

## **The effect of a program using qualitative exercises of sense-kinetic cognition on developing kinetic abilities and skillful level of gymnastics for pre-school children**

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Current study has aimed at designing an educational program using sense-kinetic cognition for pre-school children and knowing its effect on:

1-Sense-kinetic cognition (distance– directions – time – place – body’s parties).

2-Kinetic abilities of gymnastics (jumping– skipping– stable balance– moving balance).

3- Skillful level (front rolling – back rolling– walking on balance cross– jumping into the suitable horse).

This has been done on a sample of 40 children divided into two groups ,one is experimental and the other is control. Every group consisted of 20 children.

**The most important results are:-**

- The educational program has a positive effect on developing Sense-kinetic cognition (distance

– directions – time – place – body’s parties)

- The educational program has a positive effect on developing the Kinetic abilities of gymnastics ”under

consideration” (jumping – skipping – stable balance – moving balance ).

- The educational program has a positive effect on learning gymnastics skills(front rolling – back rolling – walking on balance cross – jumping into the suitable horse).

**Key words:-**

- **Qualitative exercises:-**

Shehata Mohammed(2003,13) has defined these as an exercises contain movements similar to the basic technical performance of the exercise which can contribute on learning and developing the good performance of the basic kinetic skills.

- **Kinetic abilities:-**

A set of the basic natural movements which are available

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for the children .

**Introduction and research problem:-**

Sense-kinetic cognition is a main factor for the human in his general kinetic performance. It has more important in physical performance as it qualifies the individual to perform kinetic skills accurately and effectively. As the recipients of sense-kinetic cognition in the body are responsible for changing and forming the body, its directions and its parties relations ( Frankel, M,B Maya,E ,1980: 221).

Yousef Oraby ,1998 refers that the qualitative exercises are used for training and learning. Their exercises are similar to specialist skills of the practise activity in the motor direction and the work muscles groups (Oraby Yousef,1998:13).

Through acquainting the researcher with many of pervious studies and researches ,she has found that all studies and researches discussed the effect of some programs on the level of sense-kinetic cognition like study of “Ebtsam Mohammed,1993,5” , as she has designed a program of gymnastic

And its effect of sense-kinetic

cognition on kindergarten at Porsaeed city. The results has shown an improvement in the sense- kinetic cognitive abilities. “Magda Alsaeed, 1995, 12” has also designed a program for the small games and their effect on the sense-kinetic cognition for pre-school children and its results have improved the elements of sense-kinetic cognition test. “Merfat Altonson.2001,19” has designed a proposed program of the gymnastics motor types for pre-school children. The results have shown that the proposed program has led to developing the aspects of sense-kinetic cognition and skillful readiness of gymnastics.

The researcher hasn't found a study discussing the effect of a program using qualitative exercises of sense-kinetic cognition on developing kinetic abilities of gymnastics and for pre-school children. What makes the current research a new one.

Through the work of the researcher in teaching the subject of“ kinetic expression for children” for female students of faculty of kindergarten-Minia University, she has found that the students has studied this subject on one

semester during the first or second grade. Thus the relation between them and the subject is cut throughout the four years of study. So kinetic activity represents difficulty for the teacher of kindergarten. The researcher has also noticed that the educational activities presented for kindergarten limited in children stories ,puzzles games and developing the kinetic abilities of the other subjects like Arabic and English languages ,math and computer. The researcher has found that there is big lake in the kinetic activities programs for the child in the kindergarten stage.

From here, she found the idea of the research which is designing a program using qualitative exercises of sense-kinetic cognition on developing kinetic abilities and the skillful level of gymnastics for pre-school children.

**The aim:-**

The current research aims at designing educational program using qualitative exercises of sense-kinetic cognition on developing kinetic abilities of gymnastics for pre-school children. and its effect on:-

1- Sense-kinetic cognition (distance– directions– time– place– body's parties).

2- Kinetic abilities of gymnastics (jumping– skipping – stable balance – moving balance ).

3- the skillful level (front rolling – back rolling – walking on balance cross –jumping into the suitable horse"5:6 years") .

**Hypotheses:-**

In the light of research's aims, the researcher put the following hypotheses:-

1-There are statistical differences between the average of pre and post measurements of the experimental group in the sense-kinetic cognition and the kinetic abilities of gymnastics (under consideration).

