

# “Effectiveness Of Teaching Strategy On Knowledge Regarding Classroom Management Of Children With Dyslexia Among Primary School Teachers”

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## Abstract:

**Background:** A ‘Quasi-Experimental’ study was conducted to assess the effectiveness of teaching strategy on knowledge regarding classroom management of children with dyslexia among primary school teachers in selected schools of Trivandrum district, Kerala. A total sample of 80 school teachers were selected using purposive sampling technique. The objectives of the study were to assess the knowledge among primary school teachers regarding class room management of children with dyslexia and to evaluate the effectiveness of teaching strategy on knowledge regarding class room management of children with dyslexia among primary school teachers. The final objective was to find out the association between knowledge of teachers regarding class room management of dyslexia and selected demographic variables.

**Materials and Methods:** A two-group pre-test post-test design was used to conduct the study. A sample comprising of 40 Primary school teachers in experimental and 40 in control group were enrolled using non-probability purposive sampling technique. The conceptual framework of the study was based on JW Kenny’s ‘Open Systems Model’. Tools used for data collection were demographic Performa and knowledge questionnaire.

**Results:** Data analysis was performed using descriptive and inferential statistics. Findings of the study revealed that the mean post-test knowledge score  $23.3 \pm 2.8$  among experiment group was significantly higher than the mean pre-test knowledge score  $11.9 \pm 3.0$  [Mean difference 11.4] and the Paired t value computed at 26.28\*\* was statistically significant at  $p < 0.01$  level. Change in the knowledge score among the control group was not statistically significant [Pre-test knowledge score-11.6, Post-test knowledge score-14.4, mean difference-2.8,  $df=39$ , paired t value 6.78], ( $p > 0.05$  level). The t test value (12.47\*\*,  $df=78$ ) revealed that, there is significant increase in the mean post-test knowledge score among experimental group compared to the mean post-test knowledge score among control group at 0.01 level. Significant association was observed between knowledge with regard to Gender ( $P < 0.01$ ) and Previous knowledge on dyslexia ( $P < 0.05$ ).

**Conclusion:** The findings of the study confirmed that the teaching strategy was significantly effective in improving the knowledge regarding classroom management of dyslexia among primary school teachers.

**Key Word:** Teaching Strategy, Knowledge, Primary School Teachers, Dyslexia.

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## I. Introduction

Broadly speaking, education refers to any act or experience that has a formative effect on an individual's mind, character, or physical ability. In its technical sense, education is the formal process by which society, through schools, colleges, universities and other institutions, deliberately transmits its cultural heritage and its accumulated knowledge, values and skills to the next generation.<sup>1</sup> Teaching is a highly complex activity, a social practice, that takes place in a specific context (time, place, culture, socio-political-economic situation etc.). Formal teaching tasks include preparing lessons according to agreed curricula, giving lessons, and assessing pupil progress.<sup>2</sup> A teacher, also called an educator is a person who helps students to acquire knowledge, competence, or virtue, via the practice of teaching. They provide instruction in literacy and numeracy, craftsmanship or vocational training, the arts, religion, civics, community roles, or life skills.<sup>2</sup> A teacher's professional duties may extend beyond formal teaching. Teachers may accompany students on field trips, supervise study halls, help with the organization of school functions, and serve as supervisors for extracurricular activities. Not only they have the duty to protect students from harm but also responsible for student discipline.<sup>2,3</sup> Learning disabilities are present in at least 10% of the global population. Experts of WHO estimated that 6 to 10% of the school aged population in the U.S. is learning disabled.<sup>4</sup> In India prevalence estimates of learning disability ranges from 9-39% and the incidence of dyslexia in primary school children in

