"The effect of exercises using models to learn some skills of gymnastics and motor sensory perception for blind"

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-Introduction and research problem.

The sense of movement in the muscles and tendons is growing by education and practice, as practice of the motor and sensory experiences contributes in the development of a more precise concept of movement, the Motor Sensory Perception is the ability to control the parts of the body or the whole body during the performance of sports movement, taking into account the direction and the amount of strength and appropriate speed to success in this performance (5).

The perception is the mental processes of the potential reaction because the mental process or that mental activity which we can get to know the outside world topics, and is a mental response to a certain sensory stimuli as it is a mental process that precede behavior, without perception the behavior does not occur. (8: 21)

The psycho-motor area includes skills and abilities associated with human movement in various fields of activities that require the use of mental and physical processes at the same time and those psycho-motor activities include the use of each of the central nervous system (brain and spinal cord) and the outer nervous system on the surface of the body and muscles. (16: 42)

Processes that occur during the psycho-motor activities by occurrence of a stimulus causing motion, which leads to the reception of sensory depends on the different senses of man to take them to the central nervous system which works thereby to cause muscle movements commensurate with the stimulus to perform the forms of motor or physical performance, which include interaction between cognitive, perceptual and emotional processes to achieve integration in performance (19)

There is a close association between the motor skill and a sense of musculoskeletal and a sense of distance, height and direction so you should develop the ability of the individual to perceive the place and time in various sports activities.(11: 7)(15: 13).

The sensory receptors in the muscles, tendons and joints send nervous sensory signals which carry information about how the muscle shortening or lengthened, and how its relaxation and tense and muscular contraction speed and strength, and the situation of the various parts of the body as a whole and for changes in these parts and the accuracy of the motion in the surrounding space and time performance that this information helps to accurately estimate the player performances through the nervous system control in the performance of the acquired and mastered in the course of motor learning process (1: 6)(27)

The motor sensory perception is one of the mental processes that play an important role in the integration of motor perception and the correct muscular sense when performance of the various parts of the body, according to the privacy of performance as it is a stirring sensory organs in the muscles, nerves and joints it provides the mind with information what to do parts of the body when doing any skill. (14: 841)(22: 103)

The factors that control how efficient the motor sensory perception is sensation and perception of the body, place, direction and time.(23: 19)

Gymnastics is one of a great important sports in physical education programs, which work to satisfy the needs of young people and fit different age levels and is like that of any other single activity as it works to provide the individual with the skills to continue to practice in the future. (10: 12)

The process of teaching skill performance not only accessible through essential interdependence between mental processes and skillful performance on one hand and the physical performance on the other hand, blind is a category their life depend on the perception either spatial or temporal auditory, this is why the researcher to think about a way dependent on perception through designing educational program using models with skillful exercises as a means by which to teach gymnastics skills on your exercise floor and out of the crucible of traditional methods and disadvantages plus not turning the researcher's knowledge to researchers using this medium particularly in gymnastic skills education for the blind.

-Thesis objectives.

This research aims to design an educational program using models and identify its impact on both: -

1- Some physical variables among a sample search of blind individuals.

2- Teaching some skills of the gymnastics on the floor exercise with a sample of blind individuals.

3- The motor sensory perception among a sample search of blind individuals.

-Thesis hypotheses.

1- There are significant statistical differences between the pre and post measurements for the thesis sample members in physical variables for the post measurement.

2- There are significant statistical differences between the pre and post measurements for the thesis sample members in the skills under study for the post measurement.

3- There are significant statistical differences between the pre and post measurements for the thesis sample members in the motor sensory perception for the post measurement.

- Thesis procedures.

- Thesis methodology.

The researcher used the experimental approach using experimental design for a trial period of one because of the appropriateness of the nature of research.

- Community and sample of the thesis.

Research community included on (19) students of the first grade of the intellectual primary school of Shebeen El Kom at Monofia governorate, and percentage of blindness between is (3/60) to (6/60) (B1) were divided into (10) students to conduct the exploratory study and (9) students to conduct the basic study.

- Homogeneity of the thesis sample members.