2-There are statistical differences between the average of pre and post measurements of the control group in the sense-kinetic cognition and the kinetic abilities and the skillful level of gymnastics (under consideration).

3-There are statistical differences between the average of pre and post measurements of the experimental and control groups in the sense-kinetic cognition and the kinetic

abilities and the skillful level of gymnastics (under consideration).

**Procedures:-**

In order to achieve research's aims and test its hypotheses, the researcher has followed the following steps.

**Method:-**

The researcher used the experimental method following the experimental design for each groups, the experimental and the control following the pre and post measurements of both groups.

**Society and research sample:-**

It includes the children of Al-Manara private School for the academic year 2012-2013 which were 65 children. The research has been done on a random sample consisted of 40 children with percentage 61,5% of research community. Their ages were between (5-6) years. Students have been divided into two equal groups, one of them is experimental using qualitative exercises programs of sense-kinetic cognition (under consideration) and the other group was control using the traditional method followed by kindergarten administration for developing the same kinetic abilities (under consideration).

**Distribution the sample equally:-**

The researcher has assured that the two groups (experimental- control) has been distributed equally in the light the following variables: growth rates, intelligence, Bordo test for sense-kinetic cognition, kinetic abilities and gymnastics skills (under consideration). The values of torsion coefficient of the variables (under consideration) are between (2,70: -2,64) , for the control group are between (2,25: -2,50) , for the experimental group are between (2,55: -2,65) and all are limited between ( $\pm 3$ ). This refers to the equality of the distribution for the research sample- attachment"13".

**The equality between the two groups of the research:-**

The researcher has found that the two groups (experimental- control) there is equivalent between the two groups in the light the following variables: growth rates, intelligence, Lpurdue test for sense-kinetic cognition, kinetic abilities and gymnastics skills (under consideration). The results have referred that there are insignificant statistical differences between

the two groups in the variable (under consideration) . As all the values of calculated (t) is less than tabled(t) at the level of significant 0,05 which refer to the equivalent between there variables - attachment”12”.

### **Methods of Collecting Data:**

#### **First: Tools and Equipments:**

- 1- Rstamitre instrument to measure height and weight.
- 2- Divided box.

#### **Second: Tests:**

- 1- Intelligence Tests for Good Enough –Hares. Attachment(1)
- 2- Sense-kinetic cognition Tests for Lpurdue. Attachment(2)
- 3- Kinetic abilities of gymnastics Tests. Attachment(3)

**Third:** Applications for evaluating the performance of gymnastics skills . Attachment(4)

**Forth:** the proposed program: Attachment(5)

Scientific deals to collect data:-

- 1- The researcher has done the scientific deals for the intelligence tests and Lpurdue tests for Sense-kinetic cognition and Kinetic abilities of gymnastics Tests(under consideration) on Sunday 10-2-2013 until Sunday 17-2-2013

as following:-

#### **\* The validity**

##### **1- validity of the content:-**

The researcher has used it to evaluate forms of performance of skipping skill through discussing them with the experts of curriculum and teaching methods field with experience not less than 10 years “Attachment(10)” in order to assure if the application of evaluating the performance of gymnastics (front rolling – back rollin walking on balance cross – jumping into the suitable horse) “ under consideration”is suitable for this propose or not. The experts has agreed with 100% percentage on this application to measure the level of the learner in gymnastics skill “under consideration”.

##### **2- Validity of the two comparative parties:-**

The researcher has used it to evaluate intelligence and Lupordue Tests for Sense-kinetic cognition and Kinetic abilities of gymnastics Tests through applying these materials on a group of children from the same research community and out the main sample which

consisted of 20 children. They have been arranged progressively. The maximum and the minimum Lower and Highest Quartile Which consisted of 5 children. There were significance differences by method Man watney as calculated (T) value was between(1,96: 3,00) which refers that there is significance statistical differences between the maximum Lower and Highest Quartile .in all tests(under consideration) and in the direction of the maximum... Lower and Highest Quartile. .This refers to the validity of these tests.

