



## EARLY DETECTION AND IDENTIFICATION OF LEARNING DISABILITIES IN SCHOOL GOING CHILDREN

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### ABSTRACT :

*The objectives of the study were to identify the school students with dyslexia and dysgraphia, and to find the prevalence of learning disability with the help of various screening tools and diagnostic tests. The study was conducted on 980 children from CBSE and Maharashtra State Board schools from 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> standard in the age group of 9 to 11 years. All the children were firstly evaluated on the basis of their previous academic records followed by various screening tools such as behavioral checklist for screening the learning disability (BCSLD), ,Raven's standard progressive matrices ,diagnostic test for learning disability (DTLD), Bender Visual-Motor Gestalt test (BVMGT), Diagnostic test of reading disorder (DTRD) and Writing ability test. It was found that, out of total 980 children 25 children were diagnosed to have specific learning disability, out which 13 had reading disability (dyslexia) and 12 had writing disability (dysgraphia). All these learning disable children were otherwise found to be healthy and of normal intelligence without economic disadvantage. Prevalence of learning disability from this study was 2.55.*



**KEYWORDS :** Learning disability, BCSLD, DTLD, DTRD, Bender Visual-Motor Gestalt Test, Raven's standard progressive matrices, and writing ability test.

### INTRODUCTION:

Today's children are tomorrow's responsible citizens of the world. 40 percent constitutes the young children of total world's population. The future of our country depends on the health of young people. However, one in 10 children and adolescents have medical problems, below average intelligence, specific learning disability, attention deficit hyperactivity disorder, emotional problems, poor socio-cultural home environment and psychiatric disorders.

Learning is a very complicated brain function of understanding, recalling and utilization of this knowledge in the future. Every child learns according to his pace of learning, and the capacity to learn varies from individual to individual even among children of the same age and intellectual ability. Without taking into consideration the knowledge and perception regarding their reality and learning styles, parents and teachers force the children to come out with good numbers.

Learning styles differ from person to person. Some of us process information better when received through the years rather than eyes. Some of us effectively process the information visually. However, we learn what should be learnt successfully. Some children cannot learn efficiently due to specific breakdown in

the learning process involving listening, thinking, perceiving, memory and expression. Such difficulties are called specific learning disabilities or specific learning difficulty.

The term 'learning disability' came to use in the 1960's. It is also termed as 'specific learning disorder' or 'specific academic skill disorder'

According to UNESCO (2005) records of European countries, the percentage of students learning in special schools, ranges between 2.5 to 4.5 and 10-15% of the school age population is in special education needs, which include defects of speech, major behavioral problems and various forms of learning disabilities. 4.5% school students had been identified as having learning disability.

The identification of learning disorder prior to school age is difficult due to the instability of results obtained from formal testing procedures. The first person to notice that the child is not learning as expected are the teachers. These students require continuous help to adapt to the learning situations. The success of these children is determined by the response of the personnel to the needs of these children.

According to (WHO), learning disabilities is "a state of arrested or incomplete development of mind". Learning disability is a diagnosis, but it is not a disease, nor is it a physical or mental illness. Unlike the latter, so far as we know it is not treatable.

Diagnostic and Statistical Manual of Mental Disorders (DSM-V, 2013) defines, "Specific Learning Disorder (SLD) is a neuro developmental disorder of biological origin manifested in learning difficulty and problems in acquiring academic skills noticeably below age level and manifested in the early school years, lasting for at least 6 months; not attributed to intellectual disabilities, developmental disorders, or neurological or motor disorders. The types of SLD are impairment in reading, written expression, and mathematics. The condition varies in its manifestations and in degree of severity-mild, moderate or severe.

The various types of learning disabilities are sometimes found to co-occur with each other. Learning disorder is often found associated with attention deficit, hyperactivity and sometimes impulsiveness. Learning disorder can occur with other medical conditions but the two should not be interlinked. Other medical and psychosocial problems have to be ruled out before reaching the diagnosis of learning disability. Learning disabled children who have difficulty with reading should also be ruled out for attention disorders. Therefore, all attention deficit hyperactivity disorder (ADHD) children should also be ruled out for learning disability. Being otherwise intelligent, these learning-disabled children still present with academic difficulties. Early identification of these deficits could help children cope up with their skills with proper intervention with the help of teachers who have expertise in this field. The amount of care these children would require will depend on how severe their disorder is. Each child needs to be treated differently depending on their weakness in a particular area. The objective should be to improve the overall quality of life. Children with learning disabilities should also be screened for psychiatric comorbid conditions.

