

Research Article

**The effect of a Suggested Swimming Activity Program on the Physical fitness Components
of the Blind Students in the Hashemite University**

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Abstract

This study is intended to examine the effect of the suggested swimming activity program on the physical fitness improvements of the blind students in the Hashemite University.

The sample of the study was 10 male blind students selected randomly. The researcher's used the experimental methodology of one group design. The selected students applied the suggested swimming program for 8 weeks period divided into three training sessions, each session period was 90 minutes.

For collecting and preparing the required data for the study, the selected sample passes through a pre-application test before starting the program and another test after the program has been finished. The appropriate statistical equations and analysis including mathematical means, standard deviations and T-Test.

The results of research indicated that the suggested swimming program has a positive and effective result on all the studied variables, which means that improving the physical fitness elements studied.

From the research results and conclusions the researcher's recommended generalizing the results for all people working in this field and to make other researcher's upon students with special needs.

Introduction

Sport plays an important and prominent role in human life because it contributes to upgrade the level of the individual from the physical point and work to change and modify many negative habits and it has role in the moral, psychological, social and mental education, it is one factor of many other factors of progress and prosperity in societies, it is not limited to a certain category of people, but applies to all segments of society, whether they are normal or with special needs.

Also, the practice of different physical activities work to improve the level of health, physical, psychological, social and economic, and for that all developed countries interested in physical activities because it has a lot of benefits on individual and on society. Like Abdelfattah (1997) says that "regular physical activity leads to increase the enjoyment of life."

And Taweel (1992) says that "the people feel more comfortable and improves their health when they make physical activity, and it can help them to increase the maximum rate of oxygen consumption, improves blood circulation, reduces excess weight and obesity, improves pulmonary capacity and improves pulse."

The sports activities exercise has become a prerequisite and necessary in our time so that people can overcome what imposed by this life as a result of development, and people become inactivity and so lazy. As a result of decreased physical activity, diseases began to invade human beings significantly and strikingly appeared diseases of the circulatory and respiratory systems, heart disease, strokes, musculoskeletal injuries and arthritis, obesity and the resulting diseases such as high blood pressure and diabetes.

Swimming regulates breathing, activates the circulatory system, helps digestion, and all muscles in the body engage in the movement, often it helps to correct body aberrations such as back curvature and curvature of the leg bones, and for that swimming is a complete sport and there is no other sport like it to build ideal body composition (Hussein, 2000).

Swimming is also an important activity that can be practiced by both gender at all ages so that they can benefit from its for health, recreational, psychological and therapeutic benefits, like Omar bin al katab says (may Allah be pleased with him) "teach your children swimming, archery and horse riding" (Al-Kholi, 1995).we should note that swimming is one of the first sports used by Sir Ludwig Guttmann to rehabilitate the people with disabilities (people with challenged in movement) at Stoke Mandeville Hospital in England and was the focus of Paralympics sports since 1948 in London until 2008 in Beijing .

The American Red Cross (1996) states that "swimming is one of the most important sports activities programs that help adapt and integrate people with special needs so that they feel they can move in the pool like an ordinary person so they can move around the pool and they can remove any industrial assistance that help them in swimming." and that Enhances them self-confidence and improves them self-concept.

The aims of practice people with visual impairments in swim to encourage them to improve their fitness and physical efficiency, through competition with colleagues and learn how to depend on themselves to be adapted to fight tired, and this is that (Liker et all, 2002) and (Helen, 1997) noted that swimming improves practitioners' fitness through the development of muscle strength and endurance, as well as the development of agility and balance. In addition to the enjoyment of exercise and sense of relaxation and swimming helps them to develop various forms of movement that help them to restore their balance and put their bodies in water.

One of the benefits of swimming for the blind is that they develop courage so that they are practiced it in a different environment than the land that they are used to be in it, as (Abu Eid, 2004) pointed out in his study which aimed to develop the self-concept of disabled people by subjecting them to an educational program in swimming. In addition to their sense of fun and comfort when exercising. The swimming pool also has many psychological benefits to increase the self-confidence and developed their personality, in addition, to get rid of all means in the movement and transfer, whether sighted people or white stick or guide dogs.

