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## Effectiveness of self learning modul on teachers' knowledge regarding learning disabilities between pupils at elementary schools in Mosul city

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### Abstract

**The Introduction:** Learning disabilities are a diverse range of illnesses characterized by serious issues. This study aimed to evaluate effective of a self learning module on the knowledge of teachers concerning learning disabilities among pupils.

**The Methodology:** A pre-experimental design, one group pretest with posttest was conducted in Mosul City's primary schools from 30 May/ 2021 till 2<sup>ed</sup> February/ 2022. The selection of the sample contains two stages, the first stage of the selection started with the elementary schools. The second stage was conducted utilizing a not-randomly (Purposive) participation of (100) teachers from the chosen primary schools from Mosul, (50) teachers from either side of the city.

A preliminary study was conducted on selected (10) teachers for 2 days. Two separate items make up the questionnaire that was created and made available to instructors. The initial part is connected to demographical data, and the part second is divided into six sections, the validity also the reliability of the tool questionnaire was completed.

**The Result:** The study presents that 54.5% (109) of them are females, 32.5% (65) at 36-45 years of age-old, 58.5% (117) graduated from the teaching institution.

The total knowledge levels of teachers' results regarding learning disabilities in Mosul City at pretest was 73.5% (147) of them are estimating knowledge levels that are not acceptable. But at posttest was 49.0% (98) at a reasonable approximation of their knowledge level.

There were significant differences between the total teachers' knowledge with gender, educational level, and general service, but there were no significant differences with other socio-demographic characteristics at  $p \leq 0.05$  values.

**The Recommendations:** The creation and implementation of ongoing, comprehensive special programs, training sessions, and seminars at Mosul City's primary schools is necessary.

**Keywords:** Effectiveness, self learning module, teachers' knowledge, learning disability, pupils

### Introduction

The learning process begins when a baby learns to cry for their basic needs, such as urination and food. The technique of learning involves picking up new abilities and doing so methodically and systematically, learning is seen as effective and suitable when these abilities are used in daily life. The word "learning disability" refers to a condition that prevents a kid from talking, understanding languages, writing, or hearing at the same time that they reach their developmental milestones <sup>[1]</sup>.

Learning disorders are neurologically-based processing issues that may hinder the acquisition of fundamental skills like reading, writing, and/or arithmetic. Additionally, they may impair higher-order cognitive abilities including planning ahead, organizing one's time, using abstract thinking, and paying attention. These issues can have an influence on a person's life outside of school as well <sup>[2]</sup>.

At the elementary level, teachers must have an important part to play in recognizing students with learning disabilities; the right kind of teacher, with the right kind of knowledge and skills or competencies, can treat students with learning disabilities more fairly than teachers with general educational backgrounds; teachers need specific skills to be knowledgeable about the various types of learning disabilities, causative factors, development of instructional strategies <sup>[3]</sup>.

The prevalence of learning disabilities is estimated to be between 17% and 20% worldwide, but the effect is even greater because these conditions affect the families of the learning

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disabled, as well as society at large. During elementary school, parents frequently encounter difficulties at home or on outings, and because the affected students' poor sleep patterns limit their free time, the cost of therapy and the hours of work missed by parents create an enormous financial burden [4].

With an estimated population of 29 million, the Ministry of Health in the Kingdom of Saudi Arabia (KSA) estimates that there are approximately 720 000 students with disabilities, meaning that 400 to 500 students are born with disabilities each year. The most common learning disabilities are dyslexia (a problem with reading), dysgraphia (an issue with writing, spelling, and handwriting), dyscalculia (an issue with mathematics), and dyspraxia (poor equilibrium and eye-hand coordination) [5].

Teachers perform a key role in the early detection of any student's learning challenges, including mental health issues, and in providing families with the necessary counseling in this regard. Early detection is essential since it might have an enormous influence on the future of the students [6].

It has been decided that in order to examine and ascertain the teachers' understanding of the topic, primary teachers' knowledge of learning difficulties has to be increased. Learning disabilities reflect impairment in one or more of the core psychological processes involved in comprehending or utilizing spoken or written language and therefore are complex phenomena to comprehend.

