Biokinetical properties of lip skill performance in ballet

Dr / Amr Soliman

Professor of Biomechanics, Department of Sports Movement Sciences and Vice Dean of the Faculty of Physical Education for Education and Student Affairs, Minya University

Dr / Omar Mohamed Labib

Professor of Sports Movement Sciences, Department of Sports Movement Sciences, Faculty of Physical Education, Minia University

Dr / Osama Mohamed A,Aziz

Professor of Sports Movement Sciences, Department of Sports Movement Sciences, Faculty of Physical Education, Minia University

Researcher / Fatma Hessin Mahmoud

Researcher at the Department of Sports Movement Sciences, Faculty of Physical Education , Minia University

Introduction and research problem: Sports progress is not a coincidence, but the result of the concerted efforts of many, foremost among which are the efforts of sports training scientists who have devoted their time and efforts to selecting and developing modern training methods and means in an attempt to exploit human energy and biomechanical scientists cooperated with them so that it becomes easier for both the coach and the player to know the methods of sports achievement. The best and work on developing it (9:15), (3:1).

The importance of sports technology can also be realized through a comprehensive and quick look at the Olympic and global sports achievements, where we note the tremendous progress in the level of motor performance and skill of the various sports champions in a way that calls for admiration and astonishment, thanks to a number of factors, the most important of which is the tremendous technological progress that was able to solve Lots of problems and obstacles and providing ideal solutions to advance the athletic level and effectively contribute to achieving the best results and reducing the chances of injury (4:11).

The use of the computer as an important technological requirement for the modern era and technology in all its forms is a basic requirement of the age, and technological progress has entered into all fields regardless of its form or type, so training has had a large and abundant share indevelopment and progress, where education is an integrated system designed to prepare the normal human being, so the interaction was great In continuous improvement and development, the computer as a technological innovation has many advantages and capabilities that made it a tool capable of competing with other media and a number of strategies that focus on student activity and take into account individual differences among students (1:26).

In this regard, "Talha Hossam El-Din and others" (2010) indicated that the movement of the human body, whether in normal daily life or in sports activities, is one of the most important areas that are still of interest to many workers, especially the men of physical education and sports, and they added that studies Kinetic behavior is one of the branches of movement sciences, as the production of movement is not done randomly in the sports field, but with a clear goal to be achieved

(8: 276).

All human life is linked to the movements that appear in the movement of the body and its various parts in space during time, and the motor activity in aerobic exercises has specific directions specific to a specific sports type, and the method of performing exercises in various types of sports, which is the sports technique (performance art) whose essence is the performance of simultaneous and sequential movements. And the rationality and exploitation of the athlete's physical capabilities "on the basis of knowledge of biomechanical laws" in order to better solve kinetic tasks in order to achieve results (11:19).

Kinetic analysis is a tool for dealing with all tasks related to the development of skill performance, as this analysis depends in its foundations and rules on entering into the depth of human performance and revealing its secrets through the testimonies of many sciences related to humans, and the most important of these statements is related to the anatomical foundations and basic movements of body parts and methods of their contribution. In increasing the effectiveness of performance in

light of a mechanical environment governed by many natural and man-made laws (7:29)

Kinesiology is concerned with human movement in its broad sense by studying the spatial movements of normal and disabled people during all his activities in life and in all environmental media (air - land - water - cosmic void) throughout the different age stages (basic movement and its motor development, usual daily movement activities, work And professional movements, dance, expressive movements and sports movements), and human movement focuses primarily on studying the mechanical form of movement, but it also takes into account the biological characteristics (anatomical - physiological - psychological and physical ... etc.) of this moving organism, where it is concerned with the study of laws and general foundations The human locomotor system and the kinetic actions and activities that this locomotor apparatus can carry out through its various aspects of life in order to rationalize its movements. Motion sciences is divided into two parts, one that studies velocity, distance and time, which is kinematics, and a section that deals with influential forces, which is the science of kinetics (2: 47), (13: 54).

Through the sciences used for motor analysis, whether Kenmatage or Knives showed that the methods of studying the movement of the human body differ greatly during his performance of different sports from what is the case in normal movements, in performance on the surface of the earth, the player feels that he deals with the same mechanical environment that he deals with In his daily movements, we have become accustomed since childhood that the earth receives our actions that are affected by our bodies and show responses to these actions represented in most of our initial movements. We also used to know the differences between different surfaces, as well as how to deal with all these surfaces. And in the same pattern in which a person deals with the surface of the earth (7: 79), (5: 52)

The developed countries have recently tended to study the mechanical aspects of motor skills and the skill performance analysis of its importance in the field of training as part of the mechanical motor analysis of skills in order to improve the level of skill performance by knowing how the player moves on the field (5: 68).

Ballet is an art of immortal sporting arts, which a person practiced in the course of his long upgrading in multiple methods, and various methods, which specializes in the ballet as a special concept, where the concentration of athlete is on compatibility, skill, strength and fitness. The ballet is an individual game, which requires the player to overcome his concerns about learning the movement, its performance and its mastery.

This game is practiced by several different devices, including five for men and three women, in addition to the ground movements performed by men and women without using any tool, and worn sports is of great importance in physical education programs, whether in school or in educational institutions such as clubs and youth centers (6: 56).