India has been reported to be 2-18% (dysgraphia 14% and dyscalculia 5.5%).<sup>5</sup> Based on a recent study, Kerala reports high prevalence of Specific Learning Disorders [16.49% (95% CI)]. The prevalence of impairment in reading, written expression, and mathematics is 12.57%, 15.6%, and 9.93%, respectively.<sup>5</sup> “National Joint Committee on Learning Disabilities” defines the term learning disability as heterogeneous group of disorders manifested by significant difficulties in the acquisition and the use of listening, speaking, reading, writing, reasoning or mathematical skills. This condition broadly affects the academic and functional skills of the children. These disorders are intrinsic to the individual, presumed to be due to central nervous system dysfunction, and may occur across the life span.<sup>6</sup> Rose (2009) and British Dyslexia Association defines ‘Dyslexia’ as a learning disability that primarily affects the skills involved in accurate and fluent word reading and spelling. Characteristic features of dyslexia are difficulties in phonological awareness, verbal memory and verbal processing speed with Co-occurring difficulties seen in aspects of language, motor co-ordination, mental calculation, concentration and personal organisation.<sup>7</sup> There is no cure for dyslexia. However, early detection and evaluation to determine specific needs and appropriate treatment can help children become competent readers. It has been found that training focused towards visual language and orthographic issues yields longer-lasting gains than mere oral phonological training.<sup>8</sup> Hyperactivity, inattention and perceptual coordination may also be associated with the learning disabilities.<sup>9</sup> It is imperative that the primary school teachers must have knowledge regarding early detection and management of dyslexic children. With this viewpoint, the investigator(s) aims to implement a teaching strategy and find out its effectiveness in improving knowledge among primary school teachers.

### Objectives of the Study

1. To assess the knowledge among primary school teachers regarding class room management of children with dyslexia
2. To evaluate the effectiveness of teaching strategy on knowledge regarding class room management of children with dyslexia among primary school teachers.
3. To find out the association between knowledge among teachers regarding class room management of dyslexia and selected demographic variables.

### Hypotheses [Tested at 0/05 level of significance, 95%CI]

- H<sub>1</sub>- There is significant difference in the mean knowledge scores among experimental group before and after administering teaching strategy.
- H<sub>2</sub>- There is significant difference in mean post-test knowledge scores among experimental and control group.
- H<sub>3</sub>- There is significant association between knowledge among primary school teachers regarding classroom management of dyslexia with selected demographic variables.

### Conceptual Framework

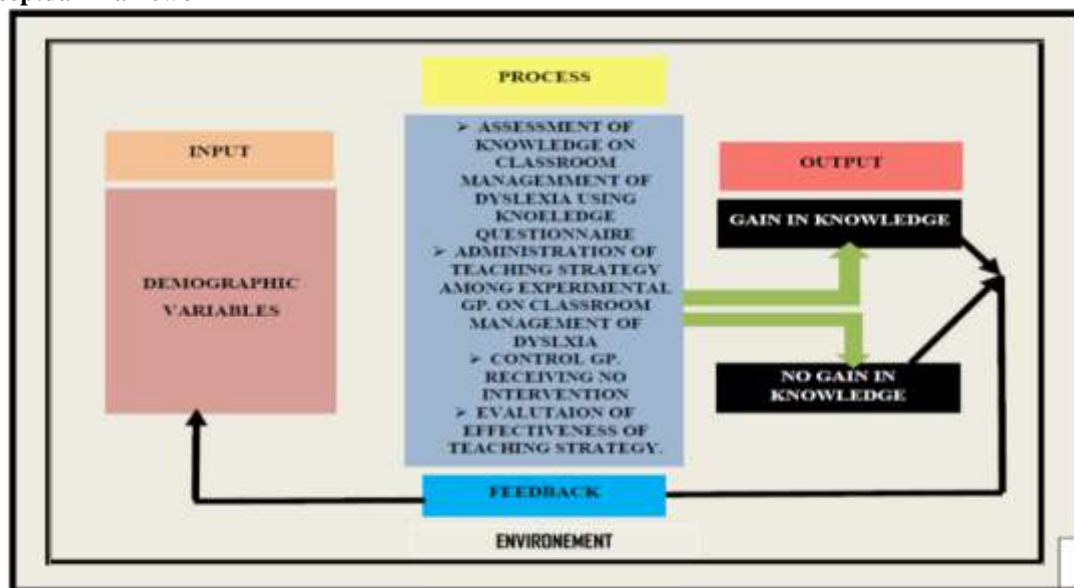


Figure-1: Conceptual Framework based on JW Kenny's Open Systems Model (Modified).

## **II. Material and Methods**

**Research Approach:** Quasi experimental approach.

**Research Design:** Two group pre-test – post-test design.

**Population:** Primary school teachers.

**Settings:** 08 selected Primary schools from Trivandrum district, Kerala were the settings for the particular study. [Government Lower primary school(s) Kallara, Kurumpayam, Aruvippuram, Muthuvila, Parappil, Sreekrishna Vilasam UPS, Muthuvila and Government LPS, Thengumcodu].

