Effect of Structured Educational Program aboutSpecific Learning Disabilities to Primary School Teachers at Sammanoud district Gharbia Governorate

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Abstract:

Background: The Ancient Egyptians were the first civilization to display an interest in the causes and cures for disabilities. **Aim of the study:** to examine the effect of a structured educational program about Specific Learning Disabilities to Primary School Teachers at Sammanoud district Gharbia Governorate. **Subjects and Methods: Research design:** A quasi experimental research design was used in carrying out the study with pre – post tests. **Setting**: The study was conducted at selected governmental primary schools in SammanoudDistrict, GharbiaGovernorate. **Subjects:**100 primary school teachers. **Tools of data collection**: A Self designed semi-structured interviewing questionnaire including four sections was used as demographic data, Questionnaire about teacher's knowledge as definition of learning disabilities, causes, characteristics, teacher's attitude assessment as Integration program helps student to acquire skills, and Placement helps to increase self-satisfaction of students ,and teacher's knowledge about practices as reported by them regarding learning disabilities as How deal with students with learning disabilities, How can **discover** student with learning disabilities and How can provide reinforcement for them .**Results** : The comparison of pre and post tests knowledge, attitude and practices on learning disabilities among primary school teachers revealed highly statistically significant improvement ($p < 0.001$) that approved the research hypothesis of implementation of a structured educational program, improvement in teacher's knowledge, attitude and practices regarding learning disabilities .**Conclusion**: The educational program significantly brought out improvement in the knowledge, attitude and practices of primary school teachers. **Recommendations:** The current study recommended replicating the same study with a large number of primary school teachers for generalizations and Continuous in –service training and workshops are needed to improve teacher's performance regarding learning disabilities.

Key words: Learning disabilities, educational program, primary school, teacher.

Introduction:

The future of the Egyptian country depends on the health of young people. Young children constitute 35 - 45% out of total world's population. one in 10 children and adolescents have medical problems, below average intelligence, specific learning disorders, attention deficit hyperactivity disorder, emotional problems, poor sociocultural home environment and psychiatric disorders. [(1)]

There is no doubt that reading and learning have an important effect on school career for a child. A child learns to read, and then the child reads to learn so, any deficit in reading skills lead to poor learning skills, which become a reality alarming the most of children. [(2)]

The term learning disabilities refers to the general problems in learning afflicts almost 5-15% of school-going children. Usually the term is applied to students whose difficulties are not directly related to a specific intellectual, physical or sensory disability, although students with disabilities often do experience problems in learning and in social adjustment. Specific learning disabilities means a disorder in one or more of the

basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, spell , or to do mathematical calculations. [3]

Types of learning disabilities divided into Dyslexia a reading disability, Dysgraphia a writing disability, Dyscalculia a mathematical difficulty, Dyspraxia a motor coordination disability, Dysphasia a language disorder and so on .Possible causes of learning disabilities can be related to The student, The family background or cultures, The peer group, The curriculum, The teaching approaching, The student teacher relationship, The school classroom environment, and other. [4]

We cannot neglect many popular people who have disabilities in their children like Winston Churchill, Einstein, Isaac Newton, Thomas Alva Edison and many popular Hollywood actors were dyslexia in their childhood otherwise we will be guilty of losing a great men. Most of teachers lacking experiences to identify children with learning disabilities, they should do exercises every two to three months enable them to overcome these problems early , they thought that the problem will be over gone in the future but this is wrong**. [3]**

Nurse and other health care profession play an important role in caring for all children especially those affected with learning disabilities through providing direct care, support to those with complex needs and works in close collaboration to encourage development, manage behaviour issues and promote good emotional health for children and young people, with learning disabilities, aged 0-19 years. Learning disability nurses are employed in a wide range of organizations, in both community and inpatient settings, and typically in multiprofessional teams and in multi-agency settings. They do this by advising, teaching and supporting people with learning disabilities, their families and other professionals to enable people to live full and rewarding lives within their communities. **[5]**

Significance of the study:

School is one of the most organized and powerful systems in society which influence the health and wellbeing of those who come in contact with it. Students with these disabilities face multiple challenges in their life span especially academic work so school present the solutions for these problems in their academic studies through some interventions with the role of parents and social support aid effectively to remedy these problems quickly. One of these interventions is inclusion the policy of placing children with special needs in regular classes rather than isolates them in special groups, the goal, is not erase differences, between students but to enable students to belong to an educational community that values their individuality**.[3]**

Aim of the study:

The current study aimed to examine the effect of a structured educational program about Specific Learning Disabilities to Primary School Teachers Sammanoud district Gharbia Governorate, **through the following objectives:**

1) Assessing the knowledge, attitude and practices of primary school teachers regarding learning disabilities among school children.
2) Assessing the effect of a structured educational program on knowledge, attitude and practices of primary school teachers on learning disabilities among children.
3) Findingtheassociation betweenchange of scoresof knowledge, attitude and practices of primary school teachers on learning disabilities among children andeducational program as dependent variables and selected demographic variables

Research Hypothesis:

After implementation of a structured educational program, improvement in teacher's knowledge, attitude and practices regarding learning disabilities can be achieved.

Subjects and Methods:

Research Design

A quasi– experimental research design with pre/ posttest was used to measure the effective of structured educational program.

Study Setting:

The study was conducted at governmental primary schools in Sammanoud District, Gharbia Governorate, Egypt. This Governorate is one of Egypt's 26 governorates. It is located in the Lower Egypt (Lower Egypt extends from south of Cairo to Mediterranean coast in the north), in the Nile Delta (between the river Nile branches, Damietta and Rashid). This area is one of the most densely populated areas in the Egypt with an average population density of about 1492 inhabitants/km2. Gharbia Governorate is composed of 8 districts; Sammanoud is one of these districts Sammanoud educational district is divided into two zones. North area had 15 schools and the south educational zone had 37schools. Seven mixed (school were randomly selected.

Study Subjects:

A stratified cluster random sampling technique was used to select a sample of 130 primary school teachers having the following inclusion criteria: both sexes, teachers available at the time of data collection, teaching basic science in the first three grades of primary schools,their experience in the school not less than one year and willing to participate in the study.

Sample size calculation:

The sample size was calculated using the following **steven thimp sone equation** at 95% confidence power of the study.

$$n = \frac{N \times P (1-P)}{\{(N-1 \times (d^2 / Z^2)) + P (1-P)\}}$$

Where:

n=Sample size

N=Total society size

d=error percentage = (0.05)

P= Percentage of availability of the character and objectivity= (0.5)

Z=the corresponding standard class of significance 95%= (0.5)

The calculated sample was 130 primary school teachers. They were chosen randomly as a probability sample, out of the total 471 primary school teachers, 147(130 as a sample and seventh as a pilot study) were chosen out of 7 schools, (representative sample from south and north where five schools selected from south randomly and two schools chosen from north).So, the sample size included 100 primary school teachers that continuo the study pre and post- test.

Tools of data collections:

Data collection was carried out by using the following tool:

A self-designed semi-structured questionnaire was used to collect quantitative data by interview technique.

Part 1: Demographic characteristic data such as: age, sex, teachers 'professional qualification, and experience in years etc.

Part 2: Assessing teachers' knowledge related to: definition of learning disabilities, causes, characteristics, etc.

Scoring system: Each knowledge question was scored by one of ‹yes›

answer and zero for ‹no› answer. For questions having answers categorized into don't know (scored zero), incomplete answer (scored one), and complete answer (scored two),the total knowledge scores ranged from 0-20, it was evaluated as follows:

1- Poor knowledge (< 50%) (with scores ranged from 0-9)
2- Fair knowledge (50-75%) (with scores ranged from 10-15)
3- Good knowledge (>75%) (with scores ranged from 16-20)

Part 3: Assessing teachers' attitude regarding learning disabilities using Likert scale that designed by Loreman et al. [7], translated by Alismadi, [8] and modified by the researcher as Integration program increases social interaction of them, Integration program helps student to acquire skills, and Placement helps to increase self-satisfaction of students.