- Table (1)Description of research community and sample n=19

Variables	Unit	Mean	s.t	Skweens
Length	c.m	112.63	5.134	0.894
Age	Year	6.43	0.273	0.316
Wight	k.g	19.55	1.268	0.462

Table (1) shows that the torsion modulus of research a sample in the age, length ,wight , and The proportion of Blindness confined between (± 3). This indicates that the homogeneity of the sample in those variables.

- Data collection methods and tools.

- Equipment and tools used in the search.

* Gymnastics mattresses* Rstamitr device to measure length * medical thermometer to measure the weight * computers * video camera.

* Models in the form of the skillful exercises.

The forms:

- student measurements registration form in variables (age – length – weight. Percent hearing) annex No. (1)
- Skillful performance evaluation form annex No. (2)
- Hayward scale of the motor sensory perception. annex No. (3)

-Physical tests forms. annex No. (4)

- The names of the jury form. annex No. (5)

- Hayward scale of the motor sensory perception.

-Specify the time needed to scale.

To determine the time required for applying the scale, the researcher using the following equation.

$$\text{The test time} = \frac{\text{time is taken by the first student + time is taken by the last student}}{2}$$

Thus determining the time required to apply the scale (8 m).

-Scientific transactions of the scale.

-The scale validity.

The researcher calculates the differentiation validity by the upper and lower quartile on the exploratory study sample of (10) students and the following table shows the test validity.

Table (2)Indication of the differences between the top and lowest quarter in the Collection of Realizing kinesthetic under research

Variables	n		mean of ranks	Sum of ranks	z	Asymp. Sig.
Identify the parts of the body		3	2	6	2.o23*	0.043
		3	5	15		
	total	6				
Distinguish between right or left parts of the body		3	2	6	2.o23*	0.043
		3	5	15		
	total	6				
Balance		3	2	6	2.236*	0.025
		3	5	15.00		
	total	6				
Auditory perception		3	2	6	2.121*	0.034
		3	5	15.00		
	total	6				

Tabulated “Z” value at (0.05) = (1.96)

It is shown in table (2) there are significant statistical differences between the upper and lower quartile, as the values of "Z" calculated is greater than the value of (Z) Tabulated at the level (0.05), which refers to the test validity and ability to distinguish between groups.

-The scale stability.

To calculate the scale stability under study the researcher used the method of applying and re-applying on a sample of 10 students from the research community and the original sample with a time lag between the first and second duration applications (6) days and the researcher to find the correlation coefficient between the two applications and schedule (3) shows the correlation coefficient between the two applications.

Table (3)The arithmetic average, standard deviation and the value of "R" calculated between the first and the second applications for Motor Sensory Perception TEST under research

Variables	Unit	First application		Second application		Correlation coefficient
		M	S.D	M	S.D	
Identify the parts of the body	Mark	5.30	0.823	5.40	1.075	0.854*
Distinguish between right or left parts of the body	Mark	2.80	0.789	3.10	0.738	0.802*
Balance	Mark	2.60	0.966	3.00	1.054	0.655*
Auditory perception	Mark	3.00	1.054	3.40	1.075	0.784*

Tabulated (R) value at the level of significance of (0.05) = (0.632)

Table no(3) shows that there is statistically significant correlation at level of significance of (0.05) between the first application and the second application Collection of Motor Sensory Perception test.

-Validity of the physical tests under study.

Table (4)Indication of the differences between the top and lowest quarter in the Collection for fitness testes under research

Variables	n		mean of ranks	Sum of ranks	z	Asymp. Sig.
SPEED		3	5.00	15.00	1.964*	0.50
		3	2.00	6.00		
	total	6				
FLEXPELETY		3	5.00	15.00	1.971*	0.50
		3	2.00	6.00		
	total	6				
ABILITY OF LEG		3	5.00	15.00	1.992*	0.50
		3	2.00	6.00		
	total	6				
Abdominal muscle strength		3	5.00	15.00	1.984*	0.50
		3	2.00	6.00		
	total	6				

Tabulated "Z" value at (0.05) = (1.96)

It is shown in table (4) there are significant statistical differences between the upper and lower quartile, as the values of "Z" calculated is greater than the value of (Z) Tabulated at the level (0.05), which refers to the physical tests validity and ability to distinguish between groups.

