

# The Most Important Bio-movement Abilities and its Correlation to the Performance of the Skill of Forehand Jump on the Surface of Movements for the Women's Gymnastic

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## Abstract

The researchers, according to the nature of the educational process of the basic skills in the gymnastic noted the weakness of the capabilities in the performance of the performance of the players of the Faculty of Education for Girls University of Kufa, especially in the performance of the skill of the leap of the front hands on the ground movements of women, Therefore, the researchers sought to study the relationship between the most important bio movement abilities and the performance of the skill of the frontal leap on the surface of the movements of the ground in the women's gymnastics. The descriptive approach was chosen in the method of correlative relations to suit the nature of the research problem. The research community was (10) Kufa. The first experiment was conducted first and then the main experiment of the research procedures was conducted. The results that were dealt with were obtained using the statistical file (SPSS) which enabled the researchers to reach the conclusion that there is a positive correlation between the more bioethics (flexibility, compatibility, explosive arm force, and balance), the better the performance is for the better. The recommendations are the need to pay attention to the training of the bio movement abilities of the various sporting events.

**Keywords:** *Bio-movement, Performance, Surface of movement's and gymnastic.*

## Introduction

The scientific and technical progress which is a feature of contemporary life, in which the world is witnessing a new turning point in the fields of life, including the field of physical education, which occupies a prominent position in human life. The scientific basis for the application adopted by the Physical Education Sciences, which in turn led to the development level and the achievement of high sports achievements in general and sports gymnastics in particular that as type of sport occurs in functional and structural changes in those organs and organs, especially the nervous and muscular systems, and this change and improvement in the body organs is the biological adaptation that occurs as a result of exercise [1].

The movements of ground are the basis of all movements on the rest of the devices, which are the favorite and most desirable skills of most practitioners because of its coherence and coherence, where the learning is related

to learning the basic conditions of the primary because they are the basis in learning these movements and mastery in a timely manner [2]. The skill of the jump of the hands on the front of the ground movements is a difficult skills that require the compatibility and kinetics of the movement is the rotation of the body full cycle around the cross axis and also needs to be able to master this skill and the importance of research in the knowledge of the relationship between the most important bio movement capabilities and performance skill The front hands jump on the floor mat of the women of the girls of the team of the College of Education for Girls / University of Kufa, which can be invested correctly and in a scientific manner serves to achieve good performance [3].

## Research Problem

The importance of the bioethics capabilities in sports, including gymnastics, as well as

the skill of the forehand jump on the ground movements, is of basic and methodological skills, as it is a preliminary movement for other bonding movements and through the experience of the teaching and training researchers.

The University of Kufa, especially in the performance of the skill of the forehand jump on the surface of the movements of women, so researchers considered the study of this relationship between the most important bio movement capabilities and the performance of the skill of the leap on the hands of the front ground in gymnastics for women.

### Research Objective

To identify the correlation between the most important bio movement abilities and the performance of the skill of the forehand jump on the surface of movement of the gymnastics for women.

### Hypothesis

There is a significant correlation between the bio movement abilities and the performance of the forehand jump skill on the surface of movements the gymnastics for women.

### Research Methodology

The nature of the problem to be studied determines the nature of the methodology used. The researchers used the descriptive approach in the method of correlative relationships to suit the nature of the research problem.

### Research Community

The research community is determined by the team of the College of Education for Girls

/ University of Kufa (10) representing the entire society of origin.

### Tools and Means of Gathering Information

- References and Arab and foreign sources.
- Personal interviews.
- A questionnaire for expert opinions on the selection of research capabilities.
- Registration form for physical examination results.
- Tape length measurement.
- Whistle, number (1).
- White adhesive tape.
- Chalk.
- Geometric length (100 cm).
- Stopwatch.
- The surface of the movements.

### Research Procedures

#### Determination of the Bio Movements Abilities used in the Research

The researchers carried out a comprehensive survey of the special bio movement abilities in the research and placed them in a questionnaire. Appendix (1) is considered and distributed to the experts to select the most important special bio-capabilities in the research. After extraction of the relative importance of the abilities of the adoption, the abilities that won more important than (75%), as shown in Table (1) the relative importance of the abilities that have been adopted.

