

# ATTENTION AND LANGUAGE ABILITY AMONG LEARNING DISABLED CHILDREN

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**Abstract:** The present study was designed to investigate attention and language ability among Learning Disabled children. A sample of 40 learning disabled and 40 learning abled school going children from 4th standard to 6th standard with an age range from 9 years to 12 years was selected for the study. Wechsler Digit Span and Test of Language Ability (Kumar & Ravindran, 2008) were used to assess attention and language ability. The result of the study revealed that (i) attention and language variables are significantly and negatively correlated in LD children (ii) LD and non LD children differ significantly in attention and language ability.

**Keyword:** Learning, Attention, to investigate attention, negatively.

## INTRODUCTION

Learning disability refers to a child's or adolescents deficits in acquiring expected skills in reading, writing, speaking, use of listening, reasoning, or mathematics, compared with other children of the same age and intellectual capacity (Sadock and Sadock, 2003).

Learning disability is found across all ages and in all socio economic stratas. It is not due to deficit in intellectual development. According to Nakra (1998) their IQ scores can be in average or above average. He also stated that learning disability can occur along with other handicapping conditions, for example with sensory impairment, emotional and behavioural disorders, and mental retardation. In such cases it is considered as a secondary handicap.

Learning disabilities often show up in school work. For some, problems in learning are relatively specific and affect a narrow range of ability, whereas for some others almost all daily activities across many different tasks and social situations may get affected. Each type of learning disability, whether it is related to reading, writing, mathematics or language is characterised by its own distinct definitional and diagnostic issues.

We now recognize that learning disabilities, though challenging, need not be a lifelong handicap. Many well known persons with known or suspected learning disabilities used their talents in many ways that are exceptional.

In India, no national level study of the incidence of learning disabilities has been conducted. Some state level studies conducted so far are by the Institute of Neurology, Kerala; and another by Samveda in Karnataka and All India Institute of Medical Sciences, New Delhi. According to their survey 6 to 15% of the school population are learning disabled (Chadha, 2006).

"Learning disability is a general term that refers to a heterogeneous group of disorders that are intrinsic to the individual presumed to be due to central nervous system

dysfunction and may occur across the life span (Nakra, 1998).

Research in the area of learning disability has primarily focused on the assessment and remedial aspects. Factors related to the etiology have been considered of secondary importance. Most of the theories of learning disability focused on brain dysfunction and some other theories focused on the way brain process information and observable behaviour (Reddy, Ramar and Kusuma, 2000).

Learning being a complex cognitive process, the neurological processes related to many simple cognitive functions like attention, memory, perception, language, impulsivity etc. might play a crucial role in bringing out the deficit in performance. Similarly it has been experimentally proved that some psychological factors can influence each of these cognitive functions. Therefore it is imperative to assume that there are certain neuropsychological factors behind learning.

The work of Orton in 1937 revealed that language disorders and learning disability are related and may coexist. Beverly and Steven (2004), and Petra (2004) observed that language based learning disorder such as dyslexia affect millions of people.

According to Harley (2001) language can be defined as a system of symbols and rules that enable us to communicate (cited by Eysenck, 2004). Our language constitutes what is perhaps the most striking difference between human and all other species. In no other species do we find such a complex vehicle for communication, as the language used by humans, as we shall see this complexity revealed in the way sound make up words, in the way words make up phrases or sentences, and in the way sentence convey meaning. Another reason for treating language separately is its central importance in human cognitive activities. Language spoken or written serves as the medium through which most knowledge is communicated. We use language constantly in our daily activities for a variety of

social, intellectual and personal purposes. Thus language serves as an important medium for observing the results of cognitive activities in human beings.

To make the learning most effective or successful certain psychological functions are essential. They are attention, memory, concentration, problem solving etc. Among these functions attention is the most primary one. Attention allows us to focus on what is important at the moment and to ignore the rest. Purvis and Tannock (1997) observed that children with attention deficits shows poor language skills. This was also supported by the study of Stevens, Sanders and Neville (2006).

Generally schools in rural areas and those run by the state government follow Malayalam (native language) as medium of instruction, only at 4th or 5th grade English is introduced as second language. Therefore even the detection of LD is possible only by the 5th grade and above which become very late for correcting and motivating these children. Therefore in the present study an attempt is made to develop a test of language ability in learning the mother tongue or native language which would enable earlier assessment of LD at primary level.