- Stability of the physical tests under study.

Table (5)The arithmetic average, standard deviation and the value of "R" calculated between the first and the second applications for fitness testes under research

N=10

Variables	Unit	First application		Second application		Correlation coefficient
		M	S.D	M	S.D	
SPEED	S	9.06	0.506	8.94	0.534	0.879*
FLEXPELETY	C.M	1.630	0.236	1.68	0.249	0.902*
ABILITY OF LEG	C.M	92.00	2.00	91.80	1.687	0.922*
Abdominal muscle strength	NUMBER	13.80	0.632	14.10	0.568	0.681*

Tabulated (R) value at the level of significance of (0.05) = (0.632)

Table no(3) shows that there is statistically significant correlation at level of significance of (0.05) between the first application and the second application Collection of fitness testes.

- The suggested educational program using models. annex No. (6)

The researcher has designed the educational program using models (a concrete model for the form of skillful performance in various stages), which depends on the perception by sensing models to see how the movement's performance has included a range of the progressive skillful exercise which helps the research sample to sense all part of the skill and so the ability of its performance in the best possible way.

- The program objective.

The program aims to teach some skills of gymnastics on the floor exercise device through exercises using models perception of the sample individuals.

- The exploratory study.

The first exploratory study.

The first exploratory study was conducted on Sunday 14/2/2016 to conduct the scientific transactions (validity and the first application) for tests under study.

The second exploratory study.

The second exploratory study was conducted on Sunday 21/2/2016 to conduct the scientific transactions (stability) for tests under study.

- Pre measurement.

The researcher has conducted the pre measurements for the two groups of search experimental and the controlled on Monday, 22/2/2016 for the physical tests and motor sensory perception.

- Applying program under study.

The researcher has applied the supposed program from Tuesday 23/2/2016 to Thursday, 7/4/2016.

Table (6)Distributionof the proposed educational program units

Unit time	No. of units per week	Total units per program	No. of weeks of the program	No. of months of the program
45 min	2 units	12 units	6 weeks	a month and two weeks

- Post measurements :-

The post measurement has conducted on Sunday 10/4/2016 for physical aspects and motor sensory perception and on Tuesday 12/4/2016 for skills under study.

- The statistical treatment used in the search.

- arithmetic average- standard deviation- measure of skewness- Pearson's correlation coefficient- robust statistics.

- Presentation and discussion of the results.

- Viewing the results of the first hypothesis.

table (7) significant statistical differences between the pre and post measurements for the thesis sample members in physical variables.

Variables	n		mean of ranks	Sum of ranks	z	Asymp. Sig.
SPEED		9	13.78	124.00	3.432*	0.001
		9	5.22	47.00		
	total	18				
FLEXPELETY		9	6.00	54.00	2.802*	0.005
		9	13.00	117.00		
	total	18				
ABILITY OF LEG		9	6.00	54.00	2.799*	0.005
		9	13.00	117.00		
	total	18				
Abdominal muscle strength		9	5.00	45.00	3.599*	0.00
		9	14.00	126.00		
	total	18				

Tabulated “Z” value at (0.05) = (1.96)

It is shown in table (7) there are significant statistical differences between he pre and post measurements for the thesis sample members in physical variables under study for the post measurement as the values of "Z" calculated is greater than the value of (Z) Tabulated at the level (0.05).

- Discussing the results of the first hypothesis.

It is shown in table (7) there are significant statistical differences between the pre and post measurements for the thesis sample members in physical variables under study for the post measurement as the values of "Z" calculated is greater than the value of (Z) Tabulated.

The researcher attributed these differences to the proposed educational program under study where the researcher focused on the development of special fitness elements of the skills under study, which in turn led to raise the skill level of performance with the research sample.

Attention to guiding and developing exercise training physical preparation part of the lesson to suit the nature of the learning skills help to quickly teach motor skills and that's what was adopted by the researcher when applied the program, which in turn led to the speed of learning and mastering the skills under study.

