

Self-Instructional Module On Learning Disabilities Awareness And Effectiveness Among Elementary School Teachers In Kanchipuram District In Tamil Nadu

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Abstract

Introduction: Learning disabilities (LD) are a collection of many conditions that impair a person's ability to acquire, organise, maintain, comprehend, and communicate verbally and nonverbally. In India, LDs are highly prevalent among children aged 5-7 years, and they have been undiagnosed due to a dearth of awareness among teachers and parents. With this pretext, the study was undertaken with the aim of identifying the knowledge of the elementary school teachers in Kattankulathur block. **Methods:** Pre and post-test study design was espoused for study with elementary school level teachers in various schools. The study subjects included both male and female teachers in the Chengalpattu district. A list of 252 teachers, representing 3 different schools, was prepared using the systematic random sampling method. To educate the LDs, a self-instrumental model was used. Descriptive, univariate, and bivariate analyses were performed. A chi-square test, a t-test, and two-way Anova tests were employed to ascertain associations between the pre and post results of the subjects. **Results:** The total mean knowledge score of the pre-test results of the subjects was 9.67 (SD4.18), whereas the mean total knowledge score of the post-test results was 17 (SD3.53). **Conclusion:** The current study establishes that primary school teachers employed in a variety of schools have an average level of awareness concerning learning difficulties. Their knowledge level increased significantly following the introduction of the self-instrument model.

Keywords: Learning disability, Elementary School teachers, Knowledge, Self-Instrumental Model.

Introduction:

Learning disabilities are a collection of many conditions that impair a person's ability to acquire, organise, maintain, comprehend, and communicate verbally and nonverbally. As a result, cognitive and academic performance have been compromised(1). There are some common types of LD that are dyslexia, Dyscalculia, Dysgraphia Nonverbal LDs. In India, LDs are highly prevalent among the children aged 5-7 years and they have been undiagnosed due to dearth of awareness of teachers and parents(2).

Despite the fact that millions of people across the globe have encountered learning disabilities problems, there have been uncertainties and misinformation with regards to identification and intervention of LD among the policy makers, school teachers and parents that have hinder them

to create congenial circumstances to understand difficulties of the children and facilitate them to get

rid of them. However, National Council of Educational Research and Training in 2015 has come out with handbook that facilitated diverse stakeholders across the India contribute their strategies, ideas and addressing the problems of learning disabilities of the children and inclusion of their special needs in educational curriculums, through numerous workshops(3).

LD is closely linked to psychological comorbidities. Perhaps 30% of the children suffer with behavioral and emotional issues. It is undeniable fact that children with learning disabilities are risk of hyperactivity. A fair association is found between inattentiveness and reading disabilities. Early identification of illness would result in boosting self-confidence and social

competency(4). The prevalence of LD varies from region to region, with 3-12% of the total children across the world. In a class with 20-25 children, a school may have 1 or 2 children with learning disabilities. However, the percentage of children in some places goes up to 40%. In such a circumstance, the teachers must be in a position to identify those illnesses and facilitate their recovery so that children gradually come out of their problems and perform well in their academic activities.(5).

In India, learning disabilities have emerged as a new health issue in rural areas, although schools in metro-cities have taken some appropriate measures to identify and address the problems. Still, the inclusive education strategy incorporated into the educational system is required to look into the problems encountered by children in the early years in relation to the content of the instruction and the instruction environment, and address the issues by adding a proper strategy. With this pretext, the study was undertaken with the aim of identifying the knowledge of the elementary school teachers in Kattankulathur block. It would facilitate filling up the research gap in this area and help policy makers bring about changes in the inclusive educational system.

Methods:

Pre and post-test interventional study design was espoused for study with elementary school level teachers in various schools. The study subjects included both male and female teachers in the Kanchipuram district, fulfilling inclusion criteria of having completed a diploma, bachelor's, and master's degrees in education, and having a minimum of 2 years of teaching experience in schools. The institutional scientific and ethical committee conducted a thorough assessment and authorised it to be conducted among the school teachers.

Prior to collecting data from participants, informed consent was obtained in writing from each subject, assuring them that the information supplied for the study would remain confidential and that their identities would not be divulged under any circumstances. In the beginning, a list of all teachers working in the Chengalpattu district was obtained from the district educational office, and then a list of all elementary school teachers from diverse schools was prepared. Finally, a final list of teachers with an equal proportion of 84 teachers for each category of school, to the tune of 252 teachers representing 3 different schools, such as government, matriculation, and CBSE schools, was prepared using the systematic random sampling method.

During the intervention, the subjects were thoroughly informed of the study's purpose and objectives in the local language, followed by a pre-test where the teachers were administered a semi-structured questionnaire consisting of 20 multiple-choice questions to measure their understanding of learning disabilities. The questionnaire had five domains such as socio-economic profile, concept, types, characteristics, and management, each with its own set of questions.