### **B- Reliability:-**

The researcher has used it to assure the reliability of intelligence and Lupordue Tests for Sense-kinetic cognition and Kinetic abilities of gymnastics Tests through applying the tests and reapplying them on a sample of 20 children which is similar to the sample of the research and out of the original sample with 7 days as an interval between the two applications for intelligence tests and 3 days for Lupordue tests for Sense-kinetic cognition and Kinetic abilities Tests and the application of evaluating the

performance of gymnastics skills“ under consideration”

The correlation coefficients have been calculated between the two applications, as it was (0,94) in the intelligence tests , between (0.73: 0,96) in the Lupordue Tests for Sense-kinetic cognition and between ( 0.81: 0.96) in the Kinetic Tests and the application of evaluating the performance of gymnastics skills “ under consideration”. All of them are significance statistical correlation coefficient as the calculated (r)value is more than tabled (r) value at the level of the significant 0.05. this refer to the reliability of these tests. “Attachment (14)”.

### **Survey:-**

The researcher has done it on Sunday 10-2-2013 until Sunday 17-2-2013 on a sample of 20 children from the same research community and out the original sample in order to know:-

- To what extent these programs are suitable for the children.
- Calculating the scientific correlation for the tests (under consideration).
- Training the assistant on applying the tests.

**Pre-measurements:-**

It has been done on the two research group (under consideration) on Tuesday 19-2-2013 until Thursday 21-2-2013.

**The basic experimental:-**

After the pre-measurement, the researcher has applied the proposed program (qualitative exercises of sense-kinetic cognition on developing kinetic abilities of gymnastics) on the experimental group and the traditional method on the control group during Sunday 24-2-2013 until 1-5-2013.

The researcher has taken on the following while applying:-

1- The researcher has designed an educational program which contains qualitative exercises of sense-kinetic in order to recognize (distance – time direction – place – body's parties). In order to develop Kinetic abilities ( jumping – skipping – stable balance– moving balance) and gymnastics skills (front rolling– back rolling– walking on balance cross – jumping into the horse)

2- The researcher has taught the children the

experimental group using the proposed program on Sunday and Monday every week by two units (45 minutes for unit) for 9 weeks by 27 units on the period from 24-2-2013 until 1-5-2013.

3- The researcher has taught the children the control group. The experimental group is used in which the teacher(researcher) performs some exercises for body's parties and the children simulate her in some small games on Thursday and Wednesday every week.

4- Two instructors of curriculum and teaching methods department have been used in order to help in measurements.

**Post-measurement:-**

After finishing the experimental of the two groups, the researcher has done the post-measurement of the variables (under consideration) on Sunday 5-5-2013 until Tuesday 7-5-2013.

**The Used Statistic Modules & Differences significant Test “T Test” :**

The following statistic modules were used:

- SMA, mediator, standard deviation, torsion coefficient, correlation coefficient,

Tests(T), change rate percentage.

The researcher reached an indication rate at the level of 50,00 and she used the spss program to count the statistic modules.

**Results:-**

The researcher will show the results according to the following:-

1- Significance of the differences between the average of the pre and post measurements for the experimental group in the Sense-kinetic cognition and the Kinetic abilities and

gymnastics skills(under consideration).

2- Significance of the differences between the average of the pre and post measurements for the control group in the Sense-kinetic cognition and the Kinetic abilities and gymnastics skills(under consideration).

3- Significance of the differences between the average of the pre and post measurements for the two groups in the Sense-kinetic cognition and the Kinetic abilities and gymnastics skills(under consideration).

**Table (1)**

**Significance of the differences between the average of the pre and post measurements for the experimental group in Pordo Test for the Sense-kinetic cognition and the Kinetic abilities and the skillful level of gymnastics (Under consideration). .N=20**

Variables		unit Measure -ment	Pre measurement		Post measurement		Difference average	Standard error	T value	Change average%	
			n	s.d±	n	s.d±					
Kinetic cognition	Balance&strength	Front walking	Degree	١,١٨	٠,٢٤	٣,١٨	٠,٢٤	٢	٠,٠٧	*٢٨,٥٧	١٦٩,٤٩
		Back walking	degree	١,٠٨	٠,١٨	٢,٧٣	٠,٢٦	١,٦٥	٠,٠٧	*٢٣,٥٧	١٥٢,٧٨
		Side walking	Degree	١,١٥	٠,٢٤	٣,١٨	٠,٢٤	٢,٠٣	٠,٠٧	*٢٩,٠٠	١٧٦,٥٢
		Jumping	Degree	١,١	٠,٢١	٣,١٥	٠,٢٤	٢,٠٥	٠,٠٦	*٣٤,١٧	١٨٦,٣٦
	Body image	Limiting body's parties	Degree	١,٨٨	٠,٢٢	٣,٢٨	٠,٢٦	١,٤	٠,٠٧	*٢٠,٠٠	٧٤,٧٤
		Simulating the movement	Degree	١,٣٨	٠,٢٢	٣,١٣	٠,٢٢	١,٧٥	٠,٠٨	*٢١,٨٨	١٢٦,٨١