The importance of the worn sport is due to the fact that it helps the individual practicing its activities to satisfy his direct needs of the activity, as it is easy for practitioners of their age and gender to choose what is appropriate for each Sunni stage and therefore the individual can find what contributes to developing many aspects of physical and psychological characteristics (10:21).

The ballet skills are considered familiar skills, as it is characterized by its importance and frequent use in sports shows. Therefore, the player must learn them well and control them before starting to learn on any other device (6:21). The skill of the Libyan is one of the most important and most used earthly skills in the ballet for the novice and advanced players and is characterized by its ease of learning and its performance well.

Hence the problem of research lies in an attempt to identify the mechanical characteristics of the skill in the research in order to keep pace with the differences in breaking the records inside and outside the Arab Republic of Egypt about the Olympic and other sessions, and from here the researchers began an attempt to identify the biometric characteristics to perform the skill of the Libyan in the ballet to create a difference in Records to help them reach better results.

Search goal:

The current research aims to identify biometric characteristics to perform the Levi skill in the ballet.

Research questions:

In light of the research objectives, the researchers ask the following:

1- What are the biometric characteristics of performing the skill of the Libyan in the ballet?

Research Methodology :

The researchers used the descriptive approach, using (kinematical kinetic videos and motor analysis). Research community and sample:

The research community included a player at the Technical Institute of Al -Bali in the Arab Republic of Egypt, so that the conditions for performing the skill are met at a high technical and skill level, for the sports season 2021 AD / 2022 AD

Research areas:

- Human field: The best player at the Palder Technical Institute in the Arab Republic of Egypt was chosen, and the motor analysis was conducted on it.
- Time field: Photography was performed inside the covered hall at the Faculty of Physical Education
- The field field: Photography was performed at the Faculty of Physical Education at Minia University.

Data collection tools:

To collect data, the researchers used the following tools:

1- IBM Computer Computer (IBM) 2000MB memory, 1000 GB hard disk, Piii 850
2- Video Card (In / Out) brand (ATI).
3- Skill Special.
4- Digital camera at a speed of 25 cadres / second.
5- A triple -equipped water scale.
6- The length rustamter device.
7- Medical scale for measuring weight.

Motor Analysis Program:

In that you get all the digital data of the quinmatical variables of the movement that you need, in 3D or two -dimensional trends, (for each part of the body separately, head and trunk, legs, arms, shoulder, pelvis), and in the form of tables, during stages Movement as a whole, and then you get all curves of the variables as the movement of the movement that is analyzed, in 3D or two -dimensional trends, (for each part of the body parts separately, head and trunk, legs, arms, shoulder, pelvis), and in the form of a graphic shape , And during the stages of the movement as a whole.

Harim Unit:

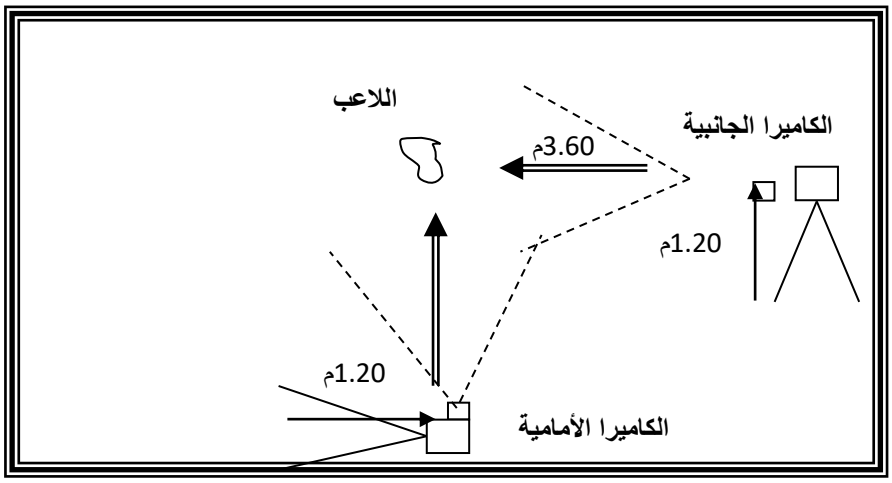
The program performs the necessary motor analysis of any motor skill (linear, rotational) through which we can obtain a number of biological variables of the body as a whole and each part of the body during each of the performance stages, which is represented in (time analysis, kinematical analysis) that contains Distance, displacement, speed, wheel, joint corners

The procedures for preparing the player for photography:

1- The skill required to be performed and the steps that the player will go through until the end of filming, with a clarification that the highest level of ability and accuracy must be performed.

2- Wearing a narrow and short clothes (due to the clarity of the body joints during the performance) and its color is suitable for the background of the field of photography, with the clarification of the centers of the body joints through the phosphorous marks prepared for that.