**Table 1: Shows the relative importance of the bio movement abilities that have been adopted**

Number	Motorabilities	Relative importance	Abilities adopted
1	Flexibility	93%	✓
2	Explosive power of the arms	84%	✓
3	Balance	84%	✓
4	Compatibility	84%	✓

### Tests of used in the Research

#### Testing of Flexibility [4]

##### Test Name

Bend the trunk of the stand.

##### Objective of the Test

Measure the flexibility of the trunk, back and thigh muscles in the forward bending movements.

##### Tools used

Ruler included length (100 cm), a table bearing the weight of the laboratory

### Performance Description

The scale is set at the edge of the table to be the middle of the ruler on the edge of the table and the other half down the edge. The laboratory takes the position of standing at the edge of the table and the feet are touching the two sides of the scale. The laboratory bends the trunk in front of the

bottom to become the fingers in front of the scale, the trunk is to the maximum extent and slows down with the note that the hands are in one level.

### Registration

The lab gives three attempts and records the best attempt.



Figure 1: Show flexibility test

### Test of the Throwing of a Medical Ball (3 kg) by Hand from Sitting on a Chair [5]

#### Objective of the Test

Measure the explosive power of the arms and shoulders.

#### Performance Description

The position of sitting on the chair and back straight, the medical ball is held hands in front of the chest and the bottom of the chin, the laboratory is tied rope around the chest and holding behind the chair to prevent the movement of the body forward with the ball, the ball is pushed forward in the hands.

#### Tools

Medical ball weighing (3 kg), chair, measuring tape, chalk piece, small rope.

#### Registration

The distance traveled by the ball in the direction in front of the chair is calculated for the best of the three attempts and calculated for the nearest foot and recorded, can be given an attempt before the measurement.

#### Additional Information

The distance from the leg of chair to the nearest point the ball is on the ground in the chair.

#### Balance test [6]

#### Name of test

Stork parking.

#### Test Objective

Measure the constant balance.

#### Tools used

Stop watch.

#### Description of the Test

From the normal standing position, the player raises her foot and puts the soles of her foot on the knee from the inside and put both hands on the waist, and when the school gives a signal began the test: Raise the player after the foot standing to focus on the instep, trying to maintain the balance for longer for a possible period of time without any movement that would change the parking space or contact with the heel of the ground.

#### Registration

Three attempts are given to the player and the best time is recorded from the moment the heel is lifted until the balance is lost.

#### Compatibility test: [7]

#### Test Name

Numbered Circuits.

#### Test Objective

Measure compatibility

#### Tools used

Stopwatches, chalk, whistle.

## Describe the Performance

Draw eight circles on the floor, one circle (60 cm), and set the circles. The laboratory stands in the circle (1). When the start signal is heard, the feet are bound with the number (2), then (3), (4) the eighth circle is done at full speed.

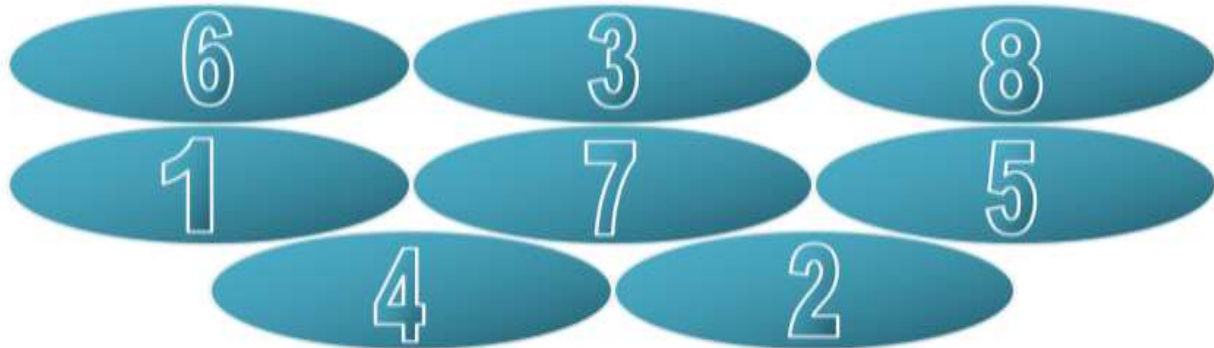


Figure 2: Show the compatibility test

## Pilot Study

Pilot study is a "preliminary pilot study conducted by the researcher on a small sample before the research to examine the methods of research and tools." [8]

Therefore, the researchers conducted the exploratory experiment on Sunday, February 25, 2018 at the Gymnastic Hall in the Department of Physical Education and Sports Sciences. The pilot study was conducted to focus on the following:

- Ensure the validity, accuracy and safety of the devices and tools used.
- Ensure the adequacy of tests and their difficulties and knowledge of the difficulties faced by the researcher during the application.
- Identify the time taken for each test.

