minor sound differences. Each set of words will fetch 2 scores to the child for correct answer.

**Item V : Verbal Memory (VM)**

In this item, there are 5 pairs of words and the child has to remember the adjacent word written in the pair. Each correct answer will score 2 marks.

**Item VI : Listening Comprehension (LC)**

The item comprises of two parts requiring separate responses. The first part consists of two questions and the child is to tick the right response in the light of narrated paragraph. In the second set, comprising three questions, the child is to tick the right response again in relation to the narrative. 2 marks will be given for each of the five questions correctly responded.

**Item VII : Reading Comprehension- Aloud (RC-A)**

Along with reading the paragraphs loudly, the respondent is to give right answer to five questions related to it. For aloud reading, some difficult words are selected along with the boxes to tick the right or wrong pronunciations from the paragraph. Both the reading and questions contain equal number of scores i.e. 10 each and the total comes to be 20.

**Item VIII : Reading Comprehension – Silent (RC-S)**

The exercise pertains to silent reading. The student is to read the given passage silently and compare its contents in the light of six questions consisting of total 20 marks with following marking scheme:-

- A score of 2 for Q1 (1.1, 1.2) correctly answered i.e. total 4.
- A score of 2 for Q2 correctly answered.
- A score of 2 for Q3 correctly answered.
- A score of 5 (2+3) for Q4 (a,b) correctly answered.
- A score of 2 for Q5 (a,b,c) correctly answered.
- A score of 1 for Q6 correctly answered.

## **Administration**

The test was administered in small group of five children at a time. Each child was provided with test booklet and a Response Sheet (Child). The respondents were instructed to fill the personal data on this given individual sheet, but were told not to open the Test Booklet. The instructions were read out clearly and precisely from the manual by the researcher. There were items taken from both the levels of the DTRD, as mentioned in the descriptions of the test. The researcher after assuring herself that the respondents have understood the instructions, flagged the test to begin with the first item stated. The researcher also ensured that the respondents might not consult other peers for answering the items included in Response Sheet (Child). Every child did answer at his/her own pace without any hurry. Every item was discontinued after three successive errors. A record of total time taken by every child was kept and each session was terminated with a note of thanks.

### **3.6.2 Measuring Tools**

Four types of measuring tools were used for measuring Self-Concept, Social Skills, Academic Self-Perception and Self-Efficacy of Children with Reading Difficulties.

- Children's Self Concept Scale by Dr. S.P. Ahluwalia(1971).
- Adapted Hindi version of Matson's Evaluation of Social Skills with Youngsters (MESSY) by Sharma (1997).
- Academic Self-Concept Scale by Liu and Wang (2005).
- Children's Self Efficacy Scale by Albert Bandura (1996).

#### **3.6.2.1 Children's Self-Concept Scale**

The researcher used the Children's Self-Concept Scale by S.P. Ahluwalia (1971) in order to understand how children with RD felt about themselves. Self-Concept is a central term around which a large number of the major aspects of personality are organized.

Cooley (1964) views that man's ideas about himself and a reflection of how others see him is Self-Concept. He coined the term social or looking glass self which is compared to Miller's (1963) subjective public entity. The self is not the same as the human organisms; it is cognitive construct of the organism which in certain ways is identified with the organism itself. The self has also been described as nucleus of personality traits of a person. Self-Concept has been chosen as one of the dimensions which give direction to whole life.

The test contains 80 items with 'Yes' or No' responses. It includes 16 lie items to detect whether the respondents have filled it accurately or not. It is a verbal paper pencil test. The scale is made of further six sub-scales which are considered to be important to judge the Self-Concept of the respondent. The sub scales are given in table-3.6.

**TABLE – 3.6**  
**SUB SCALES OF THE SELF CONCEPT SCALE**

SR. NO.	NAME OF THE SUB-SCALE
1.	Behaviour
2.	Intellectual and School Status
3.	Physical Appearance and Attributes
4.	Anxiety
5.	Popularity
6.	Happiness and Satisfaction

### **Reliability**

The test retest and spilt- half reliability coefficients of the scale are significant beyond 0.01 level of confidence. This indicated that this Self-Concept scale was reliable as the obtained reliability coefficients were quite high.