Scoring system and the results were categorized as the following:

Questions from 1-19 were scored from (0-3) (0 for in-between, 1 for don't agree, 2 for agree and 3 for strongly agree) and total scores of these questions ranged from (0-57).Questions from 20-27 were scored from (3-0) as (0 for strongly agree, 1 for agree, 2 for don't agree and 3 for in-between), and total scores of these questions ranged from (0-24). The total attitude scores ranged from (0-81) and were evaluated as:

1- Negative attitude (<33.3%) (with scores ranged from 0-26)
2- Neutral attitude (33.3-66.7%) (with scores ranged from 27-54)
3- Positive attitude (>66.7%) (with scores ranged from 55-81)

Part 4: Assessing teacher's practices regarding learning Disabilities as reported by them a show deal with students with learning disabilities, how can discover student with learning disabilities and how can provide reinforcement for them

Scoring system:

Questions numbered 2,4,5,7,8,12,13, and 14 that had two answers (Yes and No) were scored from (0-1), while questions that had three answers (don't know, unsatisfactory and satisfactory answers) were scored from 0-2 with total scores (0-20) , that was categorized as the following:

1- Unsatisfactory practice (<50%) (with scores ranged from 1-9)
2- Satisfactory practice (≥50%) (with scores ranged from 10-20)

Content Validity& **Reliability**:

Content validity was established and revised by panel of jury of at least three experts for judgment on clarity, relevance of sentences, comprehensiveness and appropriateness of content. According to the opinion of the expertise, minor modifications were applied in the forms of rephrasing, or comprehension and changing of some questions. The face validity of the questionnaire was 96%. To assess reliability, the study tool was tested by the pilot subjects at first session and retested after 2 weeks as test-retest reliability for calculating Cronbach's Alpha which was 0.918.

Field work:

An official letters was issued from the Faculty of Nursing Helwan University were forwarded to the Ministry of Education including the aim of the study to obtain permission to visit schools and conduct the study. Then letters were addressed to the directors of the schools. Each director was informed about date and time of data collection. Each teacher was interviewed individually after explaining the purpose and methods of the study to obtain his/her approval to participate in the study.

The structured educational program about specific learning disabilities was developed based on review of related literature and assessment tools (pre-test). Data were collected during eight months the period from May 2015 to December 2015Three days/week from 9.00 Am to 2.00 Pm. The study was conducted through four main phases: All cases (100) were interviewed assessed, implementation and evaluated the educational program constructed included 4 phases:

1) **Preparatory Phase:** The preparatory phase was done by using the assessment tools after being revised and tested for general information about specific learning disabilities. The researcher first introduced herself to the teachers and explained the purpose of the study briefly to them. The researcher read, and explained each items of the study in front of the teachers and recorded responses to each item. The time consumed for answering the study sheet ranged from 30-45 minutes. This phase lasted for 2 weeks.

2) **Planning phase**: Based on the result obtained from the assessment Phase. The educational lectures were developed after reviewing of related literature. Detected needs, requirements and deficiencies were translated into aimto examine the effect of a structured educational program about Specific Learning Disabilities to Primary School Teachers Sammanoud district Gharbia Governorate, **through the following objectives:**

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2) Assessing the effect of a structured educational program on knowledge, attitude and practices of primary school teachers on learning disabilities among children.
3) Finding the association between change of scores of knowledge, attitude and practices of primary school teachers on learning disabilities among children and educational program as dependent variables and selected demographic variables.

The methods used were lectures, discussions, brainstorming, and demonstration. Data show and handouts were used as teaching media.

3) **Program implementation phase:** The booklet was implemented in the form of lectures. The length of each lecture was different according to teacher's response, time available, and the content of each lecture.An illustrated booklet was developed by the researchers and offered to each participant as reference.

4) **Evaluation phase:**Evaluation of the educational sessions was done immediately after its Implementation by comparing the change in teacher's level of knowledge, attitudes and practices through applying the same tools of pre-test as post/test.

Pilot study:

A pilot study was conducted on 10% of the study who were later excluded from the main study sample (to become 100 teachers) to test the applicability of the tools.