**Table (1)**

**Significance of the differences between the average of the pre and post measurements for the experimental group in Pordo Test**



**for the Sense-kinetic cognition and the Kinetic abilities and the skillful level of gymnastics (Under consideration). .N=20**

Variables		unit Measure-ment	Pre measurement		Post measurement		Difference average	Standard error	T value	Change average%
			n	s.d±	n	s.d±				
	Crossing the bar	Degree	1,2	±,20	2,88	±,22	1,68	±,08	*21,00	140
	Cross bar Test	Degree	1,20	±,41	3,1	±,31	1,80	±,13	*14,23	148
	Ground angles	Degree	1,08	±,18	2,63	±,22	1,00	±,00	*31,00	143,02
Mixing sense-kinetic side	Drawing circle	Degree	1,13	±,22	3,00	±,10	1,92	±,07	*27,43	169,91
	Drawing 2 circles	Degree	1,08	±,18	2,63	±,28	1,00	±,07	*22,14	143,02
	Drawing horizontals line	Degree	1,68	±,34	2,83	±,24	1,10	±,1	*11,00	68,40
	Drawing vertical line	Degree	1,70	±,26	2,93	±,24	1,18	±,09	*13,11	67,43
Optical control	Tempo writing	Degree	1,10	±,24	3,18	±,24	2,03	±,08	*20,38	176,02
	Production	Degree	1,13	±,22	3,13	±,22	2	±,07	*33,33	176,99
	Orientation	Degree	1,10	±,24	3,2	±,3	2,00	±,07	*29,29	178,26
	Eyes	Degree	1,18	±,24	3,2	±,20	2,02	±,09	*22,44	171,19
	Right eye	Degree	1,23	±,41	2,8	±,20	1,07	±,1	*10,70	127,64
	Left eye	Degree	1,08	±,18	2,68	±,24	1,6	±,07	*26,67	148,10
	Satisfaction point	Degree	1,63	±,22	3,00	±,22	1,32	±,08	*17,70	87,12
Basic skills with gymnastics	Stable balance	Degree	9,07	±,32	14,17	±,90	0,1	±,19	*26,84	06,23
	Motor balance	Degree	2	±,79	7,20	±,79	0,20	±,29	*18,10	262,0
	Skipping	Degree	23,90	1,10	71,9	3,74	47,90	1,22	*39,30	200,21
	Jumping	Degree	4,00	±,01	9,4	±,6	4,80	±,17	*28,03	106,09
Gymnastics skills	Front rolling	Degree	1,30	±,27	3,29	±,36	1,94	±,10	*19,40	143,70
	Back rolling	Degree	0,08	±,14	2,38	±,36	1,80	±,08	22,00	310,34
	Walking on balance cross	Degree	0,60	±,19	2,18	±,22	1,08	±,07	26,33	263,33
	Jumping into hores	Degree	0,64	±,22	2,00	±,32	1,91	±,08	23,88	298,44

Value of indexed (t) at (19) degree and the signified level of(0,05)= 1,729 Table (1) shows the following-:

There are statistical significance differences between the average of the pre and post measurements for the control group in all prodo

tests of sense-kinetic cognition, the cognitive Kinetic abilities and gymnastics skills) under consideration (and in the direction of post-measurement , as the value of calculated (t) is more than the indexed value at the signified level of (0,05) The researcher has led this result to the positive effect of the proposed program on developing the Sense-kinetic )distance – time –direction – place – body’s parties . ( She thinks that the different types of the qualitative exercises in this program contributes

greatly in improving and developing sense- kinetic cognition of the experimental group children. What matched with the opinion of "Ahmed Salama ،٢٠٠٦:٦ as he mentioned that sense- kinetic cognition can be developed and improved through training The result of the same table shows that there are statistical significance differences between the average of the pre and post measurements for the control group in the Kinetic abilities and gymnastics skills )under consideration .(

**Table (2)**

**Significance of the differences between the average of the pre and post measurements for the control group in Pordo Test for the Sense-kinetic cognition and the Kinetic abilities and the skillful level of gymnastics (under consideration) N=20**