So this study came in order to emphasize the importance of using modified programs for people with special needs.

Research Problem

It has recently see that increased attention to care and rehabilitation of people with special needs, whether in schools, clubs, universities or government and private institutions, to expand the base of practitioners of various sports as an attempt to help them to develop psychologically, physically, socially and mentally through communication and interaction with their peers Others

The practice of sports activities is one of the most activities that contribute to the integration of individuals in the community and it has many benefits like therapeutic and psychological proven by the results of many studies such as the study (Adenat, 2001) and Herbert study (Herbert and others researcher,1998) , which pointed to the active and positive role for the exercise of sports activity in the development of various aspects in the life of the individual, Sherrill(2004, Sherrill)

says that "there is a noticeable positive change in special needs community after they practicing sports activities."

Swimming is one of the sports activities with great benefits and it reflected on the people whether they have special needs or they don't.

Swimming is so good for people that they usually practice it, it helps to build an integrated personality and help them to achieve social and psychological adaptation, whether during university or after graduation.

However, the researchers, through their work, noticed that the blind student's reluctance to practice sports activities in general and swimming in particular, because of the conditions of the disability associated with an effect on the personality of the blind Researchers have noted that people with a disability avoid society and not participate in sports activities, whether in school sports or in different clubs, which is reflected in the level of fitness for them for many reasons.

So for that, the idea of researchers is to design a suggested program for them to the practice of swimming activity and study the effect of this program to improve their fitness at the Hashemite University.

Also, the researchers found that there was a small amount of educational and training programs that concern about people with special needs, which leads to the development of physical, psychological, mental and social aspects. Since the blinds don't receive adequate attention and care like the rest of the society so through this study, the researchers tried to draw attention to them and motivate them to practice swimming activity, which aims to improve some elements of physical fitness among for them, hoping that this development will reflect positively on the study sample and help them to engage with the university community with peers of the same gender and level.

This study aims:

To identify the effect of the proposed swimming activity on the improvement of some elements of physical fitness between blind students at the Hashemite University.

Study hypotheses:

- 1) The suggest educational program has a statistically significant effect on improving the physical fitness elements of blind students at the Hashemite University.
- 2) There are statistically significant differences in the improvement of physical fitness elements between blind students in the Hashemite University between pre-test and post-test.

Study procedures

Study Approach:

To make this study, the researchers used the experimental approach and design a single group to be appropriate for its nature and purpose.

Study variables:

- 1) Independent Variable: The suggested swimming program.

2) Dependent variable: some elements of fitness like (flexibility, muscle strength, speed, fitness).

Study Population and Sample:

The students of this study from the Hashemite University. The study sample was chosen in a purposeful way. It consisted of a group of visually disability students in the university and the students were 10 students and all of them were male. Table (1) indicates the characteristics of the sample in the growth variables

Table 1. Arithmetic averages, standard deviations, range and warp between sample members
 (N = 10)

Growth variables / unit of measurement	Average	deviation	range	warp
Height / meter	174.8	9.1	32	0.8
Weight / kg	85	6.7	23	0.2
Age / Year	19.7	1.1	3	0.3-

By reviewing Table (1), we notice that the sample is homogeneous in terms of torsion, where the warp values of all study variables ranged between +3 and -3, which indicates that the sample is homogeneous.

First: Performance method:

- The student sits long and the feet touch the wooden box
- Ask the student to extend his arms forward and bend the trunk forward as far as possible
- We measured the distance from the edge of the box to the fingertips

- Each student is given three tries and the best tries calculated

Strength test (long jump forward stability)

Performance method:

- The student and his feet stand perpendicular to a line drawn on the ground with the help of someone
- The student will jump forward to the maximum distance
- The student is given three tries and calculated the best tries that is nearest 10 cm

Agility test (oblique decay from a standing position)

Performance method:

- The student is standing on the feet (the primary position)
- When the start signal is given, the student bends the knees completely and put the hands on the ground and be seated on the ankles
- The student throwing the feet back together to get into the oblique decay
- throwing legs in front of the knees
- Fully extended knees to stand (back to primary)
- The student repeats the previous performance as many times as possible within ten seconds
- We will record the number of times that the student executes

Speed test (running 30 meters)

Performance method:

- With the help of a sighted person, the student runs 30 meters and he will start from the highest speed, and time is calculated

Second:

The suggested program in swimming

The program was executed in the period between 21/1/2018 to 15/3/2018, and the researchers have taken into their opinion the following bases in the development of the suggested training program and planning it after reviewing many references and previous studies aimed at such a program.