**Sampling Technique:** Non –probability purposive sampling technique.

**Sample size:** 80 Primary school teachers (40 in experimental and 40 in control group).

**Tools and Technique:** I) Demographic Performa was used to collect socio demographic data such as Age, Gender, Religion, Marital status, Professional Education, Teaching experience, Previous knowledge on Dyslexia and Source of Information. II) Knowledge Questionnaire was used to assess the Knowledge regarding classroom management of dyslexia among primary school teachers. The tool had 30 items divided in to eight areas (Introduction & definition, components, prerequisites, benefits, eligibility criteria, preparation and procedure, time of initiation and duration and discharge criteria). III) Teaching strategy on classroom management of children with dyslexia was prepared following exhaustive reviews and careful discussion form nursing experts, teachers, counsellors and child psychologists. The strategy had general information regarding dyslexia, causes, clinical aspects, diagnosis and management with teacher’s specific roles in classroom management. The technique was administered for a duration of 45 minutes for 40 samples in the experimental group. Lecture cum discussion was used as a teaching methodology and AV aids including LCD/PowerPoint presentation, Charts, Flash Cards and Video assisted modules were used. The control group received no intervention/teaching strategy.

**Method of Data Collection:** Data was collected for a period of approximately one month [01<sup>st</sup> January 2013 to 28<sup>th</sup> January 2013]. After explaining the purpose and obtaining an informed consent, the pre-test was administered for both groups followed by a teaching strategy for experimental group. After a period of 02 weeks a post-test was carried out for both experimental and control groups.

**Inclusion Criteria:** Primary school teachers who were willing to participate in the study.  
Teachers who were available at the time of data collection.

### **Exclusion Criteria:**

Primary Teachers who were not willing to participate in the study.  
Teachers not available during the period of data collection.  
Part time teachers and physical trainers.  
Head of the school was not a part of the study.

### **Statistical Analysis:**

Both Descriptive and Inferential statistics were used to analyse the data [using SPSS version 20 (SPSS Inc., Chicago, IL)]. Descriptive statistics such as Frequency distribution and percentage were used to describe the socio demographic data and Inferential statistics such as student t test was used to find out the effectiveness of teaching strategy by comparing the mean knowledge scores between experimental and control group, paired *t*-test was used to determine the difference between mean knowledge scores before and after the intervention. Chi-square was performed to find out the association between knowledge and selected demographic variables. The level  $P < 0.05$  (95% CI) was considered as the minimum accepted level of significance.

### III. Results

#### Section I: Description of Sample Characteristics.

**Table-1:** Frequency distribution and percentage of school teachers based on socio-demographic variables. [N=80]

Demographic Variables	Experimental		Control	
	f	%	f	%
<b>Age (In years)</b>				
20-30 Yrs.	09	22.5%	06	15%
31-40	15	37.5%	13	32.5%
41-50	14	35%	17	42.5%
Above 50 years	02	05%	04	10%
<b>Gender</b>				
Male	14	35%	21	52.5%
Female	26	65%	19	47.5%
<b>Religion</b>				
Hindu	24	60%	23	57.5%
Muslim	16	40%	16	40%
Christian	0	0%	01	02.5%
<b>Marital Status</b>				
Yes	37	92.5%	38	95%
No	03	07.5%	02	05%
<b>Professional Education</b>				
TTC	30	75%	31	77.5%
B.Ed.	10	25%	08	20%
M.Ed.	0	0%	01	01%
<b>Teaching Experience</b>				
04-07 Yrs.	09	22.5%	06	15%
8-10 Yrs.	12	30%	08	20%
Above 10 Yrs.	19	47.5%	26	65%
<b>Previous Knowledge on Dyslexia</b>				
Yes	12	30%	19	47.5%
No	28	70%	21	52.5%
<b>Source of information</b>				
Newspaper/Mass Media	17	42.5	29	72.5%
Books/Magazines	15	37.5	08	20%
Health professionals/Family/Peers	08	20	03	07.5%