The reliability of this test by split half method was found to be between .69 to .74 on different sub scales and was highly significant.

### **Validity**

The validity of the Self-Concept scale has been determined in three ways:

- (1) Face Validity-The content validity of the Self-Concept Scale was determined by “Translation and Back Translation method”.The instrument has face and content validity of high order.
- (2) Concurrent Validity-In order to ascertain concurrent validity of the self-concept scale, the scores from each sub-scale was inter-correlated. These values have been presented in table - 3.7.
- (3) Factorial Validity-The structure of the scale was investigated on the six grade levels by means of a multiple factor analysis. For this purpose a sample of 457 sixty graders was used. Responses to the 80 items of the scale were placed in matrix and were intercorelated. A principal component analysis was made using unities in diagonals.

**TABLE - 3.7**  
**MATRIX OF INTER-CORRELATION BETWEEN VARIOUS**  
**ELEMENTS OF SELF-CONCEPT(N=239)DIMENSIONS OF**  
**SELF-CONCEPT**

	A	B	C	D	E	F
A	.....	0.504	0.433	0.539	0.512	0.540
B	0.504	.....	0.621	0.512	0.517	0.384
C	0.433	0.621	.....	0.412	0.427	0.453
D	0.539	0.512	0.412	.....	0.397	0.451
E	0.512	0.517	0.427	0.397	.....	0.400
F	0.540	0.384	0.453	0.451	0.400	.....

All the correlations are significant beyond 0.1 level.

Thus, Children’s Self-Concept Scale was quite reliable and valid to measure Self-Concept of school learners as well. A copy of the scale is attached in (Appendix IV).

## Scoring

The test having very simple procedure for scoring. The items are scored in the direction of high (adequate) Self- Concept. One score is to be awarded to each statement either 'Yes' or 'no' as given in table - 3.8.

The scoring stencils were prepared to score different sub-scales of the test. For scoring the relevant area of Self-Concept, stencils were placed over the answer sheet so that asterisks (\*) of the top and bottom coincide with the asterisks on the transparent paper. One mark was given when the circle on transparent paper coincided with answer sheet response. The sum of the score for each subscale of the self-score was obtained by adding the scores of all six areas, which is used as the total Self-Concept score. A high score on the scale is presumed to indicate a favorable Self-Concept.

**TABLE - 3.8**  
**DETAILS OF SCORING KEY OF SELF CONCEPT SCALE**

<b>SR. NO.</b>	<b>AREA OF SELF CONCEPT</b>	<b>RESPONSES</b>	<b>ITEM NOS.</b>
1	Behaviour	Yes No	12* 4,13,14,22,25,31,32,24,56,59*, 64,67,76,78,80
2	Intellectual and Institutional Status	Yes No	5,21,27*,30,33*,42,49*,57*,70 7*,9,11*,12,16,17,26,53,66
3	Physical Appearance and Attributes	Yes No	15,27,41,49*,54,55*,57*,60,63,73 8*, 29
4	Anxiety	Yes No	44,55 6,7,8,10,20,28,37,40*,74,79
5	Popularity	Yes No	33,49,51,57,69, 1,3,11,40,46,58,77
6	Happiness and Satisfaction	Yes No	2, 8*, 36, 39, 52 38,50,59
	Lie Score Items		18,19,23,24,35,43,45,47,48,61,62,65, 68,71,72, 75

\*Some of the items measure more than one area. As such their score is to be added to the respective sub-scale in which they have appeared.

The maximum score for the scale can be 78, where as the minimum score can be zero. A detailed analysis of the possible maximum and minimum scores on different sub-scores has been given in table - 3.9.

