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Learn some basic skills and biomechanical variables for Mini tennis players

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Introduction: -

The advanced sports level reached by many countries is the result of the progress witnessed by the world in various scientific fields, which was clear in achieving the achievements of sports, which most countries used the best methods and training tools in the field of sports in order to reach the player to a high level in the performance of the basic skills of any game, and since the goal of any coach in guiding efforts to achieve achievement was to use the specialized in training and focus on the requirements of technical performance in the type of sports effectiveness, as it is privacy in Training is one of the basic laws governing the training process in achieving its goal, which is the high level of achievement and the use of modern educational means in the educational process is an effective process in reaching better learning with an economy in effort, time and money, especially when using the appropriate educational means and skill type in terms of its type and characteristics, and the level of performance in tennis in recent years has increased clearly and the efforts changed to rise to the skill level and speed of performance have increased significantly in the world Tennis is one of the sports that depends heavily on the speed and type factor in performance methods and the skills of ground tennis are difficult and complex skills as well as for manykinds. The multiplicity of their uses at one point and most of these skills are classified among the open skills whose environment is unexpected, which the coach or teacher must increase the effectiveness of learning by enabling the learner to recognize most of the exciting things that can be faced and one of the most important things in man is learning at an early age because it is the basis of sports events that relate to mastering the basic skills of each sports event for what was the interest of Most specialists use modern teaching methods in terms of the use of ball rackets suitable for age groups as there are no rules specifying the size of the weight of the tennis racket they are different and varied and yet all rackets, close to one length (68cm) and weigh (397g) in the case of men (369g) in the case of women. As for the players built in the appropriate speculative weight is limited to (200-245 g) so the player has to be careful when he chooses to hit if the light bat needs more strength to repel the ball the ground tennis game contains diverse and fast skills including basic and derived and the development of the performance of those skills is largely related to the nature of the possibilities and mental capabilities derived from the general physical qualities and special tennis game and to offer good results in the level of skilled performance and according to attention to the means and tools and special training and training In the game and according to the style of the coach or teacher in accordance with the physical capabilities of each player and the age groups in question we have to find an educational tool that contributes effectively to the learning of some tennis skills and the specificity of the game using tools determined by specific weights and sizes such as balls and strike in addition to the requirements of the other player the researcher decided to delve into one of the important problems experienced by the ground tennis player within the specific age group research to find out what many specialists in the game about the appropriate weight for the measurements of the physical player at the time of implicit mass The arm used to carry the bat (thefierce arm) in accordance with the weight of the bat and not the use of educational means and tools arbitrarily may be to know the direct impact of the mass of the fierce arm and according to the weight of the bat in order to improve the performance of the players and learn it for some basic tennis skills. Hence the importance of research in the use of appropriate educational methods with small ages in order to increase the effectiveness of learning and increase the accuracy of the performance of skills and development and the development of his level of learning and mastery of skills.

The research approach and its field procedures:

Research approach:

The researcherused the experimental method by designing the single group to suit the nature of the problem of research, and by applying this approach to the researcher to follow a set of rules and procedures to reach the targeted results as the experimental method is one of the approaches characterized by a role characterized not only by describing the current situation of the event or the phenomenon but also to a clear and intended intervention by the researcher aimed at reshaping the

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reality of the phenomenon event through the use of procedures or events specific changes and then carefully presenting the results and analyzing them and interpreting them

The research community and its sample:
Studying a phenomenon or problem requires the availability of data or information necessary this phenomenon or problem to help the researcher to make an appropriate decision or judgment about it, the clear identification of the study society, which means all the elements or vocabulary that the researcher will study is very necessary in the use of the best scientific method to study this society and the process of choosing his game is one of the main steps to achieve this, i.e. the researcher chooses a sample in which he sees that it represents the original society that is studying sincerely
Therefore,the researcher identified his research complex with the ground tennis players of the Central Tennis Federation in Diyala, including Diyala Club - Baquba Club - Martyr Arkan Club, but the members of the sample were selected in the deliberate manner of the age group (8-12) and numbering (6)' players, namely the group of researchers who conduct daily training on them as a coach in The central union /Diyala branch of this category andcounting the consideration of players committed to their training and the exclusion ofthe injured from them, so the sample formed a percentage of 46% of the communityBurged the number (13) played as the vocabulary was applied that the curriculum on them and to avoid the researcher factors that affect the experimental results of the equal sample using man and the statistical ness of the small samples.

The means, tools and devices used in the search:
Means of gathering information:
- Arab and foreign sources and references.
- Personal midwives.
- International Information Network (Internet).
- Information collection form.

tools and devices used in the search:
- Japanese-origin sony video camera number (1).
- Sampong type camera number(1).
- Measuring tape number (1).
- Tennis balls as diverse as head type players.
- Japanese-made medical balance (ketecto).

steps to conduct the search:
3.4.1 Identify the tests used in the research:
After looking at the sources and references that serve the objectives of the research and after presenting a series of skill tests to measure some of the basic skills in the game of tennis to a group of experts and soldd taking into account the percentage of agreement 60% was determined the appropriate choice of research skills.

Skilled Tests
Front Strike Test
The purpose of the test / measure the accuracy of the long straight forehand.
Tools used / 10 k tennis, square length (275) centimeters drawn on the base line and side line by a specialist.
Description of the test / The laboratory stands behind the starting line and at the start signal the coach vaccinates (10) consecutive balls and then the laboratory hits the balls towards the box drawn on the base line as in figure (1).
Registration / The laboratory records the number of balls that hit the painted box.
The conditions of the test / all strikes in the face of the front bat.

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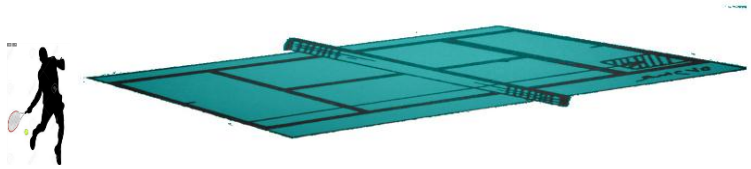


Shape number (1)

backstroke **accuracy test:-**