Preparing the place of photography:



appearance (1)

Places installation of the photography machine on the rug

Relator:

The researchers conducted the exploratory experience on Sunday, 6/17/2022 AD, on the first degree player of the ballet players at the Al - Bali Institute, and the player performed the skill of the Libyan number (3) attempts to know the biometric characteristics of skill and the best attempts have been chosen and the study targeted the following:

- Explain the goal of the player's analysis and the method of measurement.
- Determine the appropriate places to put video cameras for the player and his movement.
- Determining the field of the movement to be filmed inside the lens staff where the camera (1) concerns the photography of the player during the performance of the skill from the side, the camera (2) concerns the player's photography during the performance of the skill from the front.
- Determine the placement of the drawing scale to determine the dimensions as well as the reference points.
- Determine the appropriate height to put video cameras in a way that suits the position and movement of the player during the performance of the skill, which reached (1 meter).
- Determine the electricity -electrocardiograms to operate the camera.
- Determine the appropriate lighting degree for photography. Determine the problems that may hinder the workflow during the filming of the basic study.
- Determine the most appropriate time for photography and the validity of the place where photography is done.
- The researchers have guided the results of the exploratory study in applying the basic study of the research.

Basic study:

The researchers conducted the basic study on Sunday 23/6/2022 AD on the sample, which is a player at the Technical Institute of Al -Bali in the Arab Republic of Egypt, in the gymnastics hall at the Faculty of Physical Education. The research sample .

The researchers observed the procedures for the previously mentioned filming process, and it was taken into account during the basic study that there were rest periods between the skill performance attempts, so that the player regains its focus and strength for the following attempt. The player is prepared, and (3) attempts were filmed, and the best attempt was chosen for her, based on the opinion of experts in the science of sports and gymnastics.

View and discuss the results:

Table (2)
The average time of the performance stages of skill is under research (Libyan)

performance stages	Player
Time of the preliminary stage	0.72
Cadres	1: 19 cadres
Main stage time (w)	0.44
Cadres	20: 30 cadres
Time of the closing phase (w)	0.8
Cadres	31: 39 staff
Skill time (w)	1.96
The total number of cadres	(39) cadres

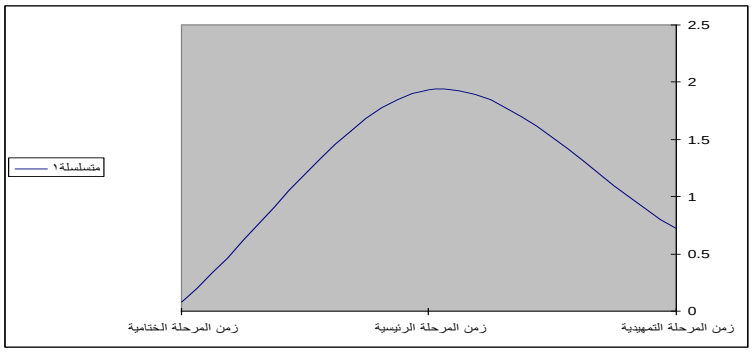


Figure (1)
The average time of the performance stages of skill is under research

It is clear from Table No. (2) and Figure No. (1) that the preliminary devoted to the skill took 0.72 seconds, and this indicates the length of the period of this stage and in which it takes place and approaching in order to obtain the largest possible distance to give the driving force to jump and stand on the feet and the body facing the arms aside, Half two knees bend before upgrading, upgrading is one foot with the free foot of the free foot in front of, while the main stage lasted 0.44 seconds, which is the actual performance stage, which transports the center of the body weight from the back to the front foot, while the center of the body's gravity moves to the highest raising the head and chest high, Reduced the feet from the thigh joint in a horizontal position with the ground and be on one straightness, spread the feet and move the arms aside and the arm forward and arm to the side, while in the final stage it took 0.8 seconds, because the purpose of this stage is to drop in the right place and stability.

Table (3)
The dynamic range of the lower body points in the right and left part of the sample is under research (M)

Performance stages	preliminary		The main		follow -up	
	Right	left	Right	left	Right	left
Introduction to the toes	1.20	1.27	2.74	3.19	3.11	3.81
Ankle joint point	1.10	1.15	2.63	3.01	3.04	3.63
Knee joint point	1.34	1.37	2.79	3.04	3.42	3.73
Thigh	1.43	1.45	2.87	2.88	3.69	3.73

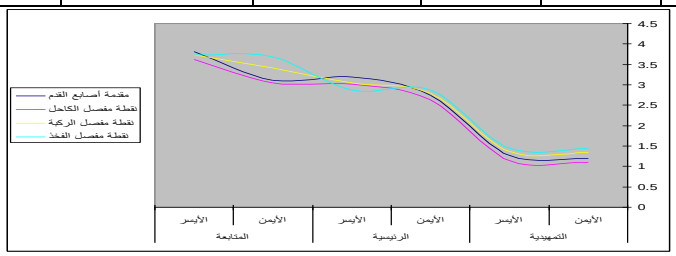


Figure (2)
The dynamic range of the lower body points in the right and left part of the sample is under research (M)

The preliminary stage:

Table No. (3) and Figure No. (2) shows that the front of the right foot fingers moved for a distance (1.20 m) in the preliminary stage, the ankle moved for a distance (1.10 m), the knee moved for a distance (1.34 m), the thigh moved for a distance (1.43 m), Also, the front of the left toes moved for a distance (1.27 m) in the preliminary stage, the ankle moved for a distance (1.15 m), the knee moved for a distance (1.37 m), the thigh move This is to get the largest possible distance that helps to perform the skill strongly in the main stage.