**TABLE – 3.9**  
**SUB SCALES OF THE SELF CONCEPT SCALE**

SR. NO.	AREA	POSSIBLE SCORE	
		MAXIMUM	MINIMUM
1.	Behaviour	16	0
2.	Intellectual and Institutional Status	18	0
3.	Physical Appearance and Attributes	12	0
4.	Anxiety	12	0
5.	Popularity	12	0
6.	Happiness and Satisfaction	8	0
	Total Score	78	0

As some of the items measure more than one component of self-concept, their score is to be added to each sub-scale in which they have appeared e.g. the item number 8 had occurred in three sub-scales namely (i)Physical Appearance and Attributes,(ii) Anxiety, and (iii) Happiness and satisfaction. If the respondent answer item 8 in 'No' as given in scoring Key one score is to be added to each of the three sub-scales which this item is supposed to assess.

### **Administration**

The copies of the Children's Self-Concept Scale were distributed among the respondents. The researcher asked the subjects to read out the standard instructions printed on the top of the questionnaire. The subjects were also asked to clear the doubts if they had any. There was no time limit in answering the test items. But on average, most of the students finished the

test in 20 to 30 minutes. The subjects were asked to put a circle (O) around “Yes” or “no” alternatives. Lastly, the questionnaires were collected from the subjects and checked.

### **3.6.2.2 Matson’s Evaluation of Social Skills with Youngsters (MESSY)**

The adaptation of MESSY (Matson’s Evaluation of Social Skills with Youngsters) by Sharma in Hindi (self-rating versions of Social Skills instrument) was used by the researcher for the study. In the self-rating version, individuals describe their own social behaviour by rating themselves on various items of the scale. The scale has six subscales namely: Appropriate Social skills, Inappropriate Social skills, Assertiveness, Overconfidence, Impulsiveness, Jealousy, and Miscellaneous. The Hindi adaptation of MESSY by Sharma(1997) consisted of selected verbal and non-verbal behaviours ranging from items related to interpersonal effectiveness without harm to others, but the final adaptation version of the scale in Hindi had 50 items for the Self-Rating Scale, covering a wide range of items from appropriate social skills to aggression and impulsivity. The Self-Rating scale was reported to have good internal-consistency, and split-half reliability that was computed on the sample of 60 visually impaired children. MESSY (Matson’s Evaluation of Social Skills with Youngsters) was correlated highly with popularity and social skills ranking, a structured interview, and a school behaviour checklist (Matson & Sevin, 1994). These findings provided sufficient evidence for acceptance of the concurrent validity (Appendix-V).

There are six dimensions in ‘Matson’s Evaluation of Social Skills with Youngsters’ (MESSY). The dimensions were-

1. Appropriate Social Skills: referred to the positive features of the individual’s behavior, for example: feeling good, helping someone.
2. Inappropriate Social Skills: referred to the negative features of the individual’s behavior, for example: making fun of others.
3. Impulsiveness : referred to short temper ness, unstableness, anger ness, aggressive behaviour of an individual, for example: interrupting others.

4. Over Confidence : referred to over react behaviour towards things, persons, ideas, attitude etc., for example: speaking too much.
5. Jealousy : Jealousy referred to angriness, irritation, and inferiority complex to angriness, irritation, and inferiority complex towards other individuals, for example: speaking too much.
6. Miscellaneous: referred to make others laugh, like to be alone, keep secrets, afraid to speak to people.

### **Reliability**

Karl Pearson's correlations on test-retest were used on both samples for each item, to establish a criterion coefficient for exclusion/inclusion of items from the original pool. Of the original 92 items, 62 items on the self-rating version met the criterion of 50 test-retest reliability. Independent confirmation of test-retest reliabilities was reported by Wierzbicki and McCabe (1988). Although these researchers had small sample, they obtained estimates of at least .6 test-retest reliability for each scale, with estimates for parents' ratings ranging as high as .9.

Split half reliabilities were computed on the sample of 75 visually-handicapped children. The interterm coefficient alpha was .80 for the self-rating MESSY. The Guttman split half-reliability was .78 for the Self-rating version. These findings were replicated for the sample of hearing impaired students.

