



## RESEARCH ARTICLE

### THE EFFECT OF USING S.A.Q EXERCISES ON DEVELOPING THE MOTION PERFORMANCE AND THE DIGITAL ACHIEVEMENT FOR SPEED SWIMMERS

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#### ABSTRACT

Background: The S.A.Q exercises are one of the modern methods that seek to raise the level of players to reach the highest levels that achieve the best results. They contribute to develop and improve the level of performance of the beginners. As they can be practiced by the beginners and those with higher levels. Aim: Identify the effectiveness of using S.A.Q exercises on developing the motion performance and the digital achievement for speed swimmers Method: An experimental study on the students of faculty of physical education, Water department, Minia University. The researcher followed with the control group the traditional program followed by the college, while the experimental group followed the training program using S.A.Q exercises to improve the physical and digital level of speed swimmers. Results: The motion performance and the digital achievement for speed swimmers have been improved. Conclusion: The training program using S.A.Q exercises has a positive effect on the motion performance and the digital achievement for speed swimmers.

## INTRODUCTION

S.A.Q exercises are indicated that the term S.A.Q is derived from the initials of Speed, Agility and Quickness (Mario Jovanovic et al, 2011) adds that S.A.Q exercises are a modern training system that result in integrated effects of many physical abilities within one training program (Velmurugan & Palanisamy, 2012). Explains the difference between the transmission speed and the kinetic speed that the transfer velocity needs time to reach the maximum speed; as it must be incremental. This is evident in enemy races in which it needs enough time to reach from zero speed to the maximum speed; while the kinetic speed is not needed for this time but rather the maximum muscle contraction in the shortest possible time and appears in the explosive movements of some sports (Vikram Singh, 2008). Indicates that the concept of fitness is one of the concepts that are frequently asked by researchers and thinkers in the sports field, and so far there is no consensus in the sports field about what is and the concept of fitness; and this may be attributed to its association with some physical and motor capabilities (Sheppard & Young, 2006).

## MATERIALS AND METHODS

**Subjects:** The S.A.Q exercises program was implemented on the experimental group which consisted of (7) students from 3/3/2018 to 12/5/2018 as following:

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- The total application time is (10) weeks
- The number of training times is 3 units per week
- The total time for the training unit ranges between 90 and 120 minutes
- The time of the S.A. Q exercises ranged from 20:30 minutes of the total time
- The number of repeats was 7:10 repetitions per group.
- Number of groups was 2:3 groups.
- Rest time between groups was from 2:3 minutes.
- Interference time between repeats in a group ranges from 15:20 seconds.
- S.A.Q exercises have been applied at college stadiums; As for the water preparation, it was applied on the swimming pool of Minia University.

**Sample Selection condition:** The researcher selected an intentional sample from faculty of physical Education, Water department, Minia University in order to implement the suggested program to improve the physical and digital level of speed swimmers.

#### Instrumentation

- Electronic balance to measure the weight in kilograms.
- Rustameter to measure height in centimeters and weight in kilograms.
- Stop watch to measure time closer to 1/1000 of a second
- A tape measure listed in centimeters.
- Earth Ladder - Colored duct tape - whistle - ruler - tape measure - table - plastic collars.

Table 1. Description of the research Sample

N=14	Age(Yrs.)	Height (Cm)	Weight (Kg)
Mean	20.79	174.79	68.57
Median	21.00	174.50	69.00
SD	0.50 -	0.24	0.36 -
Skewness	1.25	3.70	3.63

Table 2. The significance of differences between the pre and post measurements of physical variables, speed rotation and digital level

N=14	Pre test		Post test		Change	Z	Sig
	Mean	SD	Mean	SD			
Speed	5.32	5.15	3.20	5.27	4.72	10.44	7.24
Agility	7.14	7.86	10.08	7.43	9.71	30.69	20.61
Swimming 50 m crawled on the abdomen	39.56	39.14	1.06	39.31	38.46	2.16	1.10
Swimming 100 m crawled on the abdomen	1.3	1.25	3.85	1.30	1.16	10.77	6.92
Test " Start"	7.3	7.06	3.29	7.61	6.63	12.88	9.59
Test " Turn"	8.92	8.37	6.17	8.67	7.53	13.15	6.98

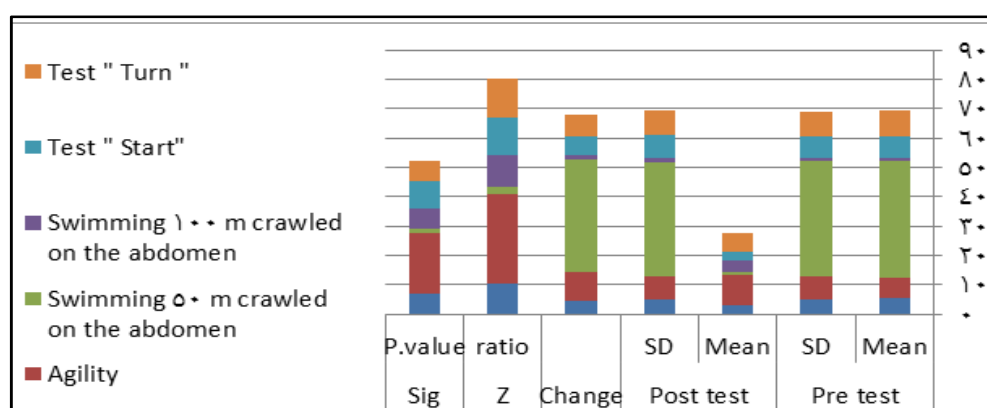


Figure 1. Average differences between pre and post measurements

**Procedures:** The swimmers implement training units using S.A.Q exercises with 60% in ground and with 40% in the water at the beginning of the program with medium intensity, 50% in the middle of the program with high intensity then with 20% and 80% in the end of the program with maximum intensity in order to develop motion performance and the digital level.

### Statistics

**Independent Variable:** Digital Achievement- Motion Performance.

**Dependent Variable:** Performance level of players.

**Statistical method used:** Mean, Median, Standard deviation, Skewness, Wilcoxon test, Use of Spss for Statistical processors version.

## RESULTS

There are statistically significant differences between the pre and post-measurements in the level of swimmers performance, where table (2) and Figure (1) show an increase in the development of motor performance (physical variables - digital achievement) for swimmers after applying the program, using S.A.Q exercises which had a positive effect in developing the motion performance (physical variables - digital achievement) (Remco Polman et al., 2009)

## DISCUSSION

There are differences in the change percentages ratios of the post measurements than the pre ones for the control and experimental groups of the research in the physical variables and the digital level "under consideration" and in favor of the experimental group. The researcher reached that S.A.Q exercises applied on the experimental group lead to improve the motion performance and the digital achievement for speed swimmers" in question" with higher rated than the trainings applied on the control group. The differences in the percentage variations of the motion performance ranged between (7.24%: 20.21%) and of the digital achievement of the speed swimmers ranged between (1.10%: 9.59%) in favor of the experimental group (Amr Saber, 2017).

### Conclusion

There are improvement rates between the median of the pre and post measurements in the results of S.A. Q exercises and the digital achievement of the speed swimmers in favor of the post measurement.

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