Main stage:

Table No. (3) and Figure No. (2) shows that the front of the right foot fingers moved for a distance (2.74), the ankle moved for a distance (2.63 m), the knee moved for a distance (2.79 m), the thigh moved for a distance (2.87 m), the front of the toes moved The left for a distance (3.19), the ankle moves for a distance (2.01 m), the knee moved for a distance (2.04 m), the thigh moves for a distance (2.88 m) and this indicates that in the main stage of the skill is the jump is upward strongly and we note that the thigh is that the kinetic range is less than The point of the front of the right foot is because the player is the individual of the feet to try to reach their straightness and the jump is made up strongly and we note that the thigh is that the kinetic range has less than the point of the front of the

fingers of the right foot, because the player is the individual of the feet to try to reach their straightening.

Follow -up stage:

Table No. (3) and Figure No. (2) shows that the front of the right foot fingers moved for a distance (3.11 m), the ankle moved for a distance (3.04 m), the knee moved for a distance (3.42 m), the thigh moved for a distance (3.69 m), the front of the fingers moved The left foot for a distance (3.19 m), the ankle moves for a distance (3.01 m), the knee moved for a distance (3.04 m), the thigh moves for a distance (3.88 m) and this indicates that in the final stage of the skill we notice that the movement distance of the knee is less than the main stage because This stage in the performance is the goal of the skill has been implemented, which is the individual of the feet, and the attempt to return is again and the landing, where the goal of the skill has been implemented, which is the individual of the feet, and trying to return again and landing.

Table (4)
The dynamic range of the upper body points in the right and left part of the sample is under research (M)

Performance stages	preliminary		The main		follow -up	
	Right	left	Right	left	Right	left
Introduction to the fingers	1.41	1.52	3.38	3.48	3.92	4.20
Check joint point	1.44	1.52	3.34	3.42	3.86	4.18
Facilitated joint point	1.53	1.59	3.17	3.25	3.81	4.11
The shoulder joint point	1.79	1.78	3.08	3.14	3.83	3.96

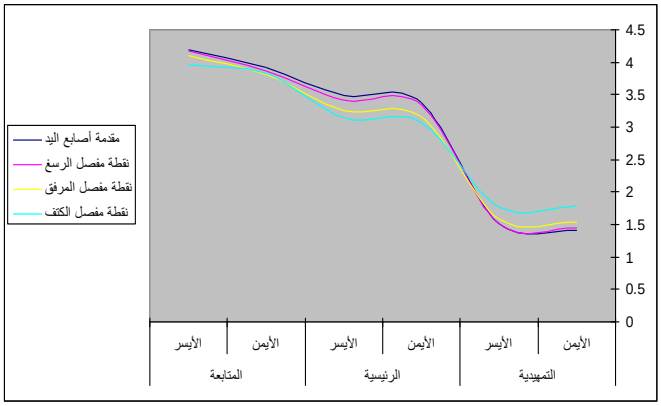


Figure (3)

A removal of the upper body points in the right part of the sample is under discussion

The preliminary stage:

Table No. (4) and Figure No. (3) shows that the front of the fingers of the right hand moved for a distance (1.41 m) in the preliminary stage, the wrist moved for a distance (1.44 m), the attachment moved for a distance (1.53 m), the shoulder moved for a distance (1.79 m) introduction The fingers of the right hand moved for a distance (1.41 m) in the preliminary stage, the wrist moved for a distance (1.44 m), the attached move for a distance (1.53 m), the shoulder moved for a distance (1.79 m) and this indicates that in the preliminary stage of the skill is approaching and running to obtain The largest possible distance helps to perform the skill strongly in the main stage, as well as the increasing displacement of the distance from Al -Qabali is that performance is more streamlined and increased in the vertical and horizontal displacement, which led to an increase in the displacement of the collected instead of the presence of high minimum compatibility, strength and flow in the performance before performing the main stage.

Main stage:

Table No. (4) and Figure No. (3) shows that the front of the fingers of the right hand for a distance (3.38), the wrist moved for a distance (3.34 m), the attachment moved for a distance (3.17 m), the shoulder moved for a distance (3.08 m), the introduction of the fingers of the right hand moved For a distance (3.38), the wrist moved for a distance (3.34 m), the attachment moved for a distance (3.17 m), the shoulder moved for a distance (3.08 m) and this indicates that in the main stage of the skill is the jump is upward strongly and we note that the front of the fingers in the dimension is the largest possible than what It indicates that the dynamic range is the greatest possible and the player gets high physical fitness and preparing before the performance is less than the point of the front of the fingers of the right foot, because the player is straightening the feet to try to reach their straightening.

Follow -up stage:

Table No. (4) and Figure No. (3) shows that the front of the fingers of the right hand for a distance (3.92 m), the wrist moved for a distance (3.86 m), the attachment moved for a distance (3.81 m), the shoulder moved for a distance (3.83 m), the front of the fingers of the right hand For a distance (3.92 m), the wrist moved for a distance (3.86 m), the attachment moved for a distance (3.81 m), the shoulder moved for a distance (3.83 m) and this indicates that in the final stage of the skill we notice that the distance of the move to the front of the fingers is the greatest possible and the value of the displacement gradually decreases and decreases From the

wrist of the elbow of the shoulder, and this indicates the great dynamic range of fingers and decreases to the shoulder point and the goal of the skill has been implemented and try to return again and landing.