The current study was conducted on 980 children from 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> standards from CBSE and Maharashtra State Board schools. In this study, screening and certain diagnostic tests helped in detection and identification of specific learning disability in primary school going children.

#### **OBJECTIVES:**

- ❖ To identify the school students with dyslexia and dysgraphia.
- ❖ To find out the prevalence of specific learning disabilities from 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> standards.

#### **MATERIALS AND METHOD:**

The Survey method was adopted for the present study in which the investigation was conducted in different CBSE and Maharashtra State Board schools of Nagpur city with respect to detection and identification of children with reading and writing disabilities from 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> standards.

#### **MEASURES:**

In the present study BCSLD, DTL, DTRD, Bender Visual-Motor Gestalt Test, Raven's standard progressive matrices, and writing ability test prepared by the researcher were used. The marks obtained by

the students in their annual C.B.S.E. and Maharashtra State Board school examination have been taken as an index of their level of academic achievement.

**STUDY DESIGN:**

The first step in the identification process was to screen all the students to find out who were at high risk for learning disabilities. This was done by taking grand total of their performance in school records and selecting only those students who scored less than 40 percent marks. All these selected students further underwent the Raven’s Standard Progressive Matrices. This test was done to find out average or above intelligence. Children with low and superior intellectual functioning were excluded. A total of 279 students were retained here. All these selected students further underwent behavioral checklist for screening the learning disability (BCSLD). The checklist consisted of 30 items to be filled in by teachers. This test was provided to the class teachers of these students who were asked to fill the questionnaire on the basis of behavior of child in the class. Children scoring >50% of total score i.e. >30 marks were further subjected to. Children with low and superior intellectual functioning were excluded. A total of 180 students were retained here.

The next step was application of diagnostic test for learning disability (DTLD) to students who scored >50% of total score in BCSLD. The DTLD consisted of 10 subtests; eye-hand co-ordination, figure ground perception, figure constancy, position-in-space, spatial relations, auditory perception, memory, cognitive abilities, receptive language and expressive language. A deficit in any of the above sub-tests would lead to learning problem.

74 students found to have learning disability on DTLD were further subjected to Bender Visual-Motor Gestalt test and a total of 35 students were retained here. Bender Visual-Motor Gestalt Test is used to assess the visual motor perception and visual motor integration skills. And the remaining were subjected to DTRD and writing ability test. DTRD covers a range in reading ability from IV to VI grade. And writing ability test was used to test the writing ability of the students which was prepared by the researcher. Thus, out of 35 children, 12 were identified with writing disability and 13 children with reading disability.

**DESIGN OF THE STUDY:**

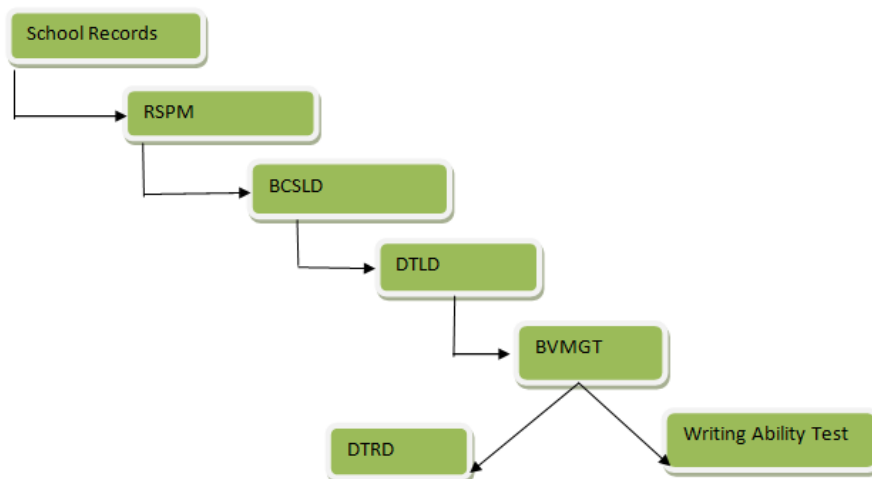


Figure 1: Design of the study.

