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A SCALE TO MEASURE PERCEPTION ABOUT LEARNING DISABILITY

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Abstract

While there are several scales to measure awareness and knowledge of Learning Disability, research is limited on development of scale that measures teacher's perception about Learning Disability, in particular, teachers. The Learning Disability Perception Scale developed as part of this study attempts to go beyond the factual perception of Learning Disability. Rather, how a teacher perceived the condition of Learning Disability in the classroom, instructional practices and her role in school and community. The scale was developed with 46 items grouped under five dimensions, covering Learning Disability in general, Teacher in preparation for instruction, Teacher in class, Teacher in school and Teacher in community. The tool was standardized using Factor analysis on 124 student teachers in Mathematics optional class from seven B.Ed. colleges in Kerala, India. Out of initial 46 items, 20 items were eliminated after factor analysis and 26 items were retained in the final tool under new five dimensions that evolved as a result of factor loadings. The overall results indicate that the newly developed scale is a reliable and validated one to measure perception about Learning Disability of student teachers.

Key words: Learning Disability, Perception, Student Teachers, Teacher Education.

Introduction

Learning Disability was first noticed and termed so by Dr. Samuel Kirk in early 1960s. Since then this topic has always been in debate, first, for arriving at an all-inclusive definition for this condition which is highly individualistic in nature and then, looking it as an applied field of special education and research on individual difference in learning and performance. Learning disability involves a variety of learning problems. It affects the neurological system of an individual, hindering the receiving and processing of information. This creates trouble in learning new information and skills as well as applying information and skills in new situations. Learning disability has nothing to do with intelligence and motivation. The Indian conceptualization of Learning Disability is borrowed from the global perspective. In India, Learning Disability drew attention of specialists only in the last decade (Karanth, 2003) and research and practice in this area is still in a start. Rehabilitation Council of India, the statutory body, which regulates, standardizes and governs all forms of education and rehabilitation services to disabled individuals in India, adopts the definition and distinguishing characteristics of Learning Disability given by western agencies working in the area.

The features very specific to Indian context are bilingualism and multilingualism. Another is the gap from ideal classroom conditions in terms of infrastructure, access to schooling and teacher-pupil ratio. The varying socio-economic conditions of the pupils in a classroom add on to the crisis. These contextual factors which are very individualistic to Indian economy, are least researched by the researchers. Placement of disabled learners in general classroom poses many challenges to educators and service providers (Hallahan & Kauffman, 2000). An important challenge being awareness among teachers about the classroom phenomenon of a learning disabled learner and her ability to read these behavioural signs or symptoms for occurrence.



Learning Disability in a crowded classroom. The aim here is to draft a scale for student teachers to assess their perception about the condition of Learning Disability in terms of classroom, instructional practices and their role in school and community.

Learning Disability Perception Scale

Before construction of the instrument, the investigator referred the guidelines of the National Joint Committee on Learning Disabilities (1981), a US based National Committee of representatives of thirteen organizations committed to the education and welfare of individuals with Learning Disabilities. Guidelines of the Rehabilitation Council of India (RCI), a Statutory Body established after enacting RCI Act in 1992 was also referred to for the purpose. Apart from this, the investigator reviewed all accessible tools on Learning Disability for the preparation of perception scale. Details of the tools reviewed are given in table 1.