Table (5)
Average speed for lower body points in the right and left part of the sample under research (M / s)

Performance stages	preliminary		The main		follow -up	
	Right	left	Right	left	Right	left
Introduction to the toes	**3.55**	**3.01**	**1.18**	**4.93**	**3.06**	**1.51**
Ankle joint point	**3.44**	**3.01**	**1.17**	**4.48**	**2.58**	**1.38**
Knee joint point	**3.21**	**2.89**	**1.61**	**3.20**	**3.74**	**2.02**
Thigh	**2.99**	**2.97**	**2.64**	**2.61**	**2.34**	**2.43**

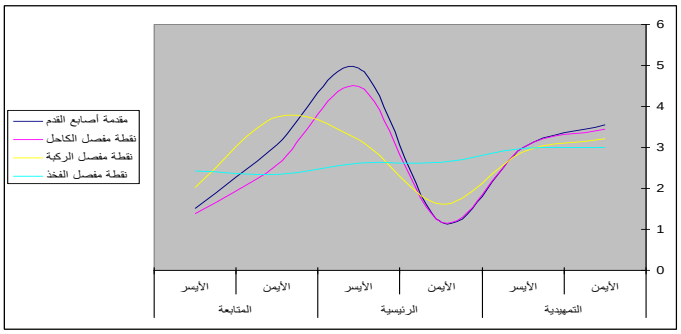


Figure (4)
The average speed of the lower body points in the right and left part of the sample is under research

The preliminary stage:

Table No. (5) and Figure No. (4) shows that the front of the right foot fingers moved quickly (3.55 m/s) in the preliminary stage, the ankle moved for a speed (3.44 m/s), the knee moved quickly (3.21 m/s), the thigh move Quickly (2.99 m/s), as the front of the left foot fingers moved quickly (3.01 m/s) in the preliminary stage, the ankle moves quickly (3.01 m/s), the knee moved quickly (2.89 m/s), the thigh moves quickly (2.97 M/w) This indicates that in the preliminary stage of skill is approaching and running in order to obtain a great speed and strength that helps to perform the skill strongly in the main stage.

Main stage:

Table No. (5) and Figure No. (4) shows that the front of the right foot fingers move quickly (1.18 m/s), the ankle moves quickly (1.17 m/s), the knee moved quickly (1.61 m/s), the thigh moves quickly (2.64 M/s), and the front of the left toes moved quickly (4.93 m/s), the ankle moves quickly (4.48 m/s), the knee moved quickly (3.20 m/s), the thigh moves

quickly (2.61 m/s) and this indicates However, in the main stage of the skill, the jump is upward strongly, and we note that the front of the fingertips is that the kinetic range has the highest, because the player is the individual of the feet to try to reach their straightening.

Follow -up stage:

Table No. (5) and Figure No. (4) shows that the front of the right foot fingers move quickly (3.06 m/s), the ankle moves quickly (2.58 m/s), the knee moved quickly (2.74 m/s), the thigh moves quickly (2.34 M/s), and the front of the left toes quickly (1.51 m/s), the ankle moves quickly (1.38 m/s), the knee moved quickly (2.02 m/s), the thigh moves quickly (3.43 m/s) and this indicates However, in the final stage of the skill, we note that the speeds are higher, as a result of performance in the main stage of strength, high performance and high physical fitness that works to reach the optimal performance and the performance dynamic, as this stage in performance is the goal of the skill has been implemented, which is the feet individual and attempt Return again and land.

Table (6)

Average speed for the upper body points in the right and left part of the sample under research (M / s)

Performance stages	preliminary		The main		follow -up	
	Right	left	Right	left	Right	left
Introduction to the fingers	**3.36**	**3.54**	**5.34**	**4.07**	**4.92**	**5.33**
Check joint point	**3.30**	**3.59**	**4.79**	**3.83**	**4.15**	**4.78**
Facilitated joint point	**3.18**	**3.14**	**4.11**	**3.41**	**3.97**	**3.90**
The shoulder joint point	**3.08**	**2.95**	**2.62**	**2.68**	**2.51**	**2.43**

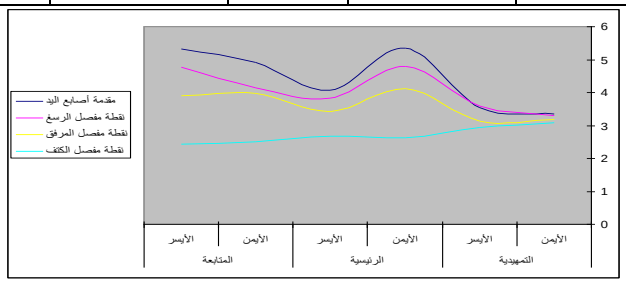


Figure (5)

The average speed of the upper body points in the right and left part of the sample is under research

The preliminary stage :

