The Effect of Some Ground Training Variables on the 35-meter Distance and Achievement in Swimming Activities

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Abstract--- The research aims to know the effect of some vocabulary of the ground training on developing time of (35m) distance and achievement. For the purpose of achieving the research goal, the researcher chose (10) swimmers ages (15-16 years) in a random manner, and they were divided into two groups, control and experimental, each consisting of (5) swimmers, the control group implemented the paragraphs of the water training program prepared by its trainer the experimental group implemented the vocabulary of the training program prepared by the researcher. For the purpose of achieving the research goals, the researcher conducted pretests on the research sample before and after the 12-week training period by three training units per week, and the results achieved were statistically analyzed for both groups where the researcher found the time of the distance (53 m) has been extended It was seen by both groups, but the group that carried out the vocabulary of the water training prepared by the researcher was the best, so the researcher recommends that you include the appropriate water exercises with the usual ground exercises in the way of the Plyometric exercises which can achieve a positive impact on the time of the distance of (35 m) in the activities Olympic swimming (free and butterfly), as it is a method that serves the nature of the working muscles during performance.

Keywords--- Training Variables, 35 Meter Distance, Achievement.

I. INTRODUCTION

The achievement of winning or not in swimming activities is determined by some tenths of a second, and that the marginal improvement in the beginning stage can give a statistically significant benefit in the race result, especially in short distance races (50 - 100 m), and it has been found that the time of distance The (35m) ranges between 65% to 70% of the total race time. Where the muscles of the body in general play a big role in the performance of swimming movements, including the muscles of the upper body (arms), which all work in a precise and rhythmic way to implement the pull of the arms in terms of speed and performance in line with the nature of the length of the race distance, and it is with other physical and technical components playing A major role in achieving speed and thus achievement, especially in the second part after the flow stage of the race.[1]

Swimming sports, like other games and sporting events that require exerting the utmost efforts, are dependent on many interrelated factors, including appropriate training for the type of effectiveness, physical and functional susceptibility to swimming, and the ability to perform properly (good technique), as well as using training methods and methods That helps in raising the level of performance, and the researcher has noted, through his work with

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many Iraqi swimming coaches, that there is a difference in the level of performance of swimmers in some important parts of the race distance, especially in the second stage after the flow stage, which is the crucial part of the race distance, and As the research problem is attributed by the researcher not to choose the appropriate exercises and special training methods in the development of the muscles of the body, especially the muscles of the arms in the form that is best suited to the level of digital development taking place in the Olympic swimming events.[2]

And when it was reported, the importance of the research lies in identifying the effect of the proposed vocabulary using the plyometric method to develop a time distance of (35 m) among swimming events swimmers ages (15-16 years).

Research aims

1.   Knowing the effect of the proposed training vocabulary on the 35-meter distance and achievement time.

2.   Knowing the effect of the plyometric exercises method on improving the 35m distance and completion time.

Research hypotheses

1.   There is a positive effect of the proposed training vocabulary by using plyometric exercises on the 35-meter distance and achievement time.

2.   There are significant differences with statistical significance in the time of distance (35 m) in the post tests and in favor of the experimental group.

Research fields

The human field: Baghdad club swimmers ages 15-16 years.

Time boundary: 15/4/2018 to 17/7/2018.

Spatial field: International People's Stadium Summer Swimming Pool (50m) Baghdad.

Research methodology and field procedures

Research Methodology

The researchers used the experimental method (equal groups) to suit the nature of the problem.

Society and research sample

The researchers has chosen the research sample from the Baghdad clubs swimmers category 15-16 years in an intentional manner, and included (10) swimmers category (15-16 years) who represent (50%) of the community of adult origin (20) swimmers, and based on the characteristics of a sample The research was divided into two groups by (5) swimmers for each group, the first experimental and the second control and on the basis of the average achieved times and their standard deviations in the pre-test in measuring the time of the distance of (35 m) and randomly. For the purpose of ascertaining the consistency of the sample, the variation coefficient test was performed for length, age, weight, and training age measurements,[3] which showed the results of the low coefficient of variation coefficient of (30%), table (1).

Table 1: Shows the value of the difference and outcome coefficient for the length, age and weight measurements for the individuals in the research sample

Variables	Mean	SD	Skewness	Results
Length(Cm.)	163.27	1.44	0.88	Homogeneous
Age(Year)	14.75	0.2	1.35	Homogeneous
Weight(Kg.)	58.4	1.052	1.8	Homogeneous
Training age(Year)	6.5	0.063	0.96	Homogeneous

In order to find equivalence between the experimental and control groups in the mentioned variables, the researcher conducted a test (t.test) between them and as in Table (2), which shows that there is no real difference between the two groups, which indicates their equivalence.