This is in line with what referred to (Ippolitov, 1997) that well physical preparation for the player and focus on some of the associated skill working to improve skillful performance and has considered that the mental perception one of the main reasons that have an impact on the level of the player ability of the player to call things perceptual and analyze the size of the muscle strength to implement motor skill and estimate the distance and time needed to implement motor skill plays an important role in the education and improve their skills. (24)

This is consistent with what referred to by Thomas Ratliff (1994) that teach different motor skills as gymnastics help an individual to acquire various fitness components (28:4)

This result is consistent with the results of each of the Rabab Farouk Hafez, Suhair Fathi El Gendy (2006) (4) Nahla Metwally (2008) (18) and Walid Kamal Mahmoud (2005) (21) and Abdel Basset Mubarak (2011) (9) and Hazem Moussa (2006) (2) and Suhair Akram Ibrahim (2014) (6) of

the guiding elements of fitness in physical education lesson to serve and facilitate teaching motor skills helps to quickly teach those skills.

Thus the first hypothesis is achieved, which states that "There are significant statistical differences between the pre and post measurements for the thesis sample members in physical variables for the post measurement".

- Viewing the results of the second hypothesis.

table (8) significant statistical differences between the pre and post measurements for the thesis sample members in the skills under study.

Variables	n		mean of ranks	Sum of ranks	z	Asymp. Sig.
FRONT ROLL		9	5.00	45.00	3.853*	0.00
		9	14.00	126.00		
	total	18				
BACK ROLL		9	5.00	45.00	3.876*	0.00
		9	14.00	126.00		
	total	18				
BALANCE		9	5.00	45.00	3.841*	0.00
		9	14.00	126.00		
	total	18				
HANDSTAND		9	5.00	45.00	3.904*	0.00
		9	14.00	126.00		
	total	18				
HEAD STAND		9	5.00	45.00	3.855*	0.00
		9	14.00	126.00		
	total	18				
KARTWHEEL		9	5.00	45.00	3.848*	0.00
		9	14.00	126.00		
	total	18				

Tabulated “Z” value at (0.05) = (1.96)

It is shown in table (8) there are significant statistical differences between the pre and post measurements for the thesis sample members in the skills under study for the post measurement as the values of "Z" calculated is greater than the value of (Z) Tabulated at the level (0.05).

- Discussing the results of the second hypothesis.

The researcher attributed these differences to the proposed educational program under study where the researcher took into account at designing it to fit with the nature of the disability so that it could deliver practical teaching skills in an easy way by using the sense of touch they have through designing a range of models for exercises to help teach skills under a phased manner easy and simple and this what the program succeeded in achieving.

This result is consistent with indicated Ahmed Bany Atta (2005) that the motor sensory perception is important in the education process, so that the greater the sense of movement or skill whenever they perform better, leading to increase performance significantly. (1) (20:62-74) (26)

As is consistent with what indicated by the Seham Hamad Al Noaimat (1995) on the motor information management is in certain parts of the brain and is the motor sensory perception is an important component in the development of perception of the body and when an individual has the cognitive skills with a good standard it means the growth of the nervous system, which is reflected on the other aspects such as learning motor skills and act as a pointer to it. (7:17).

And consistent with Suheir Ibrahim and Sarab Akram (2014) of the motor sensory perception is one important aspect of a child's life as it reflects the relationship between cognitive and motor aspects so it is necessary to work to improve these aspects of the child to be able to interact with the surrounding environment when he learned other motor activities. (6)

This result is consistent with the findings of both Imad Saleh Abdel-Haq (2013) (10) and Faleh Sultan Abu Eid (2010) (13) and Abdel Basset Mubarak (2011) (9) and Hazem Moussa (2006) (2) to the motor sensory perception development works on the speed of learning motor skills.

Thus the second hypothesis is achieved, which states that "there are significant statistical differences between the pre and post measurements for the thesis sample members in the skills under study for the post measurement".

- Viewing the results of the third hypothesis.

Table No. (9)Significant differences between the pre and post measurements for the thesis sample members in the motor sensory perception.