- 1 - The duration of the suggested educational program (8) weeks (3) times a week.
- 2 - We should be aware of the warm-up at the beginning of each training unit and calming exercises at the end
- 3- Deal with each member of the sample separately to take into account individual differences
- 4 - Correct errors continuously in each part of the educational unit

Third:

The researchers used the following tools and equipment to collect the necessary information for the study:

- 1- Recording form to record the results of tests and measurements for the study sample
- 2 - The suggested educational program for members of the study sample for swimming
- 3- The wooden elastic box from the long sitting position
- 4- Exercise carpet for the fitness test

5- Measuring meter.

6- Stopwatch.

Study Limitations:

1) Time-domain:

The study was done in the period between 21/1/2018 to 15/3/2018

2) Locative field:

The researchers make pre-tests and post-tests and applied the suggested program to the study sample in the swimming pool and fitness hall at the Hashemite University.

Steps of implementing the study

1. Pre measurements:

The researchers made all the measurements and tests necessary for the study itself for all the sample members and interviewed the members of the sample to know the health status of them And then explain the conditions and instructions for tests and measurements for each individual and The tests were done in the morning from 9 am to 11 am each day in agreement with the respondents.

2. Post measurements

After they finish from a suggested training program, which lasted (8) weeks, tests and measurements were carried out and with the same conditions as the pre-tests and measurements were made in terms of the conditions and place of testing and the devices used in the tests and the examiner.

Statistical Processing: -

In order to determine the extent to which the study objectives and hypotheses have been achieved and to reach the right results, the researchers used the following statistical treatments:

1. Arithmetic mean.

2. Standard deviation.

3 - Test (T) for the differences between the averages.

Presentation and discussion of the results:

First: View the results.

After we put the study's objectives and hypotheses, the researchers made a statistical analysis of the data obtained after we applied tests and measurements and then presented the results of statistical procedures.

Table (2): Arithmetic mean and standard deviation of study variables in pre-measurement
N = 10

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Number	Study variables	Unit of measurement	Arithmetic mean	Standard deviation
1	Agility	Number	7.1	0.87
2	Flexibility	Cm	9	1.82
3	Strength	Meters	1.76	13.08
4	Speed	Seconds	7.88	0.82

We can see from Table (2) that the mean and standard deviation of the agility variable were (7.1 ± 0.87) and the elastic variable (9 ± 1.82) and the power variable (1.76 ± 13.08) while the speed variable was the mean and standard deviation (7.88 ± 0.82).

After we test the post measure of the study variables the results were as in the following table.

Table (3): Arithmetic mean and standard deviation for the post-measurement
N = 10

Number	Study variables	Unit of measurement	Arithmetic mean	Standard deviation
1	Agility	Number	7.70	0.67
2	Flexibility	Cm	11.5	1.77
3	Strength	Meters	2.02	10.86
4	Speed	Seconds	6.22	0.58

Note that in Table (3) the mean and standard deviation of the agility variable were (7.7 ± 0.67) and the elastic variable (11.5 ± 1.77) and the power variable (2.02 ± 10.86) while the speed variable was the mean and standard deviation (6.22 ± 0.58).

The researchers then made a test (T) to find the difference in the averages between the pre and post measurements were the results of the test (T) as in Table (4)

Table (4)

The arithmetic mean, standard deviation, T value and a significance level of study variables between pre and post measurements

Number	Study variables	Unit of measurement	Pre measurements	post measurements	Difference	Value (T)	significance level
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			SD	M	SD	M	between the two mean		
1	Agility	Number	0,87	7.10	0,67	7.7	0.6	19.8	D
2	Flexibility	cm	1,82	9.0	1,77	11.5	2.5	0.03	D
3	Strength	Meter	13.08	1.76	10,86	2.02	0.26	0.00	D
4	Speed	Seconds	0,82	7.88	0.58	6.22	1.66	13.14 -	D

Significance level ($0.05 \geq \alpha$)

Table (4) shows the arithmetic mean, standard deviation, the calculated value (T) and the level of significance of the study variables between the pre and post measurement of the study sample.