### Research Question

What is the effectiveness of self learning module on teachers' knowledge level regarding learning disabilities among pupils at primary schools in Mosul City?

### Objective

1. To measure the knowledge level of teachers concerning learning disability among pupils
2. To evaluate the effectiveness of the self learning module (Booklet Information) program regarding learning disability between pupils' pretest and posttest
3. To find out the correlation between self learning module results (Booklet Information) teachers' knowledge and their socio-demographic characteristics.

### The Design

A pre-experimental design, one group pretest with posttest were conducted in Mosul City's primary schools from 30 of May/ 2021 till 2<sup>ed</sup> of February/2022.

### The Sample of the Study

The researchers in this study used the two types of sampling (probability and non-probability) in two stages. Mosul city is divided into two sides (right side and left side) by the Dijlah River; each side has many elementary schools related to boys' schools and girls' schools.

The first stage of the selection started with the elementary school's selection, which occurred by using the probability sample (Systematic). The total school numbers selected inside the study remained (20) elementary schools, (10) elementary schools (5 boys' schools and 5 girls' schools) from each side (the right side, the left side).

The second stage remained by means of the not-randomly (Purposive) that was samples selected for the present investigation (The teachers). The sample contained (100) teachers working in the selected elementary schools from

the right side and left side of Mosul city, (50) teachers from each side, (5) teachers from each selected school.

**Inclusion Criteria:** The governmental elementary school only. Teachers who work in a governmental elementary school. Teachers who work the morning shift at the time of data collection. Teachers who decide to participate sample in the study.

**Exclusion Criteria:** The private elementary school or non-governmental school. Mixed elementary schools in Mosul City. Teachers who didn't work the morning shift at the time of data collection. Teachers who didn't agree to participate in the study as a sample. Pilot study sample.

### The Study Tool

The booklet information was completed by the researchers after the preliminary study was conducted on selected (20) teachers, (10) teachers from each side of Mosul City for five days during the periods 6 up to 10 of June / 2021

The questionnaire was constructed after the completed booklet information by the researchers and given up to evaluate the knowledge of teachers. The questionnaire includes two separate parts. The initial part focuses on the demographic data (age, gender, level of education, teacher specialist, years of service, name of the school, sitting of school in Mosul city "right or left side", school gender specialty "boy or girl", teacher training course, the coordination between the teacher and social researchers, the coordination between the school and school health department in primary health center), the knowledge of the teachers was discussed in the second section concerning learning disabilities and contain five sections and each section contain five multiple choose questions.

The initial section is knowledge of teachers in general. Second section is knowledge of teachers concerning the types of learning disabilities among pupils. Third section is about knowledge teachers concerning symptoms and signs of learning disabilities among pupils. Fourth section is knowledge of teachers concerning the general management of pupils' pupils with learning disabilities. The fifth section is the teachers' knowledge regarding the school and teachers' role in dealing with learning disabilities pupils.

### The Validity

A panel of experts who evaluated the concept and content for clarity, relevance, and sufficiency validated the validity of the booklet material and questionnaire instrument. There were (14) specialists in various fields with links to the research topic.

### The Reliability

The pilot research was conducted between and to statistically assess the validity of the questionnaire instrument 3 - 7 / October / 2021. Non-randomly (10) teachers from two schools, (5) teachers were selected from Al-Sanabel Elementary School on the left side, and (5) teachers were selected from Ibn-Atheer elementary school on the right side of (This sample was left out of the initial research sample.) Mosul City. Using Cronbach's Alpha test, the result remained (0. 817) by SPSS version 25.

### Implementation of the Interventional Program

A self learning module (booklet information) program was

put into practice in this research as follows:

1. Application of the self learning module (booklet information) program to all teachers was completed during the period from 17 / October up to 25 / November / 2021
2. Pre-test remained managed to all teachers. Individually teacher took 40–60 min. toward response and complete it, for evaluation of the teachers' knowledge by using the MCQ questions that were direct answer by the teachers, taken five days of the period 17 up to 21 of October / 2021
3. Application of the self learning module (booklet information) program by giving booklet information to every teacher that participate in the study after doing the pre-test, then giving the booklet about the study that depending on self-learning also the period of self-learning that was from 22 of October up to 20 of November May / 2021.
4. Posttest remained managed to all teachers. Individually teacher took 40–60 min. toward response and complete it, for evaluation of the teachers' knowledge by using the MCQ questions that were the direct answer and held under the supervision of the researchers, the posttest was taken five days the period at 21 up to 25 of