Table - 1

Reviewed tools for the preparation of Learning Disability Perception Scale

Tool	Name of the Constructors	Dimensions Assessed
Learning Disabilities Awareness Schedule (LDAS)	Dhananjai Yadav and Vidya Agarwal	Learning Disabilities in general, Listening and understanding, Oral Language, Written Language, Mathematical Problems, Behavior Problems, and Motor Behavior Problems
Learning disabilities diagnostic inventory	Donald D. Hammill, Brian R. Bryant,	Listening, Speaking, Reading, Writing, Mathematics, Reasoning
Checklist for learning disabilities (Advancing milestones.com)	Smith and Strick	Writing, reading, Maths, fine Motor, Related Problems, At school,
Screening checklist for primary school students: English	Ramakrishna Vivekananda University	English
Checklist on Behavioral Characteristics of Students At Risk of Learning Disabilities	Learning Disabilities Association of Canada	Definition, Motor Coordination, Auditory Processing, Orientation, Visual Processing, Attentional, Oral Language, Organization, Written Language, Social Perception,
Learning Needs Screening Tool	Nancie Payne	Learning disability in general
Learning Disabilities Screening Tool	Ministry of Justice, USA	Learning disability in general
Learning Disability Screening Tool	Leicestershire Partnership NHS Trust	Characteristics of Learning Disability
Learning Disability Self-Screening Tool	Deborah Shulman	Characteristics of Learning Disability and Special education services

A critical analysis of the above tools enlightened the investigator towards drafting of tool. By the term 'Perception about Learning Disability', investigator here meant going beyond the idea of factual perception of Learning Disability. Rather, how a teacher perceived the condition of Learning Disability in

terms of classroom, instructional practices and her role in school and community. Based on this theme, dimensions of the instrument were prepared which are discussed as follows:

Dimensions of Learning Disability Perception Scale

After analyzing every manner in which a teacher is associated with a learning disabled student, following five dimensions were identified for the instrument:

1. Learning Disability in general
2. Teacher in preparation for instruction
3. Teacher in class
4. Teacher in school
5. Teacher in community

The various items in the tools reviewed by the investigator were thoroughly analyzed with respect to the viewpoint of a classroom teacher and modified accordingly. Each of the dimensions and the items under them is discussed separately.

Learning disability in general

This dimension dealt with how the student teacher perceived general characteristics of Learning Disability in relation to her classroom. Examples for items developed under this dimension are given below:

- *Learning disability requires more of medical intervention than instructional intervention.*
- *Use of more than one language in school negatively influences Learning Disability.*

Teacher in preparation for instruction

This dimension dealt with how the student teacher perceived Learning Disability when preparing for instruction in a regular classroom. Examples for items developed under this dimension are given below:

- *Different assignments for learning disabled students may lead to unfair grading in the classroom.*
- *Learning disabled students may not master higher level cognitive skills.*

Teacher in class

This dimension dealt with how the student teacher perceived the presence of a learning disabled student in her classroom with respect to her efficacy. Examples for items developed under this dimension are given below:

- *It is difficult to identify Learning Disability in classroom.*
- *Teacher is accountable for the failure of learning disabled student in the class.*

Teacher in school

This dimension dealt with how student teacher perceived schooling of learning disabled students. Examples for items developed under this dimension are given below:

- *Nurturing learning disabled students in regular school may be costly affair.*
- *Special teacher's support is unavoidable in handling learning disabled students.*

Teacher in community

This dimension dealt with how student teacher perceived the presence of learning disabled student in society. Examples for items developed under this dimension are given below:

- *Children with Learning Disability are burden for the society.*
- *Not much can be done by society for rehabilitation of learning disabled children.*

The draft scale was prepared with the five dimensions identified and various items under them. The initial draft contained 55 items. After the preparation of draft, it was subjected to multi level discussion including academicians, research scholars and experts from Learning Disability Education Institutes.