#### Section II: Knowledge Level among Primary School Teachers regarding Classroom Management of Children with Dyslexia.

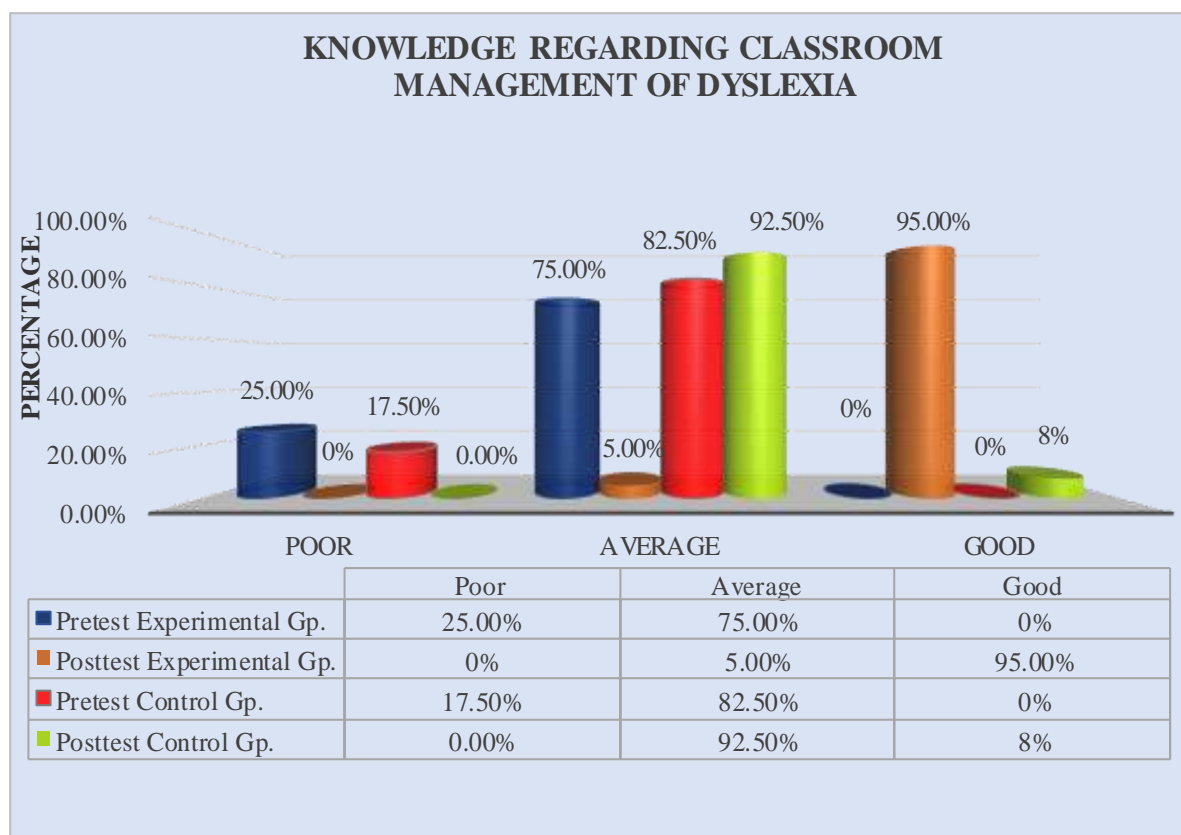
**Table-2:** Frequency distribution and percentage of pre-test level of knowledge among primary school teachers regarding classroom management of dyslexia. [N=80]

Pre-test Knowledge	Experimental Group		Control Group	
	f	%	f	%
Poor	10	25%	07	17.5%
Average	30	75%	33	82.5%
Good	0	0%	0	0.0%

**Table-3:** Frequency distribution and percentage of post-test level of knowledge among primary school teachers regarding classroom management of dyslexia. [N=80]

Post-test Knowledge	Experimental Group		Control Group	
	f	%	f	%
Poor	0	0%	0	0.0%
Average	02	05%	37	92.5%
Good	38	95%	03	07.5%

**Figure-2:** Cylindrical diagram depicting the percentage distribution of pre-test and post-test knowledge regarding classroom management of dyslexia among primary teachers.



**Section III: Effectiveness of Teaching Strategy on Knowledge regarding Classroom Management of Children with Dyslexia.**

**Table-4:** Mean, standard deviation, mean difference and paired ‘t’ value of knowledge among primary school teachers before and after teaching strategy. [N=80]

Group	Stage	Mean	SD	Mean Difference	df	Paired t	p
<b>Experimental</b>	Pre-test	11.9	3.0	9.15	39	26.28**	0.000
	Post-test	23.3	2.58				
<b>Control</b>	Pre-test	11.6	2.5	2.8	39	6.78	0.000
	Post-test	14.4	3.5				

\*\* Significant at 0.01 level

Table 4 shows that mean knowledge score among the experimental group before the structured teaching programme was 11.9±3.0 and that among the control group was 11.6±2.5. After the Intervention (Teaching strategy), among the experimental group, the mean knowledge score increased to 23.3±2.58. Increase in knowledge score after structured teaching programme in the experimental group was statistically significant (p<0.01). Mean knowledge score among the control group on post-test was 14.4 ±3.5. Change in knowledge score among the control group at post-test was not statistically significant. Hence research hypothesis (H<sub>1</sub>) was accepted.