Variables		unit Measure-ment	Pre measurement		Post measurement		Difference average	Standard error	T value	Change average%	
			N	s.d±	n	s.d±					
Kinetic cognition	Balance&strenght	Front walking	degree	١,١٨	٠,٢٤	٣,١٨	٠,٢٤	٢	٠,٠٧	*٢٨,٥٧	١٦٩,٤٩
		Back walking	degree	١,٠٨	٠,١٨	٢,٧٣	٠,٢٦	١,٦٥	٠,٠٧	*٢٣,٥٧	١٥٢,٧٨
		Side walking	degree	١,١٥	٠,٢٤	٣,١٨	٠,٢٤	٢,٠٣	٠,٠٧	*٢٩,٠٠	١٧٦,٥٢
		Jumping	degree	١,١	٠,٢١	٣,١٥	٠,٢٤	٢,٠٥	٠,٠٦	*٣٤,١٧	١٨٦,٣٦
Body image	Limiting body's parties	degree	١,٨٨	٠,٢٢	٣,٢٨	٠,٢٦	١,٤	٠,٠٧	*٢٠,٠٠	٧٤,٧٤	

**Table (2)**

**Significance of the differences between the average of the pre and post measurements for the control group in Pordo Test for the Sense-kinetic cognition and the Kinetic abilities and the**

### skillful level of gymnastics (under consideration) N=20

Variables	unit Measure-ment	Pre measurement		Post measurement		Difference average	Standard error	T value	Change average%	
		N	s.d±	n	s.d±					
	Smiling the movement	degree	1,38	0,22	3,13	0,22	1,70	0,08	*21,88	127,81
	Crossing the bar	degree	1,2	0,20	2,88	0,22	1,68	0,08	*21,00	140
	Cross bar Test	degree	1,20	0,41	3,1	0,31	1,80	0,13	*14,23	148
	Ground angles	degree	1,08	0,18	2,63	0,22	1,00	0,00	*31,00	143,02
Mixing sense-kinetic sides	Drawing circle	degree	1,13	0,22	3,00	0,10	1,92	0,07	*27,43	179,91
	Drawing 2 circles	degree	1,08	0,18	2,63	0,28	1,00	0,07	*22,14	143,02
	Drawing horizontals line	degree	1,68	0,34	2,83	0,24	1,10	0,1	*11,00	78,40
	Drawing vertical line	degree	1,70	0,26	2,93	0,24	1,18	0,09	*13,11	77,43
Optical control	Tempo writing	degree	1,10	0,24	3,18	0,24	2,03	0,08	*20,38	176,02
	Production	degree	1,13	0,22	3,13	0,22	2	0,06	*33,33	176,99
	Orientation	degree	1,10	0,24	3,2	0,3	2,00	0,07	*29,29	178,26
	Eyes	degree	1,18	0,24	3,2	0,20	2,02	0,09	*22,44	171,19
	Right eye	degree	1,23	0,41	2,8	0,20	1,07	0,1	*10,70	127,74
	Left eye	degree	1,08	0,18	2,68	0,24	1,6	0,06	*26,77	148,10
	Satisfaction point	degree	1,63	0,22	3,00	0,22	1,42	0,08	*17,70	87,12
Basic skills with gymnastics	Stable balance	degree	9,07	0,32	14,17	0,90	0,1	0,19	*26,84	06,23
	Motor balance	degree	2	0,79	7,20	0,79	0,20	0,29	*18,10	262,00
	Skipping	degree	23,90	1,10	71,9	3,74	47,90	1,22	*39,30	200,21
	Jumping	degree	4,00	0,01	9,4	0,6	4,80	0,17	*28,03	107,09
Gymnastics skills	Front rolling	degree	1,33	0,26	1,94	0,27	0,61	0,09	*7,78	40,86
	Back rolling	degree	0,09	0,10	0,74	0,19	0,00	0,04	1,20	8,47
	Walking on balance cross	degree	0,08	0,16	0,91	0,20	0,33	0,04	*8,20	06,90
	Jumping into hores	degree	0,71	0,21	0,69	0,20	0,08	0,00	1,70	13,11

Value of indexed (t) at (19) degree and the signified level of(0,05)= 1,729

Table (2) shows the

following-

There are statistical significance differences between the average of the pre

and post measurements for the control group in all porodo tests of sense-kinetic cognition «assigning body's parties , animating the movement , Cross Bar test ,drawing a cycle , drawing horizontal line , vertical line, rhyme writing , production, direction ,eyes controlling. And in the post- measurement direction as the value of calculated (t) is more than the indexed value at the signified level of . (0,05) While There aren't statistical significance differences between the average of the pre and post measurements for the control group in all porodo tests of sense-kinetic cognition, as the value of calculated (t) is less than the indexed value at the signified level of (0,05).