November/2021

**Data Collection**

The information was gathered from selected elementary schools in Mosul City. Study connected (20) elementary schools, (10) elementary schools (5 boys' schools and 5 girls' schools) from each side (the right side, the lift side) in Mosul city. Sample contained (100) teachers employed inside designated elementary schools from the right side and lift side of Mosul city, (50) teachers from each side, (5) teachers from each selected school, for the period from 17 / October up to 25 / November / 2021.

**Data Analysis**

In the current research, the Statistical Package for Social Science (SPSS) version 25 is used to analyze the data. The methods of descriptive statistical analysis of data (frequency, percentages), inferential statistical analysis of data (the Pearson coefficient correlation (r-test)), and significance level are among the statistical techniques used for the analysis of data and result evaluation.

**The Result**

**Table 1:** Social and Demographic Characteristics of the Teachers' Samples in the Study

No	Demographic Characteristics	Freq.	%	
1.	Age	(21-35)	28	28.0
		(36-45)	32	32.0
		(46-55)	26	26.0
		(56-65)	14	14.0
2.	Sex	Male	45	45.0
		Female	55	55.0
3.	Educational Level	Institute	59	59.0
		Bachelor	38	38.0
		Master	3	3.0
4.	General Service	(1-15)	56	56.0
		(16-25)	19	19.0
		(26-35)	20	20.0
		(36-45)	5	5.0
5.	Training Course	No	56	56.0
		Yes	44	44.0
6.	Reading Resource	No	54	54.0
		Yes	46	46.0
7.	Coordination between the teacher and social researcher	No	67	67.0
		Yes	33	33.0
8.	Coordination between the school and health school department	No	15	15.0
		Yes	85	85.0
9.	School Place	Right Side	50	50.0
		Left Side	50	50.0
10.	School Gender	Boy School	50	50.0
		Girl School	50	50.0
Total		100	100.0	

Freq. = Frequency, %= Percentage

**Table 2:** Statistical Results for Knowledge Level of Teachers Concerning Learning Disabilities

No	Knowledge Items	Pre-test		Post-test		
		Freq	%	Freq.	%	
1.	Knowledge of teachers concerning learning disability in general	Fail	31	31.0	9	9.0
		Not Acceptable	42	42.0	11	11.0
		Acceptable	22	22.0	28	28.0
		Good	4	4.0	33	33.0
2.	Knowledge of teachers concerning types of learning disability	Excellent	1	1.0	19	19.0
		Fail	60	60.0	10	10.0
		Not Acceptable	29	29.0	24	24.0

		Acceptable	8	8.0	41	41.0
		Good	3	3.0	20	20.0
		Excellent	0	0.0	5	5.0
3.	Knowledge of teachers concerning symptoms and signs of pupils with a learning disability	Fail	33	33.0	3	3.0
		Not Acceptable	40	40.0	31	31.0
		Acceptable	20	20.0	11	11.0
		Good	6	6.0	48	48.0
		Excellent	1	1.0	7	7.0
4.	Knowledge of teachers concerning the management of learning disability	Fail	67	67.0	7	7.0
		Not Acceptable	19	19.0	18	18.0
		Acceptable	8	8.0	30	30.0
		Good	5	5.0	41	41.0
		Excellent	1	1.0	4	4.0
5.	Knowledge of teachers concerning teacher and school role	Fail	31	31.0	7	7.0
		Not Acceptable	28	28.0	14	14.0
		Acceptable	26	26.0	26	26.0
		Good	13	13.0	35	34.5
		Excellent	2	2.0	18	18.0
Total			100	100.0	100	100.0

Freq. = Frequency, % = Percentage

**Table 3:** Statistical results for total knowledge level of teachers concerning learning disabilities

No	Estimate	Pre-Test		Post-Test	
		Freq.	%	Freq.	%
1.	Fail	8	8.0	5	5.0
2.	Not Acceptable	74	74	31	31.0
3.	Acceptable	18	18	11	11.0
4.	Good	0	0.0	49	49.0
5.	Excellent	0	0.0	4	4.0
Total		100	100.0	100	100.0