### **Validity**

The MESSY has been found to correlate with a number of other measures of Social Skills. In one study, 58 children in an elementary lab school in Pittsburgh were assessed. The children ranged in age from 8 to 13 with an average age of 9.7. There were 21 girls and 37 boys. All of the children were white. The children were selected from three grade levels, third (n=10), fourth (n=17) and fifth (n=31). All of the children were of normal intelligence and did not have any identified emotional problems. Concurrent validity range from 0.53 to 0.94 (means=0.77).

## Scoring

The test can be scored by hand. It takes approximately 6 to 10 minutes per subject. In the questionnaire there were 50 items. Every item had 5 alternative responses as 1= (a little), 2= (not at all), 3= (very much), 4= (some), 5= (much of the time) .The scores were given as under-

Much of the time	(5) →	5 Marks
Some	(4) →	4 Marks
Very much	(3) →	3 Marks
Not at all	(2) →	2 Marks
A little	(1) →	1 Mark

## Administration

The adapted version of MESSY was simple to administer. The test was given to a small group of students seated comfortably with sufficient space so as to avoid copying. They were made to sit in a manner that all of them faced the researcher. The researcher distributed the test booklets, answer sheets ,and pencils to each subject and asked them to fill the needed information on front page of the answer sheet .They were instructed not to open the test booklets until they are asked to do so. The researcher read instructions aloud in front of the students in order to resolve the doubts and queries of the students' .The students were asked to open the test booklets and answer sheets were collected after the expiry of stipulated time period. The researcher was not supposed to give any further assistance after this, but she ensured that each student was doing according to the instructions explained earlier.

### 3.6.2.3 Academic Self-Perception (concept) Scale (ASPS)

To study the Academic Self-Perception of Children with Reading Difficulties researcher adapted Academic Self-Perception (concept) scale by Liu and Wang (2005). Self-perception can be described using terms such as self-concept, self-evaluation & self-image. There is not a clear distinction

among these self-related perceptions as researchers agree that self-concept has a multi-dimensional nature. Therefore, the terms self-perception, self-concept, self-respect and self-evaluation have been used interchangeably by many researchers (Bong & Skaalvik, 2003; Marsh, Byrne & Shavelson, 1988; Shavelson, Hubner & Stanton, 1976; Haager & Vaughn, 1997; Elbaum & Vaughn, 2001). In other words, we can say that Self-Concept and Self-Perception both are synonyms and is clear from the description in chapter-1.

Moreover, when we go through the questionnaire of Academic Self-Perception (Concept) scale by Liu and Wang (2005), it has become clear that all questions are relevant to fulfill the objectives of research's study. So, the researcher decided to select the inventory of Academic Self-Concept Scale to serve the purpose of the study.

The Academic Self-Perception (Concept) scale by Liu and Wang (2005) comprising of 20 items was used by the researcher. The Academic Self-Concept Scale was developed with reference to Battle's (1981) School Subjects Academic Self-Concept Scale, Piers and Harris' (1988) General and Academic Status Scale and Quek's (1988) Academic Self-Perception Scale. It comprised of two sub scales – Academic Confidence (10 items) and Academic Effort (10 items). The Academic Confidence (AC) sub scale assessed students' feelings and perceptions about their academic competence. Example items included 'I am good in most of my school subjects' and 'Most of my classmates are master than I am' (negatively worded). The Academic Effort (AE) sub scale assessed students' commitment to, and involvement and interest in school work. Example items included 'I am interested in my school work' and 'I study hard for my tests'. The items included both negatively and positively worded items to avoid the same answers from the students. Both Academic Confidence and Academic Effort items were mixed in the scale: Academic Confidence items were taking odd numbers (1, 3, 5, 7, 9, 11, 13, 15, 17, 19), while Academic Effort items were taking even numbers (2, , 6, 8, 10, 12, 1, 16, 18, 20). Answer for

the items were given on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). By taking average of the responses, mean scores were calculated for the Academic Self-Perception Scale and the two subscales for each student (Appendix-VI).