These results show that there are statistically significant differences between the pre and post measurements of the study sample of the study variables associated with the following tests and measurements at the significance of $0.05 \geq \alpha$ (agility, flexibility, strength, speed) was the difference in favor of post-measurement

Second: discuss the results

Through the researchers see the results of the study and after making the appropriate statistical process of the data, and a quick return to previous studies and review the hypotheses of the study and after that explain and discuss the findings of the researchers related to the variables of the study.

we can see from table (4) that there is clear and noticeable progress has been made between the members of the research sample after that we applied proposed training program on the sample and after that, we compare the results of the pre and post measurements and It was found that there are statistically significant differences in favor of post-measurement in the study variables measured by the following tests (agility, flexibility, speed, strength).

The researchers attribute this to the fact that the resistance provided by the water medium on all parts of the body during movement leads to difficulty in performance and This requires increasing the effort on the heart muscle and all the muscles working in the body in order to overcome the water-resistance of any movement of different parts of the body and this, in turn, gives some kind of training for these muscles and that lead to increase their efficiency Terry (1990) said that the reason to improve muscle strength, muscular endurance and flexibility is because of the great resistance provided by the water medium. It indicates that the resistance within the water medium on any part of the body is 12 times that on the ground.

And for that, the movement of the body within the water will be a slowing movement which leads to increase the volume of physical effort that applies on different body parts, especially active muscles. Tewfik (1980) indicates that this resistance is in different directions within the medium (water) In addition to the variety of resistance within the water environment and the appearance of water resistance from the front, back resistance, and resistance to friction, which works to improve the efficiency of the active muscular for individual Thus, the muscle strength and endurance are necessary to overcome such resistance and this is by increased training and develop these elements.

These factors of the water medium effects on the efficiency of different body systems in addition to directing exercises towards the development of fitness elements and all of these worked to improve the level of performance in muscle strength and muscular endurance Toufic (1980) considers swimming as a highly effective activity that develops muscular abilities, both in terms of developing muscular endurance or improving the compatibility for muscular activity. In addition, it gains muscles high functional fitness for work that requires strength or flexibility. It works to increase the strength and flexibility of the muscles tendons related to bones and joints.

This finding is consistent with (Helen, 1997) and (Kristina et al, 2014), (Sanders, 1993), The results showed the effectiveness of the water medium and exercise to develop and improve the functional and physical variables In additional of the above, it is clear that the proposed training program has achieved development and progress between the members of the research samples and all the variables of the study, This result is consistent with the first hypothesis developed by the researchers, which says that the training program has a statistically significant effect on improving the elements of physical fitness during the research, and this result is consistent with the second hypothesis developed by the researchers, which states that there are statistically significant differences between the pre and post measurements in the variables during the study and in favor of the post measurement.

Thus, we can see that the suggested training program in this study has a positive and total effect on all study variables with varying degrees and reached the level of statistical significance. And from this result, we have reached the main objective of this study and we see that it has been achieved, and the effect of the suggest training program on the fitness components under consideration (fitness, flexibility, strength, speed) has been identified.

Conclusions and recommendations

Conclusions:

In the light of the results shown by the study, it can be concluded that the proposed training program for eight weeks and with rate of three training times per week has a positive and statistically significant effect on the study variables through the following tests (agility, flexibility, strength, speed) and through the obvious progress that has occurred between the pre and post measurements of the study sample.

Recommendations:

Based on the result and conclusions presented, the researchers recommend the following:

1- Disseminating the results of this study to those interested in the study sample, and apply this training program because it has a positive effect to improve the elements of fitness for them

2. Attention to make different tests and measurements in order to stand or determine the level of fitness components of students before starting any training program and make it as a basis for the training program for these students according to their needs and personal abilities.
3. Making studies similar to the current study to be applied to different categories of people with special needs

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