Table 2: Shows the arithmetic mean and the standard deviations for tests of (35m) distance time and 50m distance and the calculated (t) value and the result and the result for the individuals in the sample

Variables	Experimental group		Control group		(t) value		Results
	Mean	SD	Mean	SD	Calculated	Tabulated	
Time distance of 35 m	21.48	0.164	21.39	0.203	0.02	2.31	Non sig.
Time distance of 50 m	30.80	0.255	30.84	0.298	1.34		Non sig.
Under 8 degrees of freedom and a level of significance 0.05							

Search devices and tools

Research tools are one of the means through which the researcher can collect data and solve his problem to achieve the goals of his research. Therefore, the researcher used the following:

Used equipment's in the research

- Electronic stop hours.
- Japanese-made Sony 13Hz video camera.
- Swimming pool - 5m distance mark.

Field research procedures

Exploratory experience

The exploratory experience is a kind of practical training for the researcher to identify the obstacles and positives that you may face while conducting the tests laid out. Therefore, the researcher and with the assistance of the auxiliary team on the exploratory experiment on 04/42018 on a sample of five swimmers from outside the research sample included the described tests.

Scientific foundations of the tests

Validity of the test: Meaning that the test must accurately measure the trait that it was designed to measure and not an attribute or other phenomenon. Therefore, the researcher adopted self-honesty by the stability factor, as this test was developed to measure the speed of performance.

Stability of the test: Stability means that the results of the tests have a degree of confidence, meaning that there is stability in the results in the event that the test is repeated on the same group. On the basis of that, the researcher repeated the tests on 8/4/2018 and under the same conditions in which the first tests were conducted, and from Then the researcher extracted the significance of the test between the results of the two tests, where the researcher concluded that it has a high degree of stability, as there was a significant correlation of (0.84) and (0.87) between the start time and the time of the five-meter distance.

Objectivity: Objectivity means that there is no interference by test administrators as the tests depend on a fixed unit of measurement and do not allow bias or self-intervention, as well as clarity of instructions for the tests.

Search tests

Test distance of 35 m account[4]

The goal of the test: to measure a time of 35 m.

Tools used: Tape measure, timers.

Method of performance: The swimmer stands on the jumping platform and starts after hearing the starting whistle, as stipulated by the international swimming law. The 35m distance time is recorded by the designated timer for that from the swimmer's arrival at the 35m line until the end of the distance.

Test time of 50 m distance[5]

The goal of the test: To measure the time of 50m from hearing the starting signal until the swimmer reaches the wall of the end of the pool.

The tools used: swimming pool, timing clocks, number (3), data recording form, electronic calculator, video camera installed on the floor vertically and at a height of (1 m) and a distance of (5 m) from the starting platform.

Method of performance: The swimmer stands on the jumping platform and upon hearing the starting signal he launches into the water. According to the international law of swimming, three attempts are given and the minimum time is recorded, while giving (5D) a rest between the attempts.

Main experience

Pretests: Physical tests are "one of the important means for assessing the level reached by the athlete, as it shows the validity of any training program," and on that basis the researcher conducted pretests for the two research groups on 10/4/2018 in the International People's Stadium, and it was recorded All variables related to searching in a record prepared for this purpose.

Training program

The researchers prepared the proposed ground training vocabulary for the working muscles during the withdrawal stage, and was included in the vocabulary of the ground training unit prepared by the trainer.

The training program included (12) weeks for the period from (15/4/2018 to 15/7/2018), at the rate of three training units per week (for the days of Saturday, Monday and Wednesday), and the time for the ground training unit

was within (20) Getting started strongly 60% and 4: 1 rest, where indicates that a period of (4-8) weeks is sufficient to increase the working muscle capacity. Both groups have implemented the vocabulary of the ground training in all its details,[6] except that the experimental group implemented the proposed training vocabulary for the two men within the ground training only and prepared by the researcher, while the control group implemented the traditional ground training program prepared by its trainer.

Post-test

The post-test was conducted for the two groups of the research sample on 7/17/2018 in the same way that was performed when conducting the pretests, where all the achieved times were recorded.

Statistical means

The researchers used the following statistical methods to process the results of the research test.

- Mean.

- standard deviation(SD).

- t-test: for the purpose of extracting the calculated (t) value for analog and independent samples.

Results

Table 3: Shows the mean and standard deviations for the pre and post tests and the calculated (t) value and the tabular value and the result of the experimental and control groups in measuring a distance of 35 m

Groups	Pretest		Posttest		(t) value		Results
	Mean	SD	Mean	SD	Calculated	Tabulated	
Experimental	21.48	0.164	19.293	0.057	14	4.60	Sig.
Control	21.39	0.255	20.19	0.04	2.2		Non sig.