There are statistical significance differences between the average of the pre and post measurements for the control group in the kinetic abilities "under consideration", and in the post- measurement direction as the value of calculated (t) is more than the indexed value at the signified level of (0,05).

There are statistical significance differences

between the average of the pre and post measurements for the control group in "front rolling – walking on balance cross " and in the post- measurement direction as the value of calculated (t) is more than the indexed value at the signified level of (0,05) . While There aren't statistical significance differences between the average of the pre and post measurements for the control group in "back rolling – jumping into the horse", as the value of calculated (t) is less than the indexed value at the signified level of (0,05).

There are statistical significance differences between the average of the pre and post measurements for the control group in assigning body's parties and linking between cognitive-kinetic sides "drawing a cycle, drawing horizontal line, vertical line, rhyme writing, production, direction, animating movement" . The researcher built this result to the followed traditional method by the kindergarten which contribute in improving these cognitive sides positively. This table also shows that there aren't statistical significance

differences in the balance basis and body's image "crosses – ground angels – eyes control" this is due to the weak of kinetic education programs at

kindergartens as these programs doesn't encourage the children to participate in the activities.

**Table (3)**

**Significance of the differences between the average of the pre and post measurements for the two groups (experiment-control) in Pordo Test for the Sense -kinetic cognition and the Kinetic abilities and the skillful level of gymnastics (under consideration) N=40**

Variables	unit Measurement	experiment group		control group		Difference average	T value	Difference Change average%		
		N	s.d±	n	s.d±					
Kinetic cognition	Balance&strength	Front walking	Degree	٣,١٨	٠,٢٤	١,٢٣	٠,٢٦	١,٩٥	<sup>2</sup> ٢٤,٦٧	١٦٢,٥٣
		Back walking	Degree	٢,٧٣	٠,٢٦	١,١٨	٠,٢٤	١,٥٥	<sup>2</sup> ١٩,٦١	١٤٥,٥١
		Side walking	Degree	٣,١٨	٠,٢٤	١,٢	٠,٢٥	١,٩٨	<sup>2</sup> ٢٥,١٨	١٧٤,٨٣
		Jumping	Degree	٣,١٥	٠,٢٤	١,٢	٠,٢٥	١,٩٥	<sup>2</sup> ٢٥,٣٤	١٨٠,١٧
	Body image	Limiting body's parties	Degree	٣,٢٨	٠,٢٦	٢,١٨	٠,٢٤	١,١	<sup>2</sup> ١٣,٩١	٥٦,٩
		Simulating the movement	Degree	٣,١٣	٠,٢٢	٢,٠٣	٠,٢٦	١,١	<sup>2</sup> ١٤,٥٤	٧٠,٦٦
		Crossing the bar	Degree	٢,٨٨	٠,٢٢	١,٢٣	٠,٣٤	١,٦٥	<sup>2</sup> ١٨,٠٥	١٣٥,٧٦
		Cross bar Test	Degree	٣,١	٠,٣١	٢,٠٥	٠,٢٢	١,٠٥	<sup>2</sup> ١٣,٣٤	٨٧,٨٤
		Ground angles	Degree	٢,٦٣	٠,٢٢	١,١٥	٠,٣٣	١,٤٨	<sup>2</sup> ١٦,٦٣	١٣٨,٩٧
	Mixing sense-kinetic sides	Drawing circle	Degree	٣,٠٥	٠,١٥	١,٩٥	٠,٣٢	١,١	<sup>2</sup> ١٣,٨٤	١٠٠,٣٤
		Drawing 2 circles	Degree	٢,٦٣	٠,٢٨	١,١٥	٠,٢٩	١,٤٨	<sup>2</sup> ١٦,٦٣	١٣٨,٩٧
		Drawing horizontals line	Degree	٢,٨٣	٠,٢٤	٢,٠٥	٠,١٥	٠,٧٨	<sup>2</sup> ١١,٩٩	٣٦,١٩
		Drawing vertical line	Degree	٢,٩٣	٠,٢٤	٢,٢٣	٠,٢٦	٠,٧	<sup>2</sup> ٨,٨٥	٤٣,٥٤
Optical contro	Tempo writing	Degree	٣,١٨	٠,٢٤	١,٣	٠,٢٥	١,٨٨	<sup>2</sup> ٢٣,٩١	١٦٦,٣٥	