Freq. = Frequency, %= Percentage

**Table 4:** Statistical Association (ANOVA) for teachers' knowledge between pretest with posttest results concerning learning disabilities

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	60.500	1	60.500	75.141	0.000
Within Groups	159.420	198	0.805		
Total	219.920	199			

**Table 5:** Statistical Correlation among Demographic Characteristics with Total Knowledge Level of Teachers' concerning Learning Disabilities among Pupils

No	Demographic Characteristics	Pre-test		Post-test	
		P. value	Sig.	P. value	Sig.
1.	Age	0.364	NS	0.129	NS
2.	Sex	0.017	S	0.027	S
3.	Educational Level	0.016	S	0.021	S
4.	Teacher Specialty	0.323	NS	0.137	NS
5.	General Service	0.001	S	0.003	S
6.	School Place	0.070	NS	0.232	NS
7.	School Gender	0.493	NS	0.137	NS
8.	Training Course	0.831	NS	0.047	NS
9.	Reading Resource	0.831	NS	0.294	NS
10.	Coordination between the teacher and social researcher	0.776	NS	0.231	NS
11.	Coordination between the school and health school department	0.629	NS	0.562	NS

Significant equal or less than 0.05 level, S= Significance, NS= non-Significance

**The Discussion**

The demographic characteristics of the study sample, 55.0% (55) of the sample was females, 32.0% (32) at 36-45 years old age, 59.0% (59) graduated degree from the teaching institution, 56.0% (56) of them have one to fifteen years of general instruction experience, 56.0% (56) of them do not participate in training programs for students with learning difficulties, 54.0% (54) of the lack of a reading source for their learning problems before, 67.0% (67) of them not have coordination between the teacher and social researcher, 85.0% (85) of them have coordination between the school

and health school department, lastly there are equal results at school gender and school place as shown in Table (1). These results disagree with Alahmadi, N. & El Keshky, M. (2019) that 737 participants in the sample-or 81.7%-were women. 623 people were included in the sample, and 69.1% of them were aged 36 to 50. 296 people (32.8%) in the sample had 6-10 years of expertise instructing young children. 644 (71.4%) of the sample had a bachelor's degree, and 775 (85.9%) of the sample were married. 535 participants (65.3%) said that they were not given the necessary instruction and workshops to recognize, classify,

or test for learning problems in students [5].

The results for the knowledge level of teachers concerning learning disabilities in Mosul City. The general knowledge of teachers concerning learning disabilities in the pretest is 42.0 % (42) at an unacceptable level of them, but in the posttest is 33.0% (33) of them at a level good. Knowledge of teachers concerning types of learning disability in the pretest 60.0% (60) of them at fail level, but in the posttest 41.0% (41) of them at a level good. Knowledge of teachers concerning symptoms and signs of pupils is 40.0% (40) at an unacceptable level of them, but in the posttest 48.0% (48) of them at a good level. Teachers' knowledge regarding the management of learning disability 67.0% (67) of them at a fail level, but in the posttest 41.0% (41) of them at a good level, lastly the teachers' knowledge regarding teacher and school role with learning disability is 31.0% (62) of them at fail level, but in the posttest 35.0% (35) of them at a good level as shown in Table (2).

These results agree with Sharma, N. et.al., (2013) indicated in their research that of the instructors' pretest knowledge scores on students who had the condition, 5 (8%) had insufficient knowledge, 41 (80%) had intermediate knowledge, and 4 (12%) had good knowledge. No individuals fell into the insufficient or moderate knowledge categories on the posttest; instead, all 50 subjects (100%) fell into the adequate knowledge category. However, the mean posttest knowledge score was 36.10, which was higher than the mean pretest score of 25.38. The results showed that the organized teaching strategy worked. As a result, the researcher accepted the research hypothesis, H1. Between the pretest and posttest, there was an average difference of 10.77 [7].