### OBJECTIVE

Keeping in view of the above the present study was designed with three hypotheses: (i) Learning disabled children are deficient in attention compared to non learning disabled children; (ii) LD children are deficient in language ability compared to non LD children; (iii) Attention as a neuropsychological function is related to language dysfunction.

### METHOD

#### Sample

The sample consisted of 80 children in two groups, 40 learning disabled and the 40 learning abled with their age ranging from 9 to 12 years, studying in classes from 4th standard to 6th standard. Among the learning disabled, 27 were identified by the physician and the 13 were identified by the researcher following the criteria of the – DSM IV and also with the help of the class teacher where the subject is studying. Children with average or better physical development and with average or above average intelligence were only included. Subject in the learning abled group were selected by systematic random sampling from the same places from where the learning disabled samples were taken, possibly from their blood relations. The subsamples were thus matched with respect to age, sex, education and family background.

#### Tools

1. Draw – A – Man test by Pramila Phatak (1987) was used as a screening test to ensure that the subject possess average intelligence which is one of the criteria for learning disability.
2. Digit Span (one of the subtests of WISC-R, 1974) was used to assess the span of attention.
3. Test of Language Ability (TLA) (Kumar & Ravindran, 2008) developed by the researcher is used to assess the language skill. This test assesses the reading and writing

ability of the native language in Kerala (Malayalam) which is taught as the first language in schools.

### Procedure

The subjects in the sample were contacted individually and after getting consent from their teachers and school authorities all the three tests were administered. Draw-A-Man Test and Digit Span were administered on the 1st day and language test (TLA) on the next day. The score of attention is positive in direction, i.e., a higher score indicates a better span of attention while the score on the language test is indicating errors.

### RESULTS AND DISCUSSION

For testing the first two hypotheses that LD children are deficient in attention and language, the mean scores for these functions obtained by the two groups were tested for significance of difference as shown in Table 1.

Insert Table 1

Table 1 shows that the mean scores of attention, language-reading and writing among learning disabled and non learning disabled children differ significantly.

The third hypothesis for studying the relationship between attention and language ability was tested by correlating the scores of span of attention with scores of reading and writing for both groups. The results are shown in Table 2.

Insert Table 2

The correlation co-efficients in Table 2 are negative and significant indicating an inverse relation between attention and language ability.

The three t-values in Table 1 are highly significant and hence the first two hypotheses of the study are accepted. The mean value for attention of the Learning Disabled group is significantly lower than the non Learning disabled children showing that learning disabled children are deficient in attention compared to non learning disabled children. Without attention one cannot concentrate on any task. In the case of learning disabled, their deficiency in attention may be one among the reasons for their poor learning. This trend was observed in the study of Keogh and Margolis (1976) also. Recently similar results are reported by Facoetti, Zorzi and Cestnick (2006); and Im-Bolter, Johnson and Pascual-Leone (2006). Thus the first hypothesis that learning disabled children are deficient in attention is confirmed by the findings of this study.

The 2nd and 3rd 't' values between means for language-reading and writing of LD and Non LD children clearly indicate that LD children are inferior in reading and writing ability compared to non LD children. This finding is supported by the studies of Beverly and Steven (2004); Petra et al., (2004); Ferouhi (2007) etc. In this context it is to be

noted that most of the studies on language in India and abroad are based on the skill in reading and writing in English. But the present study is based on the skill in reading and writing of the native language, which is studied as the 1st language in primary schools. So it suggests that LD children show difficulty in basic language learning irrespective of the nature of the particular language.

The 'r' values in the table 2 reveal that the scores on attention and language reading and writing are significantly and negatively correlated in both LD and non LD groups accepting the third hypothesis of the study. Here the negative correlations indicate that as the scores in attention decreases the error in language increases. This shows that the ability for learning language is dependent on the quality of attention. Similar findings were reported by Walker and Roberts (2001). According to them childhood attention deficits, behavioural problems and anxiety may be related to subtle speech or language disorders. The studies by Focoetti, Zorzi and Cestnick (2006); Brier, Fletcher and Foorman (2003); Stevens, Sanders and Neville (2006), further confirmed the relationship of attention and language ability. Thus the third hypothesis that attention as a neuropsychological function is related to language dysfunction is confirmed by the findings of the study.

### CONCLUSIONS

The results of the study clearly indicate that:

- (i) Attention is a primary neuropsychological deficit for learning disability.
- (ii) Attention deficit is directly influencing language learning.
- (iii) Learning disability can be detected by assessing the learning ability of mother tongue.

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