Table No. (6) and Figure No. (5) shows that the front of the fingers of the right hand moved quickly (3.36 m/s) in the preliminary stage, the wrist moves quickly (3.30 m/s), the attachment moves quickly (3.18 m/s), the shoulder moves Speed (3.08 m/s), the front of the left hand fingers

moved quickly (3.54 m/s) in the preliminary stage, the wrist moves quickly (3.59 m/s), the elbow moves quickly (3.14 m/s), the shoulder moves quickly (2.95 m /W) This indicates that in the preliminary stage of the skill is approaching and running in order to obtain the largest possible speed that helps to perform the skill strongly in the main stage and that the upper limb points helps to increase the speed to achieve an ideal technical performance in the main stage

Main stage:

Table No. (6) and Figure No. (5) shows that the front of the fingers of the right hand moved quickly (5.34 m/s), the wrist moves quickly (4.79 m/s), the attachment moved quickly (4.11 m/s), the shoulder moved quickly (2.62 M/s), the front of the left hand fingers moved quickly (4.07 m/s), the wrist moves quickly (3.83 m/s), the attachment moves quickly (3.41 m/s), the shoulder moves quickly (2.43 m/s) and this indicates It is in the main stage of the skill, the jump is upward strongly, and we notice that the move from the shoulder to the fingertips and the player gets high physical fitness and prepare it before the performance.

Follow -up stage:

Table No. (6) and Figure No. (5) shows that the front of the fingers of the right hand moved quickly (4.62 m/s), the wrist moves quickly (4.15 m/s), the elbow moves quickly (3.97 m/s), the shoulder moves quickly (2.51 M/s), the front of the left hand fingers moved quickly (5.33 m/s), the wrist moves quickly (4.78 m/s), the elbow moves quickly (3.90 m/s), the shoulder moves quickly (2.42 m/s) and this indicates That in the final stage of the skill, we note that the speed of the front of the fingers is the greatest possible, and the value of the speed gradually decreases from the wrist of the elbow of the shoulder, and this indicates the great motor transmission of the fingertips and decreases to the shoulder point and the goal of the skill has been implemented and try to return again and landing. .

Table (7)
Average wheel for lower body points in the right and left part of the sample under research (M / s 2)

Performance stages	preliminary		The main		follow -up	
	Right	left	Right	left	Right	left
Introduction to the toes	41.95	26.59	28.07	36.39	39.34	20.77
Ankle joint point	29.03	23.28	15.92	33.76	14.81	13.60
Knee joint point	13.58	10.86	14.16	16.49	37.62	10.35
Thigh	11.15	23.60	10.52	20.50	19.50	21.31

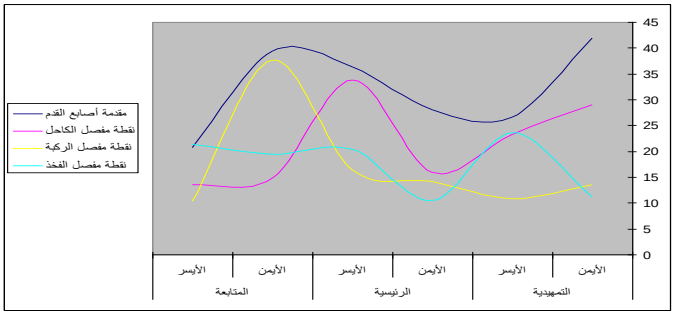


Figure (6)
Average wheel for lower body points in the right and left part of the sample under research

The preliminary stage:

Table No. (7) and Figure No. (6) shows that the front of the right foot fingers moved with a wheel of (41.95 m/s 2) in the preliminary stage, the ankle moved with a wheel of (29.03 m/s 2), the knee moved with a wheel of (13.58 m/s 2)) ,, The thigh moved with a wheel of (11.15 m/s 2), the front of the left foot fingers moved with a wheel of (26.59 m/s 2) in the preliminary stage, the ankle moved quickly (23.28 m/s 2), the knee moved with a wheel of (10.86 m/s 2) The thigh moves with a wheel of (23.60 m/s 2) and it becomes clear that the performance is more streamlined, as well as a motor acceleration of the thigh of the knee for the ankle to the fingertips, which led to an increase in the wheel in place of a high minimum compatibility.

Main stage:

Table No. (7) and Figure No. (6) shows that the front of the right foot fingers moved with a wheel of (28.07 m/s 2), the ankle moved with a wheel of (15.92 m/s 2), the knee moved with a wheel of (14.16 m/s 2), the thigh moves With a wheel of (10.52 m/s 2), the front of the left toes moved with a wheel of (36.39 m/s 2), the ankle moved with a wheel of (33.76 m/s 2), the knee moved quickly (16.49 m/s), the thigh moved with a wheel of (20.50 M/s 2) This indicates that in the main stage of the skill, the jump is made up strongly, and we note that the front of the fingertips that the dynamic acceleration is higher, because the player is the individual of the feet to try to reach their straightening, and this indicates the smooth flow of performance and the presence of harmony between the joints and some of them.