### **Reliability**

The cronbach alpha of the Academic Self-Perception Scale, Academic Confidence Subscale, and Academic Effort subscale were 0.82, 0.71 and 0.76, respectively.

### **Scoring**

The scoring key of the Academic Self-Perception Scale was very easy and of quantitative type. Scoring key provided the weight age score for each item. The responses of the subjects were rated on a five-point response format.

(1 = strongly Disagree, 2 = Disagree, 3 = neither agree nor disagree, 4 = Agree, 5 = Strongly Agree)

The scoring procedure has been clearly illustrated in the following table -3.10.

**TABLE - 3.10**  
**SCORING PROCEDURE OF THE ACADEMIC SELF-PERCEPTION SCALE (ASPS)**

<b>SR.NO.</b>	<b>NO. OF ALTERNATIVES</b>	<b>POSITIVE STATEMENTS</b>	<b>NEGATIVE STATEMENT</b>
1.	Strongly Disagree	1	5
2.	Disagree	2	4
3.	Neither agree nor disagree	3	3
4.	Agree	4	2
5.	Strongly Agree	5	1

## **Administration**

The Academic Self-Perception (concept) Scale was administered in the middle of the year by the researcher. The students were told that the purpose of the study was to find out how they feel most of the time about school work and their academic ability. They were given the assurance that their answers would remain confidential. They were instructed to work on their own and were told that there were no right or wrong answers. On an average, the students spent about 10 to 15 minutes to complete the questionnaire.

### **3.6.2.4 Children's Self-Efficacy Scale**

The Children's Self-Efficacy Scale (Bandura et al., 1996) comprises of three important dimensions viz., academic self-efficacy, self-regulatory efficacy and social self-efficacy. Academic self-efficacy measures children's capability to judge their own learning or mastering academic subjects, and fulfill personal, parental, and teachers' academic expectations. Examples of items include-How well can you concentrate on school subjects? And how well can you study when there are other interesting things to do?

Self-regulatory efficacy measures children's capability to resist pressure to engage in high risk activities. Item examples include ' How well can you resist peer pressure to do things in school that get you in trouble?', 'how well can you stop yourself from skipping school when you feel bored or upset?'

Social self-efficacy measures children's capability for peer relationships, self- assertiveness, and leisure time activities. Examples of items include 'How well can you make and keep friends of the opposite sex?', ' how well can you participate in class discussions?'

For each item, participants rated belief for items in their level of capability to execute the designated activities using a 6 point response format ranging from not at all to extremely well (1) = Not at all, 2= Not too well, 3= Okay, 4= pretty well, 5= Very well, 6= extremely well.

In Children’s Self-Efficacy scale, 24 items are there. It is a six-point response format. Each item has six alternative responses. There is clear instruction for the respondent printed on the first page of the scale. The space for the alternative responses is also provided in the format against each item. It is appended in the Appendix-VII. Out of 24 items, 12 items are for academic efficacy, 5 items are for self-regulatory efficacy, and 7 items to measure social efficacy of the students. The details for all the dimensions are given below:-

- Items pertaining to “Academic Self-Efficacy” are Item No. 1, 2, 3, 4, 5, 6, 7, 8, 23, 24, 25 and 26.
- Items pertaining to “Self-Regulatory Efficacy” are Item no. 18, 19, 20, 21 and 22.
- Items pertaining to “Social Self-Efficacy are item No. 11, 12, 13, 14, 15, 16 and 17.

### **Reliability**

The reliability of the factors of self-efficacy was assessed by the squared multiple correlation of factor scores. Coefficients of .70 or better are indicators of stable factors (Tabachnick & Fidell, 1989). The estimated reliabilities were .89 for academic self-efficacy, .76 for social self-efficacy and .86 for self-regulatory efficacy.