The total knowledge level results of teachers concerning learning disabilities at the pretest was 74.0% (74) an unacceptable level of them. But at the posttest 49.0% (49) of them at a good level of estimated knowledge level as shown in Table (3). These results agree with Aldraje A. & Jasim A. (2021). Who offered an overall evaluation of teachers' knowledge; the findings reveal that teachers in the study group are showing poor levels of knowledge during the pretest time (100%) while they are showing good levels of knowledge during the post-test time (100%) that indicate the significant changes in their level of knowledge [8].

The statistical association (ANOVA) for knowledge of teachers between pretest with posttest results concerning learning disabilities. There is a highly significant statistical association of p. value (0.000) between the pretest with posttest results for teachers' knowledge regarding learning disabilities in Mosul City at p. value  $\leq 0.05$  as shown in Table (4). These results agree with Zhao, *et al.*, (2021) who reports in their research that samples in the experimental group had learning satisfaction values that were considerably higher than those in the oversight group. Additionally, pupils in the experimental group outperformed those in the control group on assessments of learning motivation. Additionally, with a p value less than 0.05, students in the experimental group significantly outperformed those in the control group in terms of their self-efficacy [9].

The statistical correlation among characteristics of demographic results with total knowledge level of teachers concerning learning disabilities among pupils at pretest that there was non-significant correlation among total knowledge level of teachers with all characteristics of

demographic excluding sex at (0.017), educational level at (0.016), and general service at (0.001) there was significant correlation at  $p \leq 0.05$  values. These results disagree with Alahmadi N. & Keshky M. (2019) that presented accordingly, the research demonstrates a substantial correlation between all sociodemographic factors and teachers' degrees of familiarity with learning difficulties [5]. But at posttest that there was no significant correlation among the total knowledge level of teachers with all characteristics of demographic excluding sex at (0.027), the educational level at (0.021), general service at (0.003), and training course at (0.047) there was significant correlation at  $p \leq 0.05$  values. These results also disagree with Shari M. and Vrandan M. (2015) who based on their research, which showed a statistically significant relationship between total teacher knowledge levels and a range of socio-demographic factors, including gender, kind of school, education, class being taught, and years of experience [10].

### The Conclusion

1. The characteristics of the study sample, the most common of the teachers are females at age (36-45) years old, graduated from the institute of teaching, have (1-15) years of general experience in the field of teaching, not have any participation in training courses in learning disabilities between pupils or previously reading the source of learning disabilities, also not have coordination between the teacher and social researcher, but have coordination between the school and health school department, lastly, there are equal results at school gender and school place.
2. Teachers in primary schools at pretest lack relevant and sufficient knowledge. But after application of the self learning program, the teachers' knowledge at posttest is the appropriate and adequate knowledge level
3. There is effectiveness of a self learning module with a extremely significant statistical association among pretest with posttest results for teachers' knowledge regarding learning disabilities in Mosul City
4. Significant correlation among the total knowledge level teachers at pretest with some socio-demographic characteristics are gender, education and general service only. But at posttest with gender, education, general service, and training course only, and there is no significance relationship with other socio-demographic characteristics.

### The Recommendations

1. Increased collaboration between the Ministry of Health and the Nineveh Health Directorate, also with an emphasis on the school health system inside the school and health center as well as the activation of the social research system in the elementary school.
2. Improve future policies and initiatives targeted at comprehending, helping, and supporting students with learning difficulties and their instructors, the Ministry of Education, Nineveh Education Directorate, and the Ministry of Health, Nineveh Health Directorate.
3. Special programs, training courses, and workshops for teachers in elementary schools regarding learning disabilities between pupils to enhance the teachers' knowledge.
4. Increasing the number of instructors in primary schools, particularly those with bachelor's degrees in a variety of

educational and teaching specialties due to their qualifications and experience.

### Ethical Approval

The approval getting first from University of Mosul/ the Collegiate Committee for Medical Research Ethics at the code: CCMRE-Nu-21-37, then the ethical committee of Nineveh Health Directorate after that the approval of the Teaching Hospitals in Mosul City.

**Conflicts of Interest:** Nobody professed.

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### Authors' Contributions

Mohammed Ahmed Sultan Alwily is in charge of authoring the whole book. The last draft of the work was reviewed and approved by both writers.

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