

# THE EFFECT OF SPEED ACCELERATION TRAINING IN DEVELOPING KINETIC FREQUENCY SPEED DURING ORGANIZED ATTACK OF FOOTBALL PLAYERS

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## Abstract

The study aims to determine the effect of speed acceleration training in developing kinetic frequency speed and transitional speed for players of the empirical group in pre and post tests. The researcher used the empirical method using the empirical method with the single group approach with pre and post tests. Population of the study was chosen and represented in young football players of Diala Sporting Club for the 2014 – 2015 season (30 players) and the sample players were chosen (20 players) randomly. In the light of the previous, the researcher found a number of conclusions including the development of the empirical group in tests such as changing direction without a ball as a result of effective training used in empirical method in speed acceleration training which enhanced speed strength of leg muscles in restricting this distance. In addition, the researcher concluded that there is a difference in changing direction speed with the ball in post-measurement of the sample of the study. This refers to development of muscle groups and their efficiency at pivot points and immediate fixation of changing body direction.

**Keywords:** speed acceleration, kinetic frequency, organized attack, football

## 1. INTRODUCTION:

Sport training based on legalized training programs is important. These programs affect body variables and different body systems from which changes occur and they enable to identify the development, determined weak and strength points in training and trying to assess them. Among these variables, there is kinetic frequency speed that is affected by training and has a positive effect on the work of muscle fibers of athletes which is represented in the response to speed training in particular. This training helps increase efficiency of performance of athletes. This response appears in components of speed that can be enhanced by increasing muscle efficiency through high intensity which needs great strength in order to overcome resistance during training, especially in football training. These changes resulting from training can occur in skeletal muscle fibers. It was noticed that high intensity training increases muscular response and positive action in increasing chemical variables (quick contraction fibers' thickness and size of contraction components, especially myocin and actin). Football is one of the games that requires high speed and strength for its speciality in sport performance that includes jumping, scoring, air defense, holding, following and other technical and skill aspects as well as the match's time period. All of this imposes the fact that it is necessary for the player to be strong to continue good performance with high fitness, be ready to face high efforts and late tiredness resulting from performance. Hence, the importance of the study lies in the attempt to identify the effect of speed training in developing kinetic frequency speed and transitional speed which is reflected on skilled performance with the ball especially in attacking process or without it to enable players to overcome changes during the match and training on speed and conditions of the match.

### Problem of the Study:

Sport training seeks to make changes in internal response of biological systems in the body through amendments in training load components. This leads to make chemical changes in the athlete's body systems. The increase in performance and body efficiency are closely related to the increase in these changes which enable players to perform better for a long time with resisting the feeling of tiredness. This response always result from changing speed training for its effect on increasing muscle ability to contract with high efficiency during sport performance accompanied with changes in muscular cells. We can keep muscular strength that affects development of the speed of legs movement consistent with agility and optimal performance of athletes for the longest possible period. This can happen through researcher's follow-up of updates in training process and its development. We can notice that most trainers are not interested in speed acceleration training in leg movement which is based on different speeds contributing to build muscular and nervous consistency that a football player should have in modern age for its importance in developing attack and defense conditions in linking, supporting, covering and organized attack, so the researcher tackles the effect of speed acceleration training on developing kinetic frequency speed and transitional speed for young football players.

### Goals of the Study:

The study aims to:

- 1- Prepare speed acceleration training in developing kinetic frequency speed and transitional speed for young football players.
- 2- Identify the effect of speed acceleration training on developing kinetic frequency speed and transitional speed for young football players.

### Hypotheses of the Study:

The researcher hypothesises that:

- 1- Speed acceleration training has a positive effect on developing kinetic frequency speed and transitional speed for young football players.
- 2- There are differences in developing kinetic frequency speed and transitional speed between pre and post tests for the sake of the post-test.

## 2. METHODOLOGY:

The researcher used the empirical method with equal groups as it is proper to solve the problem of the study and achieve its goals.

### Sample of the Study:

Sample of the study was chosen purposively of young football players of Diala Sporting Club (30 players) for the season 2014 – 2015 and the sample players were chosen (20 players) randomly after eliminating goalkeepers and some players on who were subjected to exploratory experiment.

### Sample Identification:

**Table (1) equality between both empirical groups in all variables of the study:**

	Transitional speed	Speed frequency	Length	weight	Training age
Mean	4.7590	3.9705	180.1000	75.3500	4.4500
Median	4.8500	3.9600	180.0000	75.0000	4.0000
S.D	.28332	.09583	5.19007	5.64078	.94451
skewness	-.898	.695	.102	-.148	.159

### Steps of the Study:

#### Variables of the Study:

#### The Questionnaire:

The researcher used a questionnaire to determine the most important football basic skills for young players and then presenting them to experts and specialists in football training after collecting questionnaires and their statistical treatment to accept skills that had 75% of approval.

#### Exploratory Trials:

##### First Exploratory Trial:

The first exploratory trial was performed on a sample of 4 players of Diala Football Club on Thursday 04/09/2014 aiming to:

- Ensure validity of the used appliances and tools in the research
- Ensure test validity for sample members
- Ensure efficiency of the work team in making measurements, tests and recording results
- Identify the needed and elapsed time in implementing tests on sample members and easy application
- Identify obstacles and avoid errors

##### Second Exploratory Trial

The second exploratory trial was performed in a rate of two training units on the same sample. The first was on Saturday 06/09/2014 and then they were eliminated from the main trial with the aim of:

- Determine maximum intensity of each training used
- Ensure the time of each exercise used and set by the researcher during implementing training units.

