

# Assessment of Knowledge and Awareness of Public School Teachers Towards Learning Disabilities in Children - An Institutional Based Cross-Sectional Study in Dharmapuri District, Tamil Nadu

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## ABSTRACT

**Introduction:** Literature indicates that the incidence of specific learning disabilities among Indian children has been rising. Scholars have been paying much attention to teachers' knowledge which is largely associated with early identification and treatment of learning disabilities. **Objectives:** This study aimed to understand the knowledge and awareness of public-school teachers, about learning disabilities among children, in Dharmapuri district of Tamil Nadu, India. **Material and Methods:** A cross-sectional study was done among 200 school teachers in Dharmapuri district to achieve the desired objectives using structured and self-administered questionnaire. **Results:** The knowledge of teachers regarding learning disabilities among children was found to be moderate among the majority of the teachers (45%), where as substantially large number of participants showed an adequate level of knowledge (33.5%), and rest of the participants (21.5%) have shown an inadequate level of knowledge. A vast majority of participants (73.5%) were aware of the learning disability amongst children. The educational qualification ( $P$  value  $< 0.001$ ) and experience ( $P$  value  $< 0.05$ ) of the teachers had a significant association between knowledge level. **Conclusion:** In light of the findings, it is essential to spread the awareness and knowledge about the learning disabilities of children among teachers. The government should take necessary policy directions in raising awareness and knowledge of various learning disabilities among parents, teachers and peer groups so that these children will be handled in a better way in the social circle. This also should be included as a part of curriculum in teachers' training programs.

**Keywords:** Awareness, knowledge, learning disability, school teachers

## Background

Learning disability is caused due to changes in the structure and function of the brain that leads to difficulty in reading, writing, calculating, speaking, reasoning and learning new things.

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The learning problems are excluded due to blindness, deaf or locomotor problem, mental retardation, emotional disturbance, and cultural, economic, environmental disadvantages.<sup>[1]</sup> People with learning disabilities have good knowledge but their perception is different from others; cognition and non-verbal intelligence are similar to a normal child.<sup>[2]</sup>

It is identified that most of the children with learning disabilities have difficulties to give their best, have a low attention period, and have no interest in the academics and other activities because

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its caused by processing, receiving, and communication, but not based on intelligence.<sup>[3]</sup> Learning disabilities can affect the individuals life and their academic performance. It affects the relationship with family, friends, and the workplace.<sup>[1]</sup> Early intervention is very useful to reduce the severity of the problem.

Teachers, parents, as well as the role of the primary care physician is most important for the early identification and management of learning disabilities.<sup>[4]</sup> A proper definition of learning disability was given by (Federal Register, 1977, p. 65083) Karanth, 2002<sup>[1]</sup> "Specific learning disabilities means a disorder in one or more of the basic psychological processes involved in understanding or in using a language, spoken or written, which may manifest itself in an imperfect ability to listen, speak, read, spell or to do mathematical calculations".

Prevalence of learning disability in India is rising every year as reported by several authors,<sup>[5,6]</sup> proper care and education are the basic rights of every child because education always initiates to bring good changes in the personality of the human being. Whereas it is hard to manage daily activities without proper education related to (calculation, writing, speaking). Evidence from research shows that most of the primary school teachers were having inadequate level of knowledge and awareness about learning disabilities.<sup>[3,7,8]</sup> A study conducted in Palvoncha, Telangana state evidenced that 88.3% of the school teachers were having inadequate knowledge on learning disability.<sup>[9]</sup>

A another research was conducted in Odisha, among 269 trainee school teachers, a qualitative approach of pre and post-test study shows that (<50%) of trainee school teachers were having inadequate level of knowledge in pre-test.<sup>[10]</sup> A another pre-experimental awareness study was conducted among 40 primary school teachers in Chennai, evidences that 90% of the primary school teachers had inadequate awareness and 10% had moderate level of awareness on learning disabilities.<sup>[11]</sup> Dharmapuri district was selected, since it reports a low literacy rate, (68.54%) as compared to the rest of the districts in Tamil Nadu as per the Census report of 2011.<sup>[12]</sup>

## Objectives

This study aimed to understand the knowledge and awareness of public-school teachers, about learning disabilities among children, in Dharmapuri district of Tamil Nadu, India.