**Table-5: Mean, SD, t value of knowledge level among nursing students in experimental and control group [N=80]**

Stage	Group	Mean	SD	df	t	p
<b>Pre-test</b>	Experimental	11.9	3.0	78	0.4	0.688
	Control	11.6	2.5			
<b>Post test</b>	Experimental	23.3	2.8	78	12.47**	0.000
	Control	14.4	3.5			

\*\* Significant at 0.01 level

Table 5 shows that there was significant increase in the mean knowledge score among primary school teachers in the experimental group as compared to control group at 0.01 level. Hence research hypothesis (H<sub>2</sub>) was accepted. Therefore, it is interpreted that there is significant increase in the knowledge scores among experimental group following teaching strategy.

**Table-6: Association between knowledge among primary teachers and selected demographic variables. (N=80)**

Demographic Variables	Knowledge Poor		Average		df	χ <sup>2</sup>	p
	f	%	f	%			
<b>Gender</b>							
Male	13	37.1%	22	62.9%	01	<b>7.78**<sup>b</sup></b>	0.005
Female	04	8.9%	41	91.1%			
<b>Previous Knowledge on Dyslexia</b>							
Yes	11	35.5%	20	64.5%	01	<b>6.13*</b>	0.013
No	06	12.2%	43	87.8%			

\* Significant at 0.05 level, \*\* Significant at 0.01 level, <sup>b</sup> Yate’s Continuity Correction.

#### IV. Discussion

The findings in the present study revealed that on pre-test 75% teachers from experimental group and 82% from control group had average knowledge. 25%(EXP.) and 17.5% (CNTRL.) had poor knowledge and none had good knowledge. This was partially supported by a 2021 study conducted by Tosun Et al. in Turkey on teacher’s knowledge and perception about dyslexia, revealing that primary school teachers lacked knowledge regarding dyslexia and its management (19% never heard the term and 83% did not had sufficient knowledge).<sup>10</sup> On post-test, 95% (EXP.) had good knowledge and 7.5% (CNTRL.) had good knowledge. 5% (EXP.) and 92.5% (CNTRL.) presented with average knowledge. None had poor knowledge. The mean pre-test knowledge score regarding classroom management of dyslexia among experimental group was 11.9±3.0 and mean post test score was 23.3±2.8. The paired t value [26.28\*\*, df=39] computed by comparison of pre and post knowledge score among experimental group was significant at P<0.01 level. Hence, there is significant difference in the mean knowledge scores of teachers before and after teaching strategy, which is significant in enhancing the knowledge regarding classroom management of dyslexia among primary teachers. The experimental group shows improvement in knowledge scores compared to the control group. The student t test value (12.47\*\*) computed by comparing the mean post-test knowledge score among experimental group [23.3±2.8, df=78] and mean post-test knowledge score [14.4±3.5, df=78] among control group is statistically significant at 0.01 level. Therefore, it is interpreted that teaching strategy is significant in improving the knowledge among primary school teachers regarding classroom management of dyslexia.

#### V. Conclusion

The study was conducted to assess the effectiveness of teaching strategy on knowledge regarding classroom management of dyslexia among primary school teachers. The results of the study thoroughly confirm that the post-test knowledge score in the experimental group is significantly higher than the pre-test knowledge score and there was no significant change in the mean knowledge score in the control group. Therefore, it is concluded that the teaching strategy is significantly effective in improving the knowledge regarding classroom management of dyslexia among primary school teachers.

#### limitations

- The study used a purposive sampling, the generalization of findings remains limited.
- The influence of confounding variables cannot be explored.
- No follow-up was made to measure the retention of knowledge.

#### **Recommendations**

A similar study can be replicated among Nursery/ Kindergarten teachers.

A Descriptive study can be conducted among mothers of pre-schooler children to assess their knowledge regarding dyslexia and its management.

A similar Study can be carried out among health workers.

#### **VI. Ethical consideration**

Ethical committee clearance was obtained from the Institutional ethical committee, letter No. SCN/Cert/47/12-13; Dated 05<sup>th</sup> June 2012. A formal permission was obtained from concerned authorities before the conduct of the study. An informed consent was taken from samples and confidentiality was ensured throughout the conduct of research.

#### **VII. Financial Support and Sponsorship**

Nil, Self-Budget.

#### **VIII. Conflicts of Interest**

None

#### **IX. Acknowledgements**

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