Table - 3
Rotated Component Matrix for Factor Loadings

Items in Scale	Component				
	1	2	3	4	5
Negligence of Learning Disability in students may result in unsuccessful schooling	.663				
Early intervention programmes for learning disabled children can reduce their problems	.625				
Parents can provide important inputs to identify learning disabled students	.485				
Collaborative effort of subject teachers may result in optimum school assessment of learning disabled student	.483				
Knowing the family background of learning disabled students provides much information	.436				
Preparing varying assignments for learning disabled students will be a challenging task for the teacher					
Technology in classroom can support the teacher in handling learning disabled students					
Learning disabled students require supportive education and not special education					
It is difficult for regular teacher to handle learning disabled students in classroom		-.616			
Normal children may consider learning disabled students as a hindrance to their classroom learning process		-.575			
Learning disabled students may not be accepted as normal by society		.563			
Children with Learning Disability are burden for the society		-.523			
Teacher's attitude towards learning disabled students influences their peer relations		.468			
Learning disabled students are unenthusiastic towards examination					
Learning disabled students are lazy					
The assignments at the end of the unit in the textbook are suitable for learning disabled students also					
Special teacher's support is unavoidable in handling learning disabled students					
Presence of learning disabled students in the class may affect flow of teaching			.570		
It is difficult to identify Learning Disability in classroom			.554		
Knowing entry level behaviour of learning disabled students is essential in planning for instruction			.517		
Nurturing learning disabled students in regular school may be costly affair			.517		
Teacher observation for strengths and weaknesses of learning disabled students is not feasible in crowded classrooms			.481		

result of discussion, some items were eliminated, some were added and still some were restructured to bring conceptual clarity. Thus the draft scale was prepared with 46 items.

Mode of answering

Against each statement in the Learning Disability Perception Scale for student teachers, five options were provided (Strongly Agree, Agree, Not Sure, Disagree and Strongly Disagree). Subjects are to put a tick (✓) mark against the most acceptable option according to them.

Scoring

The Learning Disability Perception Scale for student teachers consisted of both positive and negative statements. Each of the positive statements was scored 5, 4, 3, 2 and 1 for responses Strongly Agree, Agree, Not Sure, Disagree and Strongly Disagree respectively. Whereas the negative statements were scored 1, 2, 3, 4 and 5 for responses Strongly Agree, Agree, Not Sure, Disagree and Strongly Disagree respectively.

Item try out

As part of standardization, the Learning Disability Perception Scale for student teachers was tried out on 124 student teachers in Mathematics optional class from seven B.Ed. colleges in Kerala, India, details of which are shown in Table 2. Permission was obtained from concerned principals of the colleges in regard. The student teachers were asked to complete the scale as per the instructions given. There was no time limit to complete the scales. However, students took 15 to 25 minutes to complete the scale.

Table - 2

Details of data collected for the standardization of Learning Disability Perception Scale

Categories	Sub-Categories	Number	Percentage
Student Teachers	Entire Sample	124	100
Gender	Male	6	5
	Female	118	95
Locale of student teacher	Rural	70	56
	Urban	54	44
Institute Management	Government	70	56
	Private	54	44

Preparation of Final Scale

Factor Analysis technique was used for finalizing items in the scale. The same can be used to establish validity of the tool as factor analysis performs a series of rotations to identify certain factors and loadings of other variables onto each of these factors. The Pearson correlation coefficients between the items were looked into to check for extreme multicollinearity and singularity and also the significance of these coefficients. The correlation coefficients did not indicate singularity in items. This was further appreciated by the determinant of the correlation matrix (0.0000124) which is greater than the necessary value 0.00001. Next, the Kaiser-Meyer-Olkin measure of sample adequacy was 0.528, an acceptable value that indicates the adequacy of sample selected. The Bartlett's test of sphericity was found to be significant at 5% level rejecting the null hypothesis that the original correlation matrix is an identity matrix, indicating that factor analysis would be appropriate for this data. Initial extraction resulted in 17 factors with Eigen value more than 1 but for convenience in analysis the number of factors was restricted to 5. Principal Component Analysis was used. The rotated component matrix, in table 3, shows the factor loadings for each variable onto each factor. However, factor loadings less than 0.4 are not displayed.