## Methodology

The study was a cross-sectional design with an objective to describe the knowledge and awareness of public school teachers among children regarding learning disabilities. This study was conducted in Dharmapuri district, Tamil Nadu, with a sample size of 200 public school teachers. Convenient sampling method was adopted for selecting the samples, the public school teachers who were teaching standards 1 to 12 were selected. The information was collected from May to June 2019, and oral consent was

obtained from all the participants. Exclusion criteria were teachers who were inattentive on the day and those who were not willing to participate in the study.

The investigators developed a closed-ended questionnaire that contained 21 questions. Three domains were taken: demographic details, knowledge level, and awareness level. This questionnaire was framed based on the literature review. Each question had 4 options, with a total of 21 items. To assess the demographic details, 8 questions including name, age, gender, experience, standard of teaching, designation, 10 questions to assess the level of knowledge which includes definition of learning disability, dyslexia, dyspraxia, dyscalculia, dysgraphia, causes and symptoms of disability, and 3 questions were asked to measure the level of awareness. Validity of the questionnaire was assessed by the experts in the field. A pilot study was conducted among 20 teachers. Based on their feedback, the questionnaire was reformed. The scoring procedure was standardized as zero for the wrong answer and one for the correct answer. Knowledge score was divided into three-part with help of (6) literature review 0 to 50 inadequate level, 51 to 75 moderate level, and 76 to 100 adequate level. The response was coded in an excel sheet after data collection, the data analysis was carried based on the topic and objectives. IBM SPSS 22 version was used for data analysis.

## Ethical and Consideration

Institutional ethical committee from the School of Public Health, SRM Institute of Science and Technology, Tamil Nadu had given approval to carry out the study. Verbal consents were taken from the Chief Education Officer, Dharmapuri district, headmasters of the sampled schools and also from the teachers who participated in the study on 24-April-2019.

## Results

### Teachers background characteristics: Table 1

The study results [Table 1] show that most of the school teachers were from the age group 31-40 years (40.5%) and 41-50 years (35.5%). Majority of them were males (62.5%) followed by females (37.5%). Most of them (42.5%) hold a qualification with undergraduate level, followed by (39%) holding diploma in teacher education (D.T. Ed). The majority of school teachers (30.5%) were having 6-10 years and 11-20 years of experience whereas (21%) were having more than 20 years. The majority of the school teachers were graduates (41%), and (14.5%) were postgraduate teachers.

The study results [Figure 1] show that most of the teachers (45%) had moderate level knowledge on learning disability and (21.5%) had inadequate knowledge level on learning disability and (33.5%) of school teachers have adequate knowledge on learning disability.

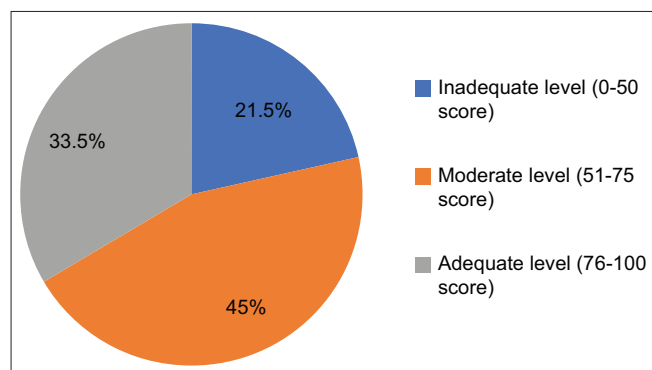
### Awareness level on public-school teachers: Figures 2 and 3

The current study [Figure 2] showed that most of the school teachers 200 (73%), had seen a child with symptoms of learning disabilities. Most of the school teachers reported that learning disability is curable (88%), whereas (12%) teachers reported it as not curable.

The Figure 3 shows how does the teachers came to know about learning disabilities. Most of the school teachers, about 200 (70%) had directly seen a child with learning disability. Rest of them had observed it through social media, the TV, newspapers (18.5%); whereas 6% of them as part of their curriculum.