After obtaining a filled-in questionnaire from all the subjects, a lecture with a power point presentation was adopted simultaneously to impart knowledge on learning disabilities to all the subjects in a batch manner, each batch with approximately 25 subjects. The rationale for selecting approximately 25 subjects for each session was to facilitate their learning properly and engage with the researcher, as well as to have their doubts about the subject addressed. At regular intervals, there were 10 such sessions that covered 252 subjects. The self-instrumental model constructed for the study was distributed to everyone, and they were encouraged to use it to handle the students with learning disabilities. Two months after each batch of subjects completed the programme, a post-test was administered to measure any progress in their understanding of LD. The subjects' pre- and post-test results were coded with numbers and entered into an excel sheet before being uploaded to SPSS-16 for analysis. Descriptive, univariate, and bivariate analysis were performed, and the results were interpreted and presented in tabulation and figure formats. The Chi-square test, the T-test, and two-way Anova tests were employed to compare the pre and post results of the subjects with socio-economic variables and ascertain associations between them. $P < 0.05$ was deemed to be the statistically significant threshold.

Results:

The study included 252 elementary school teachers. 92.9% of them were female. The subjects belonging to the productive age group of 25-45 years were 76.1%. Educationally, 79% studied under graduation courses either in science subjects or arts, with a bachelor's degree in education. In contrast, only 5.9% studied for a master's degree at the educational level. In terms of years, 59.9% of the subjects had 10 years of teaching experience; however, 25.4% had 11-20 years of such experience. There was an association between the percentages of subjects working in government schools, the Central Board of School Education (CBSE), and matriculation schools, with 33.3% in each category. 65% imparted education to the

students at primary level, while 34.9% did so at elementary level. 76% of the subjects possessed a low average level of knowledge about learning disabilities (LD), whereas 22% had an average level of knowledge. Of 18 males, 88% had low levels of knowledge about learning disabilities. However, 75.6% of 234 females did so. With regard to learning disabilities ($P = 0.429$), there was no statistically significant association between age and knowledge of the subjects.

74% of the subjects studied for a bachelor's degree in education had very little knowledge of LD compared to the 18% of the subjects studied for a diploma in education, who had average knowledge of it. 81% ($n = 22$) of the subjects with 21–25 years of working experience having low levels of knowledge over LD was comparatively higher in percentage than 25% ($n = 16$) of the subjects with 1–5 years of experience having an average level of knowledge. 43% ($n = 36$) of the subjects who worked in CBSC schools had an average level of knowledge of LD, whereas 90% ($n = 76$) of the subjects had low levels of knowledge of it. The pre-test results showed that 77% had a below-average level of knowledge of LD. In contrast, after the implementation of a self-instrumental model, the post-test results revealed that 60% achieved an average level of knowledge and 31% achieved an above-average level of knowledge. It was apparent that the knowledge level of subjects had significantly improved in the post-test compared to the pre-test results. There was a statistically significant difference found between the pre and post-test results of the subjects with regard to their knowledge of LD ($P < 0.001^{**}$).

The total mean knowledge score of the pre-test results of the subjects was 9.67 (4.18), whereas the mean total knowledge score of the post-test results was 17 (SD3.53). The mean total knowledge score on the LD of the elementary school teachers in government schools was 8.45 (SD3.54), but it was 15.68 (SD3.35) in the post-test. The total mean score of the elementary school teachers of matriculation schools in the pre-test on LD was 8.74 (SD3.38). The total mean score of the post-tests was 16.13 (SD2.54). 11.83 (SD4.66) was the total mean score on the knowledge of learning disabilities secured by the elementary school teachers of CBSE schools. Yet it was 19.18 (SD3.56) in the post-test.

Discussion:

It is apparent from the current study that 44% of the teachers who had fallen into the age group of 25-35 years and 36-45 years had average knowledge about learning disabilities. However, 23% of them who belonged to the age group of 36-45 years had

high knowledge about it. The findings show that there were no significant differences in age and teacher knowledge of students with learning disabilities. A similar study conducted in Jordan among the teachers reveals that no such remarkable differences were found between the age group of teachers and their level of knowledge of LD(6).

86% of the teachers have been observed to have very little knowledge of the pre-test, while 22% of them have average knowledge of it. It has comparatively differed from the Neena Sawhney & Sneha Bansal study, where 86% of the teachers possessed average knowledge of it. A recent study in Tamil Nadu apparently indicates that nearly half of the teachers (46%) working in government schools possess a moderate level of knowledge (7). The results of various studies demonstrate that the level of knowledge of teachers varies from place to place depending upon the geography they live in, the education level they possess, the culture they adopt, and their exposure to the medical education field.