Follow -up stage:

Table No. (7) and Figure No. (6) shows that the front of the right foot fingers moved with a wheel of (39.34 m/s 2), the ankle moved with a wheel of (14.81 m/s 2), the knee moved with a wheel of (37.62 m/s 2), the thigh moves With a wheel of (19.50 m/s 2), the front of the left toes moved with a wheel of (20.77 m/s 2), the ankle moved with a wheel of (13.60 m/s 2), the knee moved with a wheel of (10.35 m/s 2), the thigh moved with a wheel of its amount (21.31 m2) This indicates that in the final stage of the skill, we note that the wheels are higher, as a result of a good performance in the main stage of strength, high performance and high physical fitness that works to reach the optimal performance and the performance dynamic, as this stage in performance is the goal of the skill It has been implemented and try to return again, landing and stability.

Table (8)

Average wheel for the upper body points in the right and left part of the sample under research (M / s 2)

Performance stages	preliminary		The main		follow -up	
	Right	left	Right	left	Right	left
Introduction to the fingers	**31.06**	**41.59**	**47.00**	**46.95**	**49.53**	**45.19**
Check joint point	**27.94**	**52.88**	**41.56**	**47.58**	**36.47**	**60.92**
Facilitated joint point	**36.43**	**31.19**	**43.04**	**30.45**	**42.52**	**33.56**
The shoulder joint point	**12.70**	**10.45**	**12.08**	**15.46**	**16.87**	**16.60**

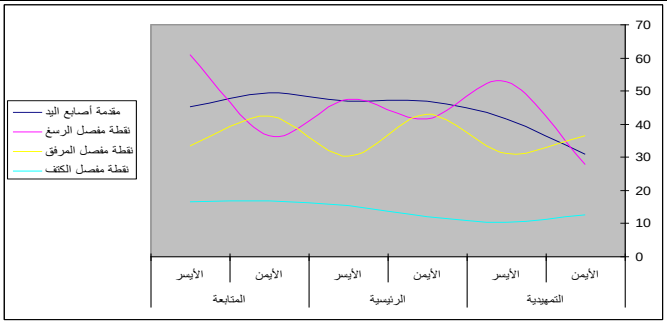


Figure (7)

The average wheel for the upper body points in the right and left part of the sample is under research

The preliminary stage:

Table No. (8) and Figure No. (7) shows that the front of the fingers of the right hand moved with a wheel of (31.06 m/s 2) in the preliminary stage, the wrist moved with a wheel of (27.94 m/s 2), the elbow moved with a wheel of (36.43 m/s 2) The shoulder moved with a wheel of (12.70 m/s 2) - the front of the left hand fingers moved with a wheel of (41.95 m/s 2) in the preliminary stage, the wrist moved with a wheel of (52.88 m/s 2), the attachment moved with a wheel of (31.19 m/s 2)) The shoulder moved with a wheel of (10.45 m/s 2), and this indicates that in the preliminary stage of the skill is approaching and running in order to obtain the greatest motor acceleration possible that helps to perform the skill strongly in the main stage and that the top of the upper end helps to increase the wheel to achieve a perfect technical performance in Main stage

Main stage:

Table No. (8) and Figure No. (7) shows that the front of the right hand fingers moved with a wheel of (47.00 m/s 2), the wrist moved with a wheel of (41.56 m/s 2), the attachment moved with a wheel of (43.04 m/s 2), the shoulder moved With a wheel of (12.08 m/s 2), the front of the left hand moved with a wheel of (46.95 m/s 2), the wrist moved with a wheel of (47.58 m/s 2), the elbow moved with a wheel of (30.45 m/s 2), the shoulder moved with a wheel of its amount (15.46 m/s 2) This indicates that in the main stage of the skill, the jump is made up with a high dynamic acceleration.

Follow -up stage:

Table No. (8) and Figure No. (7) shows that the front of the right hand fingers moved with a wheel of (49.53 m/s 2), the wrist moved with a wheel of (36.47 m/s 2), the elbow moved with a wheel of (42.52 m/s 2), the shoulder moves With a wheel of (16.87 m/s 2), the introduction of the left hand with a wheel of (45.19 m/s 2), the wrist moved with a wheel of (60.92 m/s 2), the attachment moved with a wheel of (33.56 m/s 2), the shoulder moves quickly (16.60 mm /W) This indicates that in the final stage of the skill, we note that the kinetic acceleration of the front of the fingers is the greatest possible and the value of the wheel gradually decreases from the wrist to the elbow of the shoulder, and this indicates the great motor acceleration of the fingertips and decreases to the shoulder point.

Conclusions and recommendations

Conclusions:

By displaying the results of biometric analysis, and in light of the research objectives and research sample borders, researchers can conclude the following:

1- Through the objectives of the research, the biometric variables of the Libyan skill were identified.
2- Comments of the feet on which the player is based, one of the influencing points in the skill under research.
3- The right upper part is the main driver of the skill, and it determines the speed or strength in which the skill is done under research, as well as the one who helps the player in balance to perform the skill with force and speed.
4 - Through the objectives of the research, the biometric variables of the Libyan skill were identified. 2- Comments of the feet on which the player is based, one of the influencing points in the skill under research. 3- The right upper part is the main driver of the skill, and it determines the speed or strength in which the skill is done under research, as well as the one who helps the player in balance to perform the skill with force and spe

Recommendations::

Based on the data contained in the research and conclusions derived from the results and within the limits of the research community, researchers recommend the following:

1- Using motor analysis as an accurate measure of measurement, which allows the process of tracking the enforceable programs.
2- Use the quantitative analysis method for skills under research when performing different motor skills to obtain optimal skill models.
3- Attention to the technical points affecting performance when training skill or correcting common mistakes such as (the speed of hand wrist, the introduction to the fingers on which the body is based when performing).
4- Attention to skill under research, because it is considered one of the basic and primary skills in the ballet

List of references

First: Arab references:

1 -	Ibrahim Abdel -Wakil Al -Far: Computer educational and challenges Ahmed Fouad Al -Shazly: The foundations of biological analysis in the sports field, with chains for publishing, Kuwait, 2003.
2 -	El Sayed Abdul Maqsoud: Sports Training Theories Directing and Amending the Equity level, 2nd edition, Al -Hasna Office, Cairo, 2002 AD
3 -	Ahmed Fouad Al -Shazly: The foundations of biological analysis in the sports field, with chains for publishing, Kuwait, 2003.
4 -	El Ghareeb Zahir Ismail, Iqbal Al -Bahbhani: Education Technology is a future look, Dar Al -Kitab, Kuwait, 1999
5 -	Gerd Houghmouth: Biological mechanics and scientific research methods for sports movements, translated by Kamal Abdel Hamid and Suleiman Ali Hassan, Dar Al -Maarif, Cairo, 1978 AD
6 -	Sawsan Abdel Moneim and others: gymnastics and his teaching methods, 3rd floor, Egyptian General Book Authority, Alexandria, 2000 AD.
7 -	Talha Hossam El -Din, Ali Abdul Rahman: Biomatic mechanics theoretical and applied foundations, 2nd edition, Dar Al -Fikr Al -Arabi, Cairo, 2005 AD
8 -	Talha Hussein Hossam El -Din: Applied Action Science, 2nd edition, Al -Kitab Publishing Center, Cairo, 2010 AD
9 -	Issam El -Din Abdel -Khaleq: Sports Training "Theories and Applications", Eighth Edition, Dar Al -Maaref, Alexandria, 2011 AD
10 -	Mohamed Ibrahim Shehata: Foundations of Gymnastics Education, Dar Al -Fikr Al -Arabi, Cairo, 2003.
11 -	Muhammad Hassan Allawi: Biomatic mechanics, Dar Al -Fikr Al -Arabi, 2nd floor, Cairo, 2012 AD

Second: Foreign references:

12 -	Copland , P. : Interactive video in micheel eraut the international Encyclopedia of Education technology , New York , program on press , Inc , 2001
13 -	Duffy , T . M . & Jonassen, D. : constructivism , new a implications for instructional technology : educational technology VOL . 31, NO.5,1991

Biokinetical properties of lip skill performance in ballet

Sports progress is not a coincidence, but the result of the concerted efforts of many, foremost among which are the efforts of sports training scientists who have devoted their time and efforts to selecting and developing modern training methods and means in an attempt to exploit human energy and biomechanical scientists cooperated with them so that it becomes easier for both the coach and the player to know the methods of sports achievement.

The best and work to develop it, as the current research aims to identify the biomechanical vectors to develop some of the kinetic aspects of the performance of the lip skill in ballet to make a difference in the records to help them reach better results. The researchers used the descriptive approach, using (videographs and kinematic analysis), which included a community of international players classified in the Arab Republic of Egypt so that the conditions for skill performance are met at a high technical and skill level, for the sports season 2021 / 2022 AD with one player classified for that season

Where the results of the study came to identifying the kinematic variables of the skill under study, and the combs of the feet on which the player rests from the points affecting the skill under study.

الخصائص البيوكينماتيكية لأداء مهارة الليب فى الباليه

إن التقدم الرياضى ليس وليد الصدفة ولكن نتيجة تضافر العديد من الجهود وفى مقدمتها جهود علماء التدريب الرياضى الذين كرسوا وقتهم وجهودهم فى اختيار وتطوير طرق ووسائل التدريب الحديثة فى محاولة لاستغلال الطاقة البشرية وتعاون معهم علماء الميكانيكا الحيوية حتى يسهل على كل من المدرب واللاعب معرفة طرق الانجاز الرياضى الأفضل والعمل على تطويره ، حيث يهدف البحث الحالي إلي التعرف على الموجهات البيوميكانيكية لتطوير بعض المظاهر الحركية لأداء مهارة الليب فى الباليه لإحداث فارقة في الأرقام القياسية لمساعدتهم للوصول لنتائج أفضل .

استخدم الباحثون المنهج الوصفي ، باستخدام (مقاطع الفيديوجراف والتحليل الحركي الكينماتيكى) ، اشتمل مجتمع على لاعبة درجة أولى من لاعبى الباليه بمعهد الباليه ، وقد قامت اللاعبة بأداء مهارة الليب عدد (3) محاولات لمعرفة الخصائص البيوميكانيكية للمهارة وقد تم اختيار أفضل المحاولات بحيث تتوافر فيه شروط أداء المهارة بمستوى فنى ومهارى عالى ، للموسم الرياضى 2021م / 2022م .

حيث توصلت نتائج الدراسة إلى التعرف علي المتغيرات الكينماتيكية لمهارة الليب قيد البحث ، أمشاط القدمين التى يرتكز عليها اللاعب من النقاط المؤثرة فى المهارة قيد البحث .