**Table (3)**

**Significance of the differences between the average of the pre and post measurements for the two groups (experiment-control) in Pordo Test for the Sense -kinetic cognition and the Kinetic**

**abilities and the skillful level of gymnastics  
(under consideration) N=40**

Variables	unit Measurement	experiment group		control group		Difference average	T value	Difference Change average%	
		N	s.d±	n	s.d±				
Basic skills with gymnastics	Production	Degree	3,13	0,22	2,03	0,3	1,1	<sup>2</sup> 13,11	100,47
	Orientation	Degree	3,2	0,3	2,10	0,37	1,0	<sup>2</sup> 9,93	82,81
	Eyes	Degree	3,2	0,20	2,13	0,22	1,07	<sup>2</sup> 14,33	82,69
	Right eye	Degree	2,8	0,20	1,38	0,46	1,42	<sup>2</sup> 12,20	123,88
	Left eye	Degree	2,68	0,24	1,13	0,22	1,00	<sup>2</sup> 20,97	140,03
	Satisfaction point	Degree	3,0	0,22	1,70	0,26	1,3	<sup>2</sup> 17,08	82,90
Basic skills with gymnastics	Stable balance	Degree	14,17	0,90	9,36	0,43	4,81	<sup>2</sup> 20,72	00,04
	Motor balance	Degree	7,20	0,79	2,0	0,76	0,2	<sup>2</sup> 21,28	204,61
	Skipping	Degree	71,9	3,74	02,20	1,83	19,70	<sup>2</sup> 21,10	83,41
	Jumping	Degree	9,4	0,6	7,7	0,47	1,7	<sup>2</sup> 9,99	29,08
Gymnastics skill	Front rolling	Degree	3,29	0,36	1,94	0,27	1,30	<sup>2</sup> 13,08	97,84
	Back rolling	Degree	2,38	0,36	0,64	0,19	1,74	<sup>2</sup> 18,63	301,87
	Walking on balance cross	Degree	2,18	0,22	0,91	0,20	1,27	<sup>2</sup> 18,62	206,43
	Jumping into hores	Degree	2,00	0,22	0,69	0,20	1,86	<sup>2</sup> 19,96	280,33

Value of indexed (t) at (19) degree and the signified level of (0,05)= 1,729

Table (3) shows the following-: There are statistical significance differences between the average of the pre and post measurements for the control group in all porodo tests of sense-kinetic cognition, kinetic abilities tests and gymnastics skills "under consideration "nad in the direction of the

experimental group as the value of calculated (t) is more than the indexed value at the signified level of (0,05).

**Conclusions and Recommendations:-**

**First: conclusions:-**

- The educational program has appositive effect on developing the sense-kinetic cognition (distance- directions- time- plac - body`s parties) for pre-school children.
- The educational program has

appositive effect on developing some of kinetic abilities of gymnastics "under consideration" (jumping – skipping – stable balance – moving balance ) for pre-school children.

- The educational program has appositive effect on learning gymnastics skills"under consideration" (front rolling– back rolling– walking on balance cross – jumping into the horse) for pre-school children.

- the followed method” traditional” by the kindergarten has positive effect on developing the kinetic abilities of gymnastic “under consideration” (jumping – skipping – stable balance – moving balance )

- the followed method” traditional” by the kindergarten has positive effect on developing gymnastic skills “under consideration” ( front rolling – back rolling – walking on balance cross – jumping into the horse ).

### **Second: recommendations:-**

In the light of the conclusions, the researcher recommends the following:-

- 1 - The necessary to take care with the developing the sense-kinetic cognition for the pre-

school child as it has great effect on learning kinetic skills for different activities.

- 2- The necessary to take care with the developing the sense-kinetic cognition for the children as it is the basic for learning the good kinetic learning.

- 3- The educational programs has positive effect on learning gymnastics skills”under consideration ”for pre-school children.

- 4- Doing similar study in order to develop the level of kinetic performance in gymnastics .

- 5- The necessary to add gymnastics skills to the programs of kinetic education presenting for pre-school children.

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