**Scientific Basics of Tests:**

**Test Validity:**

The researcher used validity of content based on experts' opinions who were questioned in the questionnaire.

**Reliability Coefficient:**

Reliability coefficient is to give similar results of tests if reapplied on the same individuals and under the same or similar conditions.

**Test Objectivity:**

The researcher used Pearson correlation coefficient for opinions of respondents and as shown in table (2) that shows that tests enjoy high objectivity.

**Table (2): validity and reliability coefficients and significance of variables of the study sample:**

Serial	Tests	Validity coefficient	Self-validity coefficient	Schedule value	Significance
1	Transitional speed	0.89	0.94	0.81	Significant
2	Speed frequency	0.83	0.91		Significant

**Schedule value (0.81) at freedom degree (4) and significance level (0.05)**

**Pre-Tests:**

Pre-tests were conducted on members of the sample of the study on Wednesday 10/09/ 2014

**Training Application:**

The researcher prepared training method or 6 weeks (4 training units a week) and it included:

- The total number of training doses (36 training units). The training unit is operated due to the method prepared by the trainer

**Post-Tests:**

Post tests were conducted on Thursday 20/11/2014 with the same conditions of pre-tests.

**Analysis & Discussion of Results:**

**Results and discussion of pre and post tests for empirical and control groups**

**Analysis of results of kinetic frequency speed for the empirical group:**

**Table (3) shows arithmetic means and standard deviations in pre and post tests for transitional speed and speed frequency:**

Variables	Measurement	Mean	S.D	Standard error
Transitional speed	Pre-test	4.7590	.28332	.06335
	Post-test	4.3850	.28437	.06359
Speed frequency	Pre-test	3.9705	.09583	.02143
	Post-test	3.6660	.19627	.04389

**Table (4) shows means difference, standard deviations and T counted value in pre and post tests for variables of the study:**

Variables	Mean	S.D	T counted value	Error percentage
Transitional speed	0.37400	0.23489	7.121	0.000
Speed frequency	0.30450	0.16728	8.140	0.000

**Discussing Kinetic Frequency Speed and Transitional Speed:**

Table (4) shows that there are significant differences between pre and post tests for the sake of post tests due to focus on similar performance training in matches during training units which were applied. The researcher concentrated in technical aspects

accompanying speed running through consistency between work of legs and arms in all speed movements, whether in speed training that enhances the development of speed during training. This led to organize and adapt reflex speed in coordinating movement, rhythm and nervous stimulation which had a positive effect in speed output. The researcher found that this is because this type of training seems understandable as it allows trainers to have a continuous time to focus on performing a task, so the researcher will concentrate on basic aspects that enhance developing the ability of special speed strength and kinetic response through training which was asserted by (Mohamed, A. 1993, P. 77) as: “organize and adapt reflexes speed in coordinating movement rhythm and nervous stimulation which has a positive effect on speed output and its technical performance as frequency training was benefited from with means and tools as an aid to this development in achievement”.

The training method was applied and led to enhance necessary elements of running speed through developing the ability of members of sample of the study by increasing strength of muscular groups contributing to increase resistance on these muscles. In addition, training size nature (size and intensity) and organized training based on correct principles led to achieve better results. Researchers' opinion came as a result of effectiveness of the used exercises in the training program which contributed greatly to this development and changing direction movements were applied basically on immediate fixation strength to fix feet and to enable players to change body direction from direction to another, so operating muscles in feet should be at a high level of strength to perform this fixation, so this should be done with the least possible time to decrease speed reduction in fixation moments which made total period of these tests less in post-test of the study sample. Researchers found that modern training used in implementing training unit elements contribute to develop speed strength for feet muscles through increasing adaptation of these muscles and this was reflected on members of the study sample in post-test and approved efficiency of these exercises in this development.

The researcher also found that results of the study will allow more understanding towards the use of frequency training method and its importance concerning the rest of speed training methods as the training program included exercises of increasing susceptibility of players in quick movement with ball through horizontal distances to be consistent with the art of touching the ball during quick running and achieve the needed angles between body skewness degree correctly which was developed due to running with this position. This resulted in increasing effectiveness of foot efficiency and consistency with arm movement with the pattern that achieved similar speed to speed by which a player moves without ball which wanted to be achieved by the researcher and with the least possible amount of sample members during their training and achieve the best attack with the most possible speed as this game requires high potential with sudden and quick response.

### 3. CONCLUSIONS:

- 1- Development of the empirical group in speed tests as a result of effectiveness of training used in the training method for speed acceleration training which enhanced speed strength of operating leg muscles in reducing these distances.
- 2- There is a difference in tests of changing direction speed with ball in post test of the sample of the study which refers to development of muscle groups and their efficiency at pivot points and sudden fixation of changing body direction.

### 4. RECOMMENDATIONS:

- 1- Ensuring development of muscular strength for various muscles of the body especially legs and trunk muscles to ensure increasing effectiveness, strength and speed of the organ assigned to perform during changing direction movements.
- 2- It is necessary to consider the link between resulted movements to be consistent with kinetic assignment especially during application of running with ball or similar skills.

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