By observing table (3) and after performing the statistical treatments, it becomes clear to us that there are statistically significant differences between the results of the members of the research sample in the pre and posttests in the start jump time test for the experimental and control groups, where the calculated value (t) of the experimental group (14) It is greater than the tabular value (t) of (4.60) under the degree of freedom (4) and the significance level (0.05), which indicates that there is an improvement in the starting jump of the experimental group. This indicates that there is an effect of the training vocabulary and the training method used by the experimental group.[7]

Table 4: Shows the statistical results for comparison between the two research groups in the post test in measuring a 35-meter distance

Groups	Mean	SD	(t) Calculated	(t) Tabulated	Results
Experimental	19.293	0.057	4.71	1.81	Sig.
Control	21.39	0.255			
Under 8 degrees of freedom and a level of significance 0.05					

Table (4) shows the statistical results of the members of the research sample in the post test in a distance test time of 35 m, as the experimental group achieved an arithmetic mean of (19.293) with a standard deviation of (0.057), while the control group achieved an arithmetic mean of (21.39) With a standard deviation (0.255), it is also noted that the calculated value of (t) for the post test was (4.71) for both groups, which is greater than the tabular value (t) of (1.81) under the degree of freedom (8) and the significance level (0.05), which indicates the presence of a significant difference during the start jump time and in favor of the experimental group, which the researcher attributes to the influence of the vocabulary of the ground training and the training method used M. Before the experimental group.[8]

Table 5: Shows the arithmetic mean and standard deviations for the pre and post tests and the calculated and (t) value and the result for the experimental and control groups at the time of the distance of (50 m)

Groups	Pretest		Posttest		Mean diff.	SD diff.	(t) value		Results
	Mean	SD	Mean	SD			Calculated	Tabulated	
Experimental	30.80	0.255	29.42	0.055	0.252	0.016	15.17	4.60	Sig.
Control	30.84	0.298	29.95	0.035	0.122	0.012	10.16		Sig.

Table (5) shows the results of the members of the research sample in the pre and post measurement at the time of the distance of (50 m). Also, it is noticed that the calculated value (t) was (15.17) and (10.16) for the two groups, respectively, and it is greater than the tabular value (t) of (4.60) under the degree of freedom (4) and the level of significance (0.05), which indicates that there is an improvement in the performance time of both groups, but that the improvement in the experimental group was greater, which indicates that there is a different effect of the ground training vocabulary used by the two groups are individuals with a sample of research.

Table 6: Shows the statistical results for comparison between the time distance of (50 m) for the two groups in the post test

Groups	Mean	SD	(t) Calculated	(t) Tabulated	Results
Experimental	29.42	0.055	9.53	1.81	Sig.
Control	29.95	0.035			
Under 8 degrees of freedom and a level of significance 0.05					

Table (6) shows the statistical results of the members of the research sample in the post test at a time of distance of (50 m), and it is also noticed that the calculated value (t) of the post test was (9.53) for the experimental and control groups which is greater than the tabular and (t) value of (1.81) below the degree of freedom (8) and the level of significance (0.05), which indicates a significant difference between the two research groups in the post test, and in favor of the experimental group.

II. DISCUSSION

The results of the research showed that the period of (12) weeks had an effect on the development of the researched variables, and as noted in tables (3,4) and (6.5), which shows that there are clear differences in the variables of the start jump time and the time of the distance of (35 m) the vertical jumping of the pre and post tests

and in favor of the post test, the difference was clear in favor of the experimental group than it is in the control group,[9] which the researcher attributes to the fact that the ground training vocabulary used by the experimental group in the manner of plaque leaves, had an impact on that despite the development time of the performance of the two groups, This is identical to what he found where he points out that the speed is The result of muscle strength to cover a certain distance,[10] and these results are also consistent with where it was found that performing exercises using the method of plyometric exercises had statistically significant results when training for six weeks for ages 15 years for volleyball players in measuring the maximum tidal moment for the knees.[11]

The researcher believes that the terrestrial training vocabulary that works to stimulate the specific muscles in the way of Plyometric and the continuation of organized training will lead to the development of the muscles involved in the work,[12] and this was what was done when training the muscles currency when implementing the starting jump, and that the implementation of the proposed training vocabulary using the method of Plyometric exercises had a positive impact On the start jump and thus the performance time of the experimental group, [13] and this corresponds to what he found that the exercises carried out by the Plyometric exercises for a period of seven weeks and with multiple repetitions had an impact in developing the speed of performance.[14]

III. CONCLUSIONS

Through the presentation, analysis and discussion of test results, the researcher reached the following conclusion:

1. There is a clear effect of the vocabulary of the ground training used by the pilot group.

2. There is a clear difference between the results of the experimental group and the control in the post-test in the time of the distance of (35 m) and the distance of (50 m) and for the benefit of the experimental group that used the vocabulary of the ground training in the method of training Plyometric.

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