Administrative and Ethical considerations:

Agreements for participation were taken from teachers after explaining the purpose of the study, and before data collection. They were given an opportunity to refuse to participate and they were notified that they can withdraw at any stage of research without giving any reason. Also they were assured that, the information givenwill remain confidential and used for the research purpose only.

Statistical analysis:

The collected data were organized, tabulated and statistically analyzed using the statistical Package for the Social Sciences, SPSS version 16. For

quantitative data, the range, mean and standard deviation were calculated. For qualitative data, comparison between two groups and more was done using Chi-square test (χ^2). For comparison between means of two groups of parametric data of independent samples, student t-test was used. For comparison between means of two related groups (before and after data) of parametric data, paired t-test was used. For comparison between more than two means of parametric data, F value of ANOVA test was calculated. Correlation between variables was evaluated using Pearson's correlation coefficient (r). Significance was adopted at $p<0.05$ for interpretation of results of tests of significance.

Results:

Regarding demographic characteristics of the teachers in table 1 represented that, more than three fifth of them (63%) were females, 61% aged from 36-60 years. Regarding level of education, 78% of them had bachelor degree. As regards years of experience, 36% of teachers had more than 15 years' experience in their work.

Considering primary school teachers knowledge pre / post programthat present in table 2,3 show highly statistically significant improvement among primary school teachers knowledge after the structured educational program implementation (P=0.0001).

Attitude level of primary school teachers' towards integration of students with learning disabilities pre / post program Figure 1, & table 4 demonstrated highly statistically significant improvement among primary school teachers' attitudeleveltowards integration of students with learning disabilities after the structured educational program implementation (P=0.0001).

Regarding the practices of primary school teachers pre / post program : Figure 2, & table 5 represented highly statistically significant improvement among primary school teachers' practices towards students with learning disabilities after the structured educational program implementation (P=0.0001).

Changes scores of knowledge, attitude and practice pre/ post- program of the study primary school teachers in Table 6demonstratedstatistically, significant positive correlations were detected between changes of attitude scores of primary school teachers with change in knowledge scoreswhere p value = (0.022). As well, changes were found in practice scores, years of working in teaching and years of teaching basic subjects' .In addition, with change in attitude scores where p value = (0.007, 0.0001 and 0.0001 respectively). Statistically, significant positive correlation were found between change of practice scores of primary school teachers with, years of working in teaching and years of teaching basic subjects where p value =(0.038 and 0.013 respectively) . The non-significant correlations were found between change in knowledge scores and change in practice scores, years of working in teaching and years of teaching basic subjects.

Regarding primary school teachers' attitude, knowledge, and practice about learning disabilities and demographic data that present in Table 7 show statistically, significant relationships were detected between changes of attitude scores of primary school teachers with some of demographic characteristics as age, educational level, years of experience and social status. Statistically, significant relationships were found between change of practice scores and educational level and social status (p =0.023 and 0.037 respectively).

Discussion:

The first objective was to assess the knowledge, attitude and practices of primary school teachers regarding learning disabilities among school children. The level of knowledge score revealed that, the majority of the subjects had poor knowledge, while less than fifth had fair knowledge and none of them had good knowledge pretest. From the researcher's point of view, this may be due to that there were not face by similar topics.

These study findings are in agreement with those of several studies as Bincymolin Mangalore[9];Karande[10]in Mumbai, India; and Saravanabhavan and Saravanabhavan[11]in India whoclaimed that the teachers have average and limited knowledge of specific learning disabilities and also congruent withLingeswaran[12]inIndia who in a very recent study showed that the fund of knowledge of primary school teachers on specific learning disabilities was only 29% in his sample, which indicated poor knowledge.

The current previous results were less similar to those reported by Kamala and Ramganesh[13]in Puducherry, Union Territory India; PawarandMohite[1]in Karad city, India;and Bhavyaetal. [14], who claimed that teacherswho participated in their studies had the average level of knowledge about the specific learning disabilities.