## Registration

The lab gives two attempts and calculates the least time to move through the eight circuits.

- Diagnosis of the negative aspects facing the researcher and overcome them during the application of the main experiment.

## Main Procedures

The experiment was conducted on Sunday 4/3/2018 on the players of the team of the Faculty of Education for Girls / University of Kufa. The experiment included the tests of flexibility and muscle strength of the muscles of the two men and compatibility and balance, and the performance of the jump of the hands on the front of the ground movements on the day 5 / 3/2018 and presented to the referees of (4) for the purpose of evaluating the performance of the forehand jump on the ground movements.

## Results and Discussions

### View and Analyze the Results of the Forehand Jump

Table 2: Shows the mean, standard deviations, correlation coefficient value and correlation type of the research sample in the results of the jump of the forehands and the tests of the motor abilities

Variables	Mean	STD.EV.	correlation coefficient value	Significant	Correlation type*
Forehand jump	8	0.97	—	—	—
Flexibility	17.30	4.76	0.69	0.025	Sig.
Explosive power of the arms	3.53	0.83	0.97	0.00	Sig.
Balance	3.51	1.39	0.82	0.004	Sig.
Compatibility	3.51	1	0.74	0.00	Sig.

\* At the level of significance (0.05) and the degree of freedom (9).

Table (2) shows the statistical description and reasoning of the skill of the frontal jump which has mean of 8 and a standard deviation of (0.97) in the flexibility test. The mean was (17.30) and a standard deviation of (4.76) (0.69), either the muscle strength test of the arms, the mean of (3.53) and the standard deviation of (0.83), the correlation coefficient value of the arms with the forehand jump (0.97), the balance test, the mean (3.51) The standard deviation (1.39) and the correlation coefficient value of the balance with the jump (0.82), either the compatibility test, the mean (6.19), the standard deviation of (1) and the coefficient of the coefficient of correlation with the forehand jump of (0.95).

## Discussion

After the researchers conducted the main experiment and the extraction of the computational environment and the standard deviations and the extraction of the correlation coefficient presented in Table (2) and the analysis of the results showing that there is a significant correlation between the variables (flexibility, explosive power of the arms, balance, compatibility) and skill This is because the evolution of flexibility is due to the nature of the ground movements, which require the ability to flex effectively.

It affects and is influenced by the ground movements. It affects the overall performance of the motor to the integration and is affected as a result of extending the joints of the body while performing ground movements. The game had been an Act as well as the compatibility of the basic and important capabilities when performing front hands jump because of its active role in the performance of proper integrated technique skill.

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This view was also reinforced by the performance of any dynamic work (stand and then sudden change) after the reference and maintaining the balance that the change in different directions or movements of a different nature is of great importance in developing balance [9]. As for the ability of balance, which included the strength of the parts on which the body is based and which form the base of balance as well as the elasticity of the joints that are the focal point of the balanced movement and this view is reinforced by (Qasim Hassan Hussein, Qais Naji) that the balance depends heavily on flexibility in many as well as the explosive power of the arms that have an important role in the motor performance of the skill of the forehand leap because it gives the strength and speed necessary to perform that skill in the correct and successful integrative picture [10].

## Conclusions

Through the findings, the researchers reached the following conclusions by analyzing and discussing these results:

- There is a direct correlation between the abilities of the bio movement and the performance of the skill of the jump of the front hands of the gymnastic, the greater the bio movement capabilities (flexibility, compatibility, explosive power of the arms, and balance) increased the possibility of performance for the better.
- The bio movement capabilities (flexibility, compatibility, explosive power of the arms and balance) are important in the integration of the performance of the skills of the gymnastics as required by the privacy of the game.

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