Not much can be done by society for rehabilitation of learning disabled children			.433	
Labelling learning disabled students may attract instructional support for them			.422	
Teacher is accountable for the failure of learning disabled student in the class				
Different assignments for learning disabled students may lead to unfair grading in the classroom			.647	
Fact-based activities will be suitable for learning disabled students			.552	
Learning disability may affect the normal development of student			-.515	
Organizing orientation programmes for parents of learning disabled children will only complicate the task of teacher			.425	
Current evaluation system is not adequate to assess learning disabled students in the classroom				
Successful integration of learning disabled students in school is the responsibility of the teacher				
Learning disabled students are less likely to interact with teacher				
Instruction should be individualized for learning disabled students				.609
Learning disabled students may not master higher level cognitive skills				-.522
Academics is a nightmare for learning disabled students				.516
Learning disabled students can be nurtured in regular classroom				-.439
Learning disability requires more of medical intervention than instructional intervention				-.417
Use of more than one language in school negatively influences Learning Disability				
Learning disabled students need changes in the existing curriculum for making learning a joyful event				
Learning disability results in low achievement in all subjects				
Learning disability is an intellectual failure				

Out of the initial 46 items, 20 items were eliminated after factor analysis and 26 items were retained in the final tool. Detail of the number of items retained and the dimensions that evolved after factor analysis is shown in table 4.

Table 4
Dimension wise Number of Items

Dimensions	Number of items after factor analysis
Learning Disability: Myths and reality	5
Learning Disability and successful schooling	5
Learning Disability and instructional planning	7
Learning Disability: A burden/hindrance	4
Need for special attention	5
Total	26

Validity

The validity of Learning Disability Perception Scale was established. The survey instrument was developed based on reviewing 9 different tools and guidelines of National Joint Committee on Learning Disabilities (1981) and Rehabilitation Council of India (2011). The dimensions are adopted from these tools hence ensures the validity.

Reliability

The reliability of the survey instrument was established through split half method. The Cronbach's Alpha in reliability statistic was found to be 0.875 which is an acceptable value. The final tool namely Learning Disability Perception Scale developed so is shown below.

Table - 5
Final Tool : Learning Disability Perception Scale (LDPS)

Sl.No.	Items	SA	A	N	D	SD
1	Negligence of Learning Disability in students may result in unsuccessful schooling					
2	Early intervention programmes for learning disabled children can reduce their problems					
3	Collaborative effort of subject teachers may result in optimum school assessment of learning disabled student					
4	Parents can provide important inputs to identify learning disabled students					
5	Knowing the family background of learning disabled students provides much information for assisting them in classroom					
6	It is difficult for regular teacher to handle learning disabled students in classroom					
7	Normal children may consider learning disabled students as a hindrance to their classroom learning process					
8	Teacher's attitude towards learning disabled students influences their peer relations					
9	Learning disabled students may not be accepted as normal by society					
10	Children with Learning Disability are burden for the society					
11	Knowing entry level behaviour of learning disabled students is essential in planning for instruction					
12	It is difficult to identify Learning Disability in classroom					
13	Presence of learning disabled students in the class may affect flow of teaching					
14	Labelling learning disabled students may attract instructional support for them					
15	Nurturing learning disabled students in regular school may be costly affair					
16	Teacher observation for strengths and weaknesses of learning disabled students is not feasible in crowded classrooms					
17	Not much can be done by society for rehabilitation of learning disabled children					

18	Learning disability may affect the normal development of student						
19	Different assignments for learning disabled students may lead to unfair grading in the classroom						
20	Fact-based activities will be suitable for learning disabled students						
21	Organizing orientation programmes for parents of learning disabled children will only complicate the task of teacher						
22	Learning disability requires more of medical intervention than instructional intervention						
23	Learning disabled students can be nurtured in regular classroom						
24	Academics is a nightmare for learning disabled students						
25	Learning disabled students may not master higher level cognitive skills						
26	Instruction should be individualized for learning disabled students						

Strongly Agree (SA), Agree (A), Not Sure (N), Disagree (D) and Strongly Disagree (SD)

Conclusion

Out of the initial 46 items, 20 items were eliminated after factor analysis and 26 items were retained in the final tool under the new five dimensions that evolved as a result of factor loadings. The overall results indicate that the newly developed scale is a reliable and validated one to measure perception about Learning Disability of student teachers.

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