**Table 1: Summary of demographic variables**

Teachers Background Characteristics	(%) Percentage	(n) Participation	Mean±Std. Deviation
Age			2.45±0.855
21-30 years	13	26	
31-40 years	40.5	81	
41-50 years	35.5	71	
51-60 years	11	22	
Sex			1.38±0.485
Male	62.5	125	
Female	37.5	75	
Designation			1.90±0.932
Secondary grade Teacher	39	78	
Graduate teacher	42.5	85	
PG teacher	8.5	17	
Other	10	20	
Experience (in Years)			2.55±1.016
0-5 years	18	36	
6-10 years	30.5	61	
11-20 years	30.5	61	
Above 20	21	42	
Teaching Level			2.32±1.129
Primary level (1-5 std)	38	76	
Upper Primary level (6-8 std)	6.5	13	
Secondary level (9-10 std)	41	82	
Higher Secondary level (11-12 std)	14.5	29	



**Figure 1: Knowledge scores of public-school teachers**

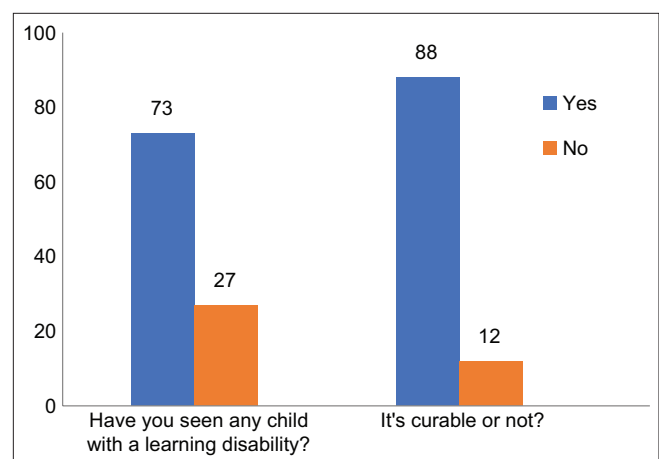
### Correlation of knowledge and awareness regarding specific learning disability among public-school teachers: [Table 2]

An association of knowledge level and the school teacher with demographic variable (age, gender, designation, experience, standard of teaching) by using Chi-square test showed that statistically significant association was found in gender, designation, experience, standard of teaching with their knowledge level ( $P \leq 0.05$ ). A strong association between the gender and knowledge level Chi-square 14.55,  $P$  value 0.001, and designation also significantly associated between knowledge level Chi-square 22.106,  $P$  value 0.001. Experience and standard of teaching shows significant association with knowledge level. Age and knowledge level were not statistically significant (Chi-square - 9.624,  $P$  value 0.141).

The association of awareness level and demographic variables of school teachers (age, gender, designation, experience, standard of teaching) by using the Chi-square test revealed that a statistically significant association was found in designation, experience with their awareness level ( $P \leq 0.05$ ). A strong association between experience and awareness level: Chi-square 19.110,  $P$  value 0.000, Designation and awareness level shows significant association: Chi-square 10.333,  $P$  value 0.016, and other teachers' background characteristics were not statistically significant.

### Discussion

The consequences of the current investigation showed that the majority of the teachers (45%) had moderate level knowledge on learning disability and 21.5% had inadequate knowledge level on learning disability and 33.5% had adequate knowledge on learning disability. Public school teacher knowledge level is significantly associated with gender, experience, designation, standard of teaching. Awareness level of a public school teacher is that most school teachers had seen a child with learning disabilities symptoms 73% out of 200 and most of the school teachers reported that learning disability is curable (88%), and 12% teachers reported that its not curable, and 'how do you come