The present study finding revealed that the majority of studied sample had indifferent attitude, while a minority had negative attitude pretest and these results were supported by those of Weise land Dror[15];Batsiou**,** et al**.** [16] In Greece and Cyprus;SaravanabhavanandSaravanabhavan[11];andHofmanandKilimo[17]Tanzania ; and a review of 26 studies showed that the majority of teachers hold neutral or negative attitudes towards the inclusion of pupils with disabilities in regular primary education. These study results were not similar to that of a very recent study reported by Bhavya et al[14]**.**

The second objective of this study was to assess the effectiveness of a structured educational program on knowledge, attitude, and practices of primary school teachers on learning disabilities among children. The comparison of pre and post tests knowledge, attitude, and practices on learning disabilities revealed that the overall knowledge, attitude, and practices improved with highly statistically significant difference. From the researcher's point of view, this improvement in teachers' knowledge could be attributed to the type of studied sample, i.e. the school teachers, who had high ability to acquire knowledge, to retain them, and to retrieve them.

As for the teachers' attitude improvement, the researcher views that, it could be due to that during the application of the health educational program to them, she referred to a psychologist responsible for integration of children with learning difficulties, autism, and minor difficulties in the Center, as a policy of the Ministry of Education, which had a positive impact on the teachers' attitude toward integration or inclusion of those children. Considering teachers' practice improvement, the researcher refers it to educational program plus the trend of the Ministry of Education, which developed several programs as reading, to improve teachers' practices especially those teaching children in the first three primary grades, which influenced positively on teachers' practices while dealing with children with learning difficulties.

These study findings are in accordance with that of a study carried out byPawar and Mohite[1]whose study on the effectiveness of self-instructional module on knowledge of primary school teachers regarding learning disorders among children in selected schools at

KaradCity; and that of Williams et al**.** [18]at Dehradun, Uttarakh and, India, which assessed the competency of school teachers regarding learning disabilities and revealed that post- test knowledge, attitude and skills of primary school teachers had improved significantly. In a similar study done by Padmavathi**,** and Lalitha[19]Bangalore**,** who conducted a quasi-experimental study to assess the effectiveness of structured teaching program on the level of knowledge of teacher trainees towards learning disabilities found that the paired difference between the pre-test knowledge and post-test knowledge showed a knowledge gain and the value was 11.3 and 'p' value was significant at 0.001 . As well**,** Al**-**Khatib [20]in Jordan, who measured the knowledge of teachers in regular classrooms and assessed the impact of a training program on teacher's knowledge, confirmed that there was improvement with highly statistically significant difference on teacher's knowledge regarding learning difficulties.

The third objective of the present study was to find the association between change of scores of knowledge, attitude and practice after program implementation regarding primary school teachers on learning disabilities among children and their selected demographic variables. Hence results state that there was no significant association between change in knowledge and demographic data including age, gender, education, experience and social status of primary school teachers and for practices except for educational level and social status. Regarding change in attitude, there was significant relation between change and demographic data for age, educational level years of experience and social status. These study findings are supported by those of the study of Pawar and Mohite[1]and Bhavya et al[14] who reported that there was no association between knowledge level and the selected demographic variables such as age, gender, educational qualification, years of experience previously Williams et al**.** [16] found that there were no associations found between socio-demographic data and pre-test knowledge, attitude and practice scores.

Conclusion:

According to the results and research hypothesis the structured educational program significantly brought out improvements in knowledge, attitude and practices of primary school teachers regarding learning disabilities with statistically significant difference

Recommendations:

Based on the conclusion of this study the following recommendations were suggested the study can be replicated with a larger number of primary school teachers for generalizations. Furthermore it is recommended that Continuous in services training and workshops are needs to improve teacher performance (knowledge and practices) regarding learning disabilities.

Table (1): Demographic characteristics of the study primary school teachers (n=100).