It is noteworthy that following the adoption of the self-instrumental model, there was a substantial improvement in the teachers' knowledge level on the post-test. The self-instrumental paradigm aided teachers in streamlining their knowledge and comprehension of LD, regardless of the schools in which they taught. Similar empirical investigations performed across India at various times demonstrate unequivocally that there were significant and noticeable improvements in teachers' knowledge levels between the pre- and post-tests. They were able to get more information about LD following the implementation of organised teaching and training models combined with interactive learning approaches(8–10).

The current research revealed statistically significant differences in pre- and post-test scores on learning disabilities acquired from diverse school teachers ($P = 0.001^{**}$). As a result, it is apparent that educating teachers about LD using a self-instrumental paradigm was beneficial in increasing their knowledge level. A comparable outcome from a research study established a link between efficient implementation of a self-instrumental model and a rise in the level of knowledge of teachers working in various schools(11).

Conclusions:

Learning difficulties are a significant problem among young school-aged children. Early identification of these kids enables early intervention and appropriate adjustment of instructional strategies. The current study establishes that primary school instructors

employed in a variety of schools have an average level of awareness concerning learning difficulties. Their knowledge level increased significantly learning disorders and assist them in identifying pupils with these difficulties for early intervention. There are few research studies done and many lacunas in the existing body of knowledge. Numerous further studies of this type would be undertaken to fill the gap, and policy makers may adopt inclusive policies to address these challenges.

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following the introduction of the self-instrument model. It is critical to educate instructors about

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Table 1: Comparison of Pre & Post Tests Score of Elementary School teachers of Different Schools on Learning Disabilities

Type of Schools	Domains	Pre-Test M(SD)	Post-Test M(SD)	T test	P-Value
Government	Concept	0.82 (0.82)	2.85(0.74)	-21.8	<0.001**
	Types	3.01 (1.44)	5.00 (1.32)	-17.2	<0.001**
	Characteristics	2.51 (1.23)	4.21 (1.47)	-11.5	<0.001**
	Management	2.02 (1.33)	3.74 (1.22)	-12.7	<0.001**
Matriculation	Concept	1.05 (0.76)	2.92 (0.66)	-23.1	<0.001**
	Types	3.05 (1.37)	5.44 (1.13)	-16.5	<0.001**
	Characteristics	2.31 (1.16)	3.98 (1.54)	-11.6	<0.001**
	Management	2.27 (1.37)	3.62 (0.98)	-9.14	<0.001**
CBSC	Concept	1.80 (0.69)	3.58 (0.50)	-19.9	<0.001**
	Types	3.60 (1.93)	5.68 (0.98)	-10.9	<0.001**
	Characteristics	2.93 (1.56)	5.11 (1.47)	-16.9	<0.001**
	Management	3.40 (1.39)	4.88 (1.41)	-12.1	<0.001**
Total Score of Entire Teachers	Concept	1.22 (0.86)	3.12 (0.72)	-37.2	<0.001**
	Types	3.22 (1.62)	5.37 (1.18)	-24.2	<0.001**
	Characteristics	2.58 (1.35)	4.43 (1.56)	-22.5	<0.001**
	Management	2.57 (1.49)	4.08 (1.34)	-19.3	<0.001**

** denotes significance at 1% level, M=Mean, & SD=Standard deviation Comparison of Pre & Post Tests Scores of the Teachers of the different school

on different domains of knowledge on Learning Disabilities-Two-way Anova

LD Awareness	Government		Matriculation		CBSE		ANOVA		P-Value	
	Pre-test M(SD)	Post-test M(SD)	Pre-test M(SD)	Post-test M(SD)	Pre-test M(SD)	Post-test M(SD)	Pre-test	Post-test	Pre-test	Post-test
Concept	0.82(0.82)	2.85(0.74)	1.05(0.76)	2.92(0.66)	1.80(0.69)	3.58(0.50)	32.8	34.04	<0.001**	<0.001**
Types	3.01(1.44)	5.00(1.32)	3.05(1.37)	5.44(1.13)	3.60(1.93)	5.68(0.98)	3.51	7.48	<0.03*	<0.001**
Characteristics	2.51(1.23)	4.21(1.47)	2.31(1.16)	3.98(1.54)	2.93(1.56)	5.11(1.47)	4.75	13.41	<0.001**	<0.001**
Management	2.02(1.33)	3.74(1.22)	2.27(1.37)	3.62(0.98)	3.40(1.39)	4.88(1.1)	24.46	27.52	<0.001**	<0.001**
Total scores	8.45(3.54)	15.68(3.35)	8.74(3.38)	16.13(2.54)	11.83(4.66)	19.18(3.56)	19.39	30.07	<0.001**	<0.001**

LD=Learning Disability, M=Mean, SD=Standard Deviation, CBSC= Central Board of School

Education, * =Denotes significant at 1% level, * =Denotes significant at 5% level

Figure 1: Educational Qualification of Teachers