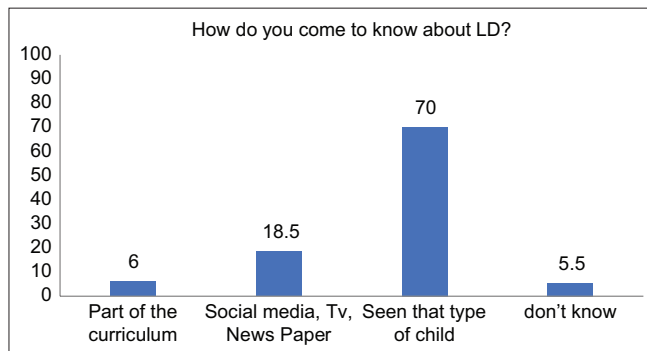


**Figure 2: Awareness scores of public-school teachers**

**Table 2: Summary statistics of dependent and independent variable**

Teachers background characteristics	$\chi^2$	Knowledge $P (P \leq 0.05)$ Significance	$\chi^2$	Awareness $P (P \leq 0.05)$ Significance
Age	9.624 <sup>a</sup>	0.141	2.662 <sup>a</sup>	0.447
Gender	14.556 <sup>a</sup>	0.001*	0.000 <sup>a</sup>	1.000
Designation	22.106 <sup>a</sup>	0.001*	10.333 <sup>a</sup>	0.016*
Experience	22.376 <sup>a</sup>	0.034*	19.110 <sup>a</sup>	0.000*
Standard of Teaching	14.904 <sup>a</sup>	0.021*	5.747 <sup>a</sup>	0.125

<sup>a</sup>P statistically significant



**Figure 3: Awareness scores of public-school teachers**

to know about learning disabilities?’ revealed that most school teachers (70%) had seen a child with learning disability out of 200, 18.5% through social media, the TV, the newspaper and only 6% of school teachers expressed that as part of the curriculum.

Awareness levels are significantly associated with experience and designation. This Study findings are in line with existing research (Mysore Narasimha Vranda).<sup>[3]</sup> The study was conducted in 16 schools in 200 teachers in Bangalore, India in 2015. The results showed that most of the teachers (74%) had moderate level knowledge about learning disability. This study reveals that most of the school teachers have some knowledge but not sufficient practice on learning disabilities to handle school children properly. Teachers are more aware and have a good attitude regarding learning disabilities but inadequate knowledge.

Another study with similar findings is a descriptive study conducted by (Syed Arifa, Syed Shahid Siraj) *et al.*, in 2015<sup>[13]</sup> to assess the knowledge and attitude of teachers about specific learning disabilities among children. A research was done in 8 selected schools and 60 school teachers selected in the district of Pulwama. The study results show that the most of school teachers (73.3%) had moderate level knowledge of the learning disability. Another research person reported that children with learning disability are not taken care of properly in the schools in India.<sup>[14]</sup> Inadequate knowledge level may cause a negative attitude to a person with a disability with evidence of literature.<sup>[15]</sup> Only the teachers and parents can help the child to move to the next level; if the problem is identified early and given proper treatment techniques.<sup>[16]</sup> The teacher will be the right person to early identify the students with learning disability and refer to the primary care physician or rehabilitation center.

## Conclusion

The results of the current research pointed that the majority of the teachers do not possess adequate knowledge and awareness level to differentiate and educate children with learning disabilities. They are not having adequate awareness on how to deal with the situation and lack an action taking and decision making skill in addressing the needs of children with learning disabilities. Hence, this aspect should be included mandatorily in the training curriculum of teachers and structured training programs must be rolled out to address the lacunae. This will in turn significantly help with enhance knowledge and awareness.

The teacher plays a key role in the early identification and management of children having learning disabilities because they notice first, once a child starts his/her school education. Early identification and proper management of the issue can avoid discrimination among those children as well as depression, demotivation, poor performance and finally dropping out of school and subsequent psycho-social issues in the child’s social life.

This current study recommends that the government should conduct regular and continuing training programs for all teachers and parents to sensitise them about this issue. All children must also be sensitised during school days about learning disabilities as well, since peer support is equally an important component in a child’s education and social life. The study also recommends to create a peer support group among parents and children with learning disabilities in educational institutions so that they can share their experiences and thus becoming a platform for sharing, cross-learning and social support.

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## Declaration of patient consent

Informed consent was obtained from all the teachers who had participated in this study.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

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