Variables	Primary School Teachers	
	No	**%**
Years of working in teaching:		
Range	4-35	
Mean±SD	13.87±8.91	
How many years you teach basic subjects		
Range	2-35	
Mean±SD	13.00±8.85	
Sex:		
Males	37	37.0
Females	63	63.0
Age (years):		
20-<36	49	49.0
36-60	51	61.0
Educational level:		
Teaching diploma	20	20.0
Bachelor	78	78.0
Master	2	2.0
Experience(years):		
1-<6	23	23.0
6-<11	27	27.0
11-15	14	14.0
>15	36	36.0
Social status:		
Married	92	92.0
Widowed	8	8.0

Table (2): Total knowledge levels and scores of primary school teachers in the three first basic grades about learning disabilities pre / post program (n=100).

Total Knowledge About Learning Disabilities			Primary School Teachers				χ^2	P value
			Pre program		Post program			
			n	%	n	%		
Total knowledge levels:								
Poor	(<50%)	(0-9)	85	85.0	0	0	163.077	0.0001*
Fair	(50-75%)	(10-15)	15	15.0	24	24.0		
Good	(>75%)	(16-20)	0	0	76	76.0		
Total knowledge scores:								
Range		(0-20)	1-14		13-19			
Mean±SD			6.17±2.87		16.34±1.56			
Paired t-test			31.131					
P- value			0.0001*					
Change of knowledge scores post than pre:								
Range			4-15					
Mean±SD			10.17±2.95					

Table (3): Knowledge Items of the study primary school teachers about learning disabilities pre and post program (n=100).

Knowledge items about learning disabilities	The study primary school teachers (n=100)				χ^2	P
	Pre program		Post program			
	n	%	n	%		
Definition :						
Don't know	56	56.0	0	0	166.501	0.0001*
Incomplete answer	36	36.0	1	1.0		
Complete answer	8	8.0	99	99.0		
Causes:						
Don't know	43	43.0	0	0	160.508	0.0001*
Incomplete answer	54	54.0	8	8.0		
Complete answer	3	3.0	92	92.0		
Psychological and behavior characteristics:						
Don't know	58	58.0	0	0	146.472	0.0001*
Incomplete answer	40	40.0	16	16.0		
Complete answer	2	2.0	84	84.0		
Academic characteristics:						
Don't know	48	48.0	0	0	163.320	0.0001*
Incomplete answer	48	48.0	6	6.0		
Complete answer	4	4.0	94	94.0		
General characteristics:						
Don't know	73	73.0	0	0	130.316	0.0001*
Incomplete answer	24	24.0	37	37.0		
Complete answer	3	3.0	63	63.0		
Children with learning disabilities able to convoy with their peers in class :						
No	73	73.0	0	0	114.961	0.0001*
Yes	27	27.0	100	100		
They face difficulties in learning language (reading & writing):						
Don't know	56	56.0	0	0	97.752	0.0001*
Incomplete answer	44	44.0	61	61.0		
Complete answer	0	0	39	39.0		

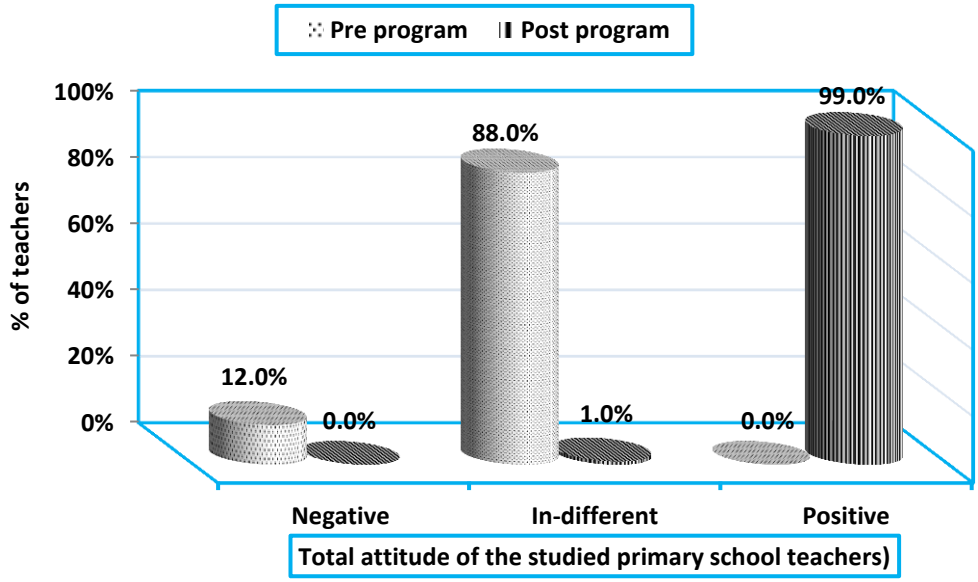

Figure (1): Total attitude of the primary school teachers in the three first three basic grades towards integration of students with learning disabilities pre / post program (n=100).