**RESULTS:**

Total number of study population was 980 children evaluated from 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> standard from CBSE and Maharashtra State Board school. Out of total 980 children, 370 were evaluated from 4<sup>th</sup> standard, 320 were evaluated from 5<sup>th</sup> standard and 290 were evaluated from 6<sup>th</sup> standard. Out of total 980 children 387 children were identified as scholastically backward from their previous academic records. They were

further subjected to Raven’s standard progressive matrices.279 children possessing average IQ were selected. BCSLD was tested on these 279 students. Children who scored >50% of total score i.e. >30 marks numbered out to be 180. These 180 students who were suspected to have learning disability were then subjected to DTLT. On the basis of scores in DTLT, 74 children were diagnosed to have learning disability. They were further subjected to BVMGT, DTRD and Writing ability test. Thus, 25 Students having Reading and Writing Disability was identified out which 13 had reading disability (dyslexia) and 12 had writing disability (dysgraphia). Children who scored >40% of total score on DTRD and Writing ability test numbered out to be 25.

**RESULTS OF THE STUDY:**

**Table No.1**

| Sr. No. | NAME OF IDENTIFICATION MEASURE   | NUMBER OF STUDENTS |
|---------|--|--------------------|
| 1       | Previous Academic Records  | 387                |
| 2       | Ravens SPM   | 279                |
| 2       | BCSLD.   | 180                |
| 3       | DTLD   | 74                 |
| 4       | BVMGT  | 35                 |
| 5       | DTRD   | 13                 |
| 6       | Writing Ability Test.  | 12                 |
| Total   | Total study population of 4 <sup>th</sup> , 5 <sup>th</sup> and 6 <sup>th</sup> class children | 980                |

**Table No.2**

**Study Results showing mean for DTRD and WAT:**

| N (25) | Measures                  | Mean  |
|--------|---------------------------|-------|
| 13     | DTRD                      |       |
|        | Level I (100)             | 37.54 |
|        | Level II (100)            | 33.66 |
| 12     | Writing Ability Test (40) | 14.41 |

**Table No.3**

**PREVALENCE RATE OF CHILDREN WITH SPECIFIC LEARNING DISABILITIES:**

| Total no. of students from 4 <sup>th</sup> , 5 <sup>th</sup> and 6 <sup>th</sup> standard | Specific Learning Disability (Reading and Writing Disability) |    | Percentage % |
|---|---|----|--------------|
| 980   | 13  | 12 | 2.55         |

**DISCUSSION:**

The selected schools of CBSE and Maharashtra State boards had a student population of different background , religions and of relatively upper or middle socioeconomic class which thereby excluded most of the sociocultural and financial disadvantages. Thus, excluding children with learning disorders because of socioeconomic constraints. The age of these children varied from 9-11 years when it is best and accurate to

diagnose learning disability. It is widely accepted among experts that, earlier detection of reading difficulty even at pre-school stage is extremely beneficial for the child. During analysis of school reports, only those students who scored less than 40 percent marks were selected which could hardly miss any learning disability child. BCSLD was administered and scored as per the manual, top 27% scores are at high risk for learning disability children were subjected for further test thereby not missing any child. The DTLD confirmed the learning disability in 74 children who were otherwise normal and healthy with normal intelligence but had weaknesses in certain areas resulting in their disability to learn. The DTRD confirmed the reading disability in 13 children. The areas which have been under developed are Phonemic analysis and synthesis, Lexical Processing, Language internalization, semantic closure. and reading comprehension.

All these children differed in areas of weakness and strengths. The incidence of learning disability in the schools evaluated was 2.55%. In this study, it was observed that children with learning disability had major weakness in the areas of auditory perception, cognitive abilities and expressive language while rest of the areas had average or above average abilities. Some children with reading and writing disability had weakness in most areas having score around 5 or lesser, of which the weakest areas were of figure ground perception, position in space, memory, fine motor skills, spatial relation and expressive language. Higher scores were seen in sound symbol association and verbal phonetic coding.

### CONCLUSION:

After screening a study population of 980 children 25 children were diagnosed to have reading and writing learning disabilities. Of these 13 children were found to have reading disability and 12 were found to have writing disability. All these children were otherwise found fit and of normal intelligence without any economic disadvantage as given in the personal information sheet. All these children differed from each other in terms of their weaknesses and strengths in different areas of visual and auditory processing as well as memory and cognitive abilities. Prevalence of Specific learning disability from this study was found to be 2.55%.

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