Variables	n		mean of ranks	Sum of ranks	z	Asymp. Sig.
Identify the parts of the body		9	5.00	45.00	3.680*	0.00
		9	14.00	126.00		
	total	18				
Distinguish between right or left parts of the body		9	5.00	45.00	3.729*	0.00
		9	14.00	126.00		
	total	18				
Balance		9	6.00	54.00	3.289*	0.001
		9	13.00	117.00		
	total	18				
Auditory perception		9	5.00	45.00	3.768*	0.00
		9	14.00	126.00		
	total	18				

Tabulated “Z” value at (0.05) = (1.96)

It is shown in table (9) there are significant statistical differences between the pre and post measurements for the thesis sample members in the motor sensory perception for the post measurement as the values of "Z" calculated is greater than the value of (Z) Tabulated at the level (0.05).

Table (10) different between pre and post mean and Percentage for Motor Sensory Perception

Variables	Pre mean	Post mean	Different means	Percentage
Identify the parts of the body	4.33	11.11	6.78	61.03%
Distinguish between right or left parts of the body	1.67	4.67	3.00	64.24%
Balance	2.00	3.56	1.56	43.82%
Auditory perception	1.33	4.78	3.54	72.18%

It is shown in table (10) that the averages differences between the two measures (pre and post) and the rates of change of the sample individuals in the motor sensory perception of the sample individuals.

- Discussing the results of the third hypothesis.

It is shown in table (9) there are significant statistical differences between the pre and post measurements for the thesis sample members in the motor sensory perception for the post measurement.

As shown in table (10) The differences between the averages of the pre and post measurements and rates of change for the axes scale motor sensory perception reaching the difference in the axis of identification of the parts of the body (6.78) rate of change was (61.03%), while the difference in the axis of distinction between the body parts (3,00) rate of change was (64.24%), was the difference in the balance axis (1.56) rate of change was (43.82%), and finally in the axis of determining the place (3.54) rate of change was (72.18%).

The researcher attributed these differences and rates of change to the proposed education program under study, where the researcher was adopted when the determination to design cut-outs in the form of exercises that help teach the skills under study, which depends entirely on the sense of neuromuscular the research sample, which in turn led to a motor sense of the development research sample.

The blind category more community groups need to use and develop the motor sensory perception since some life skills of movement and movement on the senses other than sight. (3)

Faleh Sultan (2010) confirms that as the motor sensory perception is like a sixth sense for individuals and to help them estimate the distance and time, direction and strength and other important variables in a person's life in general and the blind in particular, which can be developed through mobility programs and sports activities and this is what was adopted the researcher during designing of the educational program. (13)

Aladdin indicates et al (1992) the motor sensory perception development is linked mainly to the central nervous system, which is one of the most important results of operations of the brain that have to do with knowledge and higher mental processes. (12)

This result is also consistent with those referred to Magill (1993) of the receptor of the motor sensory perception significant and active role in promoting and accelerating the learning process of the performance of the motor of the individual in various sports activities if the individual has not been able to realize tactics of a skill that is learning it during the learning process there can performance the right way. (25)

This result is consistent with the findings of both Nahla Metwally (2008) (18) and Walid Kamal Mahmoud (2005) (21) and Abdel Basset Mubarak (2011) (9) and Hazem Moussa (2006) (2) and Suhair Akram Ibrahim (2014) (6) that the development of the motor sensory perception when the education process, especially with the blind so it helps to speed learning motor skills.

Thus the third hypothesis is achieved, which states that "there are significant statistical differences between the pre and post measurements for the thesis sample members in the motor sensory perception for the post measurement".

- Conclusions:

1- The educational program using the models has a positive impact on teaching gymnastics skills on the floor exercise for members of the research sample.

2- The educational program using the models has a positive impact for members of the research sample in physical variables under study.

3- The educational program using the models has a positive impact for members of the research sample in developing the motor sensory perception.

4- The models considered as a good means for the blind children contributed to increase the desire and skills to perform under study.

5- The models considered as a compensating means for visual perception for blind children contribute to achieve the same learning outcomes which have a normal people.

- Recommendations:

1- Applying the educational program using models on other samples of the blind.

2- The need to include a course contains gymnastics skills for this group of people with special needs.

3- Attention in using modern methods and techniques in teaching various skills especially in gymnastics and that match that category with special needs.

4- Attention to the development of the motor sensory perception to that category because of its great importance in the teaching and learning process.

5- Using models in the education of blind various motor skills because of its effective and positive impact in the education process.

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