Table (4): Attitude items of the primary school teachers toward integration or inclusion of children with learning disabilities with their peers in the three first basic grade pre and post program (n=100).

Attitude items toward integration of children with learning disabilities in the three first basic grade with their peers	The study primary school teachers (n=100)				χ^2	P
	Pre program		Post program			
	n	%	n	%		
Integration program increases social interaction of them :						
Don't agree	6	6.0	0	0	120.877	0.0001*
Indifferent	53	53.0	0	0		
Agree	34	34.0	22	22.0		
Strongly agree	7	7.0	78	78.0		
Integration program helps to remove student personal differences:						
Don't agree	55	55.0	1	1.0	118.925	0.0001*
Indifferent	8	8.0	1	1.0		
Agree	32	32.0	24	24.0		
Strongly agree	5	5.0	74	74.0		
Integration program helps student to acquire skills:						
Don't agree	62	62.0	0	0	133.599	0.0001*
Indifferent	11	11.0	0	0		
Agree	22	22.0	26	26.0		
Strongly agree	5	5.0	74	74.0		
Integration program helps to adjust teacher towards these students:						
Don't agree	66	66.0	0	0	132.764	0.0001*
Indifferent	13	13.0	0	0		
Agree	16	16.0	53	53.0		
Strongly agree	5	5.0	47	47.0		
Integration program helps students to increase their daily life effectiveness:						
Don't agree	64	64.0	0	0	122.649	0.0001*
Indifferent	12	12.0	0	0		
Agree	10	10.0	38	38.0		
Strongly agree	14	14.0	62	62.0		
Placement helps to increase self-satisfaction of students:						
Don't agree	55	55.0	2	2.0	106.851	0.0001*
Indifferent	15	15.0	0	0		
Agree	20	20.0	35	35.0		
Strongly agree	10	10.0	63	63.0		

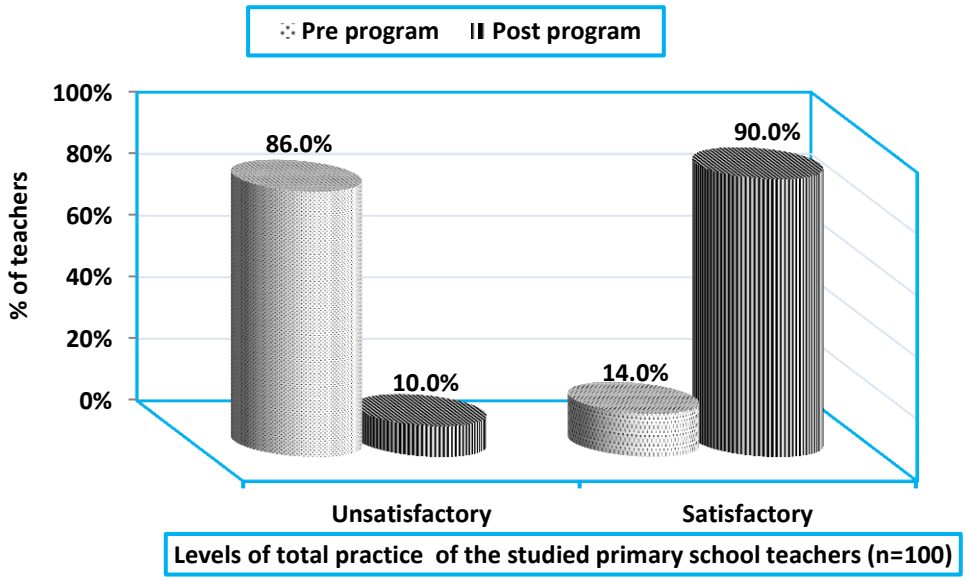

Figure (2): Total practice levels of the primary school teachers in the three first basic grades towards children with learning disabilities pre / post program (n=100).