### **Scoring**

In the questionnaire there were 24 items. Every item had 6 alternative responses as 1=Not at all, 2 =Not too well, 3= Okay, 4= pretty well, 5= Very well, 6= extremely well. The scores were given as under:-

Extremely well	(6)	➡	6 Marks
Very well	(5)	➡	5 Marks
Pretty well	(4)	➡	4 Marks
Okay	(3)	➡	3 Marks
Very well	(2)	➡	2 Marks
Not at all	(1)	➡	1 Mark

Thus, the maximum score that can be obtained is 144 and minimum score 24 on Self-Efficacy Scale.

### **Administration**

The test was administered in group and the students were asked to sit comfortably and sufficiently apart to avoid copying. The researcher distributed the consumable test booklets having a column for answer. On an average, the students spent about 20-25 minutes to complete the questionnaire. The researcher was not supposed to give any further assistance after this, but the researcher ensured that each student was doing according to instructions explained earlier. The test booklets were collected after the end of the stipulated time period for the purpose.

### **3.7 DATA COLLECTION**

In order to identify Children with Reading Difficulties in English language, Previous Academic Records of 666 students were taken and 318 students of Grade VI were short listed from five selected schools of Kurukshetra city. At second step, Malin's Intelligence Scale for Indian Children (MISIC) was administered to these 318 students. This led to the identification of 173 children between an average IQ (90 to 115). Since learning disability excludes children having below & above average intelligence, it was imperative to administer some appropriate intelligence test to these children to identify those who fall between ranges of intelligence. At third step, Teacher's Observation Check List was given to the teachers teaching English to these students and 62 students were screened out. Thus, including an average intelligence group, the extreme cases were eliminated for the purpose of conducting the research. In order to collect data, the Diagnostic Test of Reading Disorders (DTRD) was administered to determine the final sample of 48 Children with Reading Difficulties. A final sample of 48 subjects was measured to assess their self-concept, social skills, academic self-perception and self-efficacy.

### 3.8 STATISTICAL TECHNIQUES

Data analysis is the process of systematically applying statistical and/or logical techniques to describe and analyze the data. In the present study, SPSS (Statistical Package for Social Science) was used for inputting, coding and analyzing the data. SPSS is a software package used for statistical analysis. For analyzing data, descriptive statistics was used. In Descriptive statistics, Mean, Standard Deviation and Pearson's Product-Moment Coefficient of Correlation(r) were used.

Descriptive Statistics are used to describe the basic features of the data in a study. It provides simple summaries about the sample and the measures. Descriptive statistics help us to simplify large amount of data in a sensible way. Descriptive statistics normally apply to a single variable at a time.

**Mean:** Mean is the value that each participant receives if the sum is divided equally among all members of the group. Mean was computed by dividing the sum of all the scores by the number of scores. The formula for computing mean is-

$$\bar{X} = \frac{\Sigma X}{n}$$

Where X = Mean

$\Sigma$  = is the symbol for sum of (the Greek letter sigma)

X = Score in a distribution

n = Number of scores

**Standard Deviation:** Standard deviation is a more accurate and detailed estimate of dispersion. The standard deviation is the squared root of variance. Formula of standard deviation is

$$S.D. = \sqrt{\frac{\Sigma fx^2}{\Sigma f} - \left(\frac{\Sigma fx}{\Sigma f}\right)^2 \times i}$$

S.D. = Standard Deviation

i =Class Interval Range

fx = Sum of

**Correlation:** Correlation is the relationship between two or more paired variables. The degree of relationship is measured and represented by the coefficient of correlation. The most often used and most precise coefficient of correlation is the *Pearson's Product- Moment coefficient(r)*.

Formula used for calculation:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Where  $\sum X$  =Sum of the X scores

$\sum Y$  =Sum of the Y scores

$\sum X^2$  =Sum of the squared X scores

$\sum Y^2$  =Sum of the squared Y scores

$\sum XY$  =Sum of the product of paired X and Y scores

n =Number of paired scores

Having presented the methodology of the study in Chapter-III, the researcher presents the analysis & interpretation of the data in Chapter-IV.