Table (5): Practice items of the study three first basic grade primary school teachers toward children with learning disabilities pre and post program (n=100).

Practice items toward children with learning disabilities	The study primary school teachers (n=100)				χ^2	P
	Pre program		Post program			
	n	%	n	%		
How deal with students with learning disabilities:						
No practice	57	57.0	0	0	154.596	0.0001*
Unsatisfactory	38	38.0	8	8.0		
Satisfactory	5	5.0	92	92.0		
Revision of taught language many times:						
No	35	35.0	5	5.0	28.125	0.0001*
Yes	65	65.0	95	95.0		
How learn students new lessons:						
No practice	56	56.0	0	0	126.018	0.0001*
Unsatisfactory	37	37.0	22	22.0		
Satisfactory	5	5.0	78	78.0		
How correct written mistakes:						
No practice	17	17.0	0	0	18.579	0.0001*
Unsatisfactory	83	83.0	100	100		
Use blackboard or data show on teaching new lessons:						
No	59	59.0	11	11.0	50.637	0.007*
Yes	41	41.0	89	89.0		
How can discover student with learning disabilities:						
No practice	76	76.0	0	0	169.829	0.0001*
Unsatisfactory	24	24.0	11	11.0		
Satisfactory	0	0	89	89.0		

Table (6): Correlations between changes of scores of knowledge, attitude and practice scores pre/ post- program of the study primary school teachers (n=100).

Change of Scores After program implementation	Change of Scores After Program Implementation Among the Study Primary School Teachers					
	Change of Knowledge Scores		Change of Attitude Scores		Change of Practice Scores	
	r	P value	r	p value	r	p value
Change of knowledge scores	-	-	-	-	-	-
Change of attitude scores	0.229	0.022*	-	-	-	-
Change of practice scores	0.119	0.240	0.270	0.007*	-	-
Years of working in teaching	0.079	0.437	0.395	0.0001*	0.208	0.038*
Years of teaching basic subjects	0.086	0.396	0.364	0.0001*	0.248	0.013*

***Significant (P<0.05)r=Correlation Coefficient**

Table (7): Relationship between change of scores after program implementation of knowledge, attitude and practices regarding learning disabilities among children and their demographic data (n=100).

Variables	Primary School Teachers					
	Change of knowledge scores	t-test or Fvalue P value	Change of attitude scores	t-test or F value P value	Change of practice scores	t-test or F value P value
	Mean±SD		Mean±SD		Mean±SD	
Sex:						
Male	10.08±3.08	0.230	22.67±12.07	1.153	10.16±3.46	1.415
Female	10.22±2.89	0.819	25.33±10.53	0.252	11.17±3.45	0.160
Age (years):						
20-<36	10.53±2.84	1.200	21.67±7.91	2.411	11.47±2.39	1.915
36-60	9.82±3.04	0.233	26.92±13.12	0.018*	10.16±4.19	0.058
Educational level:						
Teaching diploma	10.60±2.98	0.262	28.45±10.51	3.841	12.65±3.73	3.917
Bachelor	10.06±2.99	0.770	23.72±10.98	0.025*	10.37±3.30	0.023*
Master	10.00±0.00		8.00±0.00		9.00±0.00	
Experience(years):						
1-<6	10.83±3.37	1.165	19.09±9.60	7.809	11.35±2.74	2.366
6-<11	10.22±2.19	0.327	22.00±8.03	0.0001*	11.96±1.19	0.076
11-15	10.71±2.37		21.07±7.25		9.86±3.42	
>15	9.50±3.32		30.75±12.53		9.94±4.65	
Social status:						
Married	10.12±3.07	0.578	23.65±11.10	2.163	10.59±3.53	2.117
Widowed	10.75±0.71	0.565	32.37±8.65	0.033*	13.25±1.16	0.037*

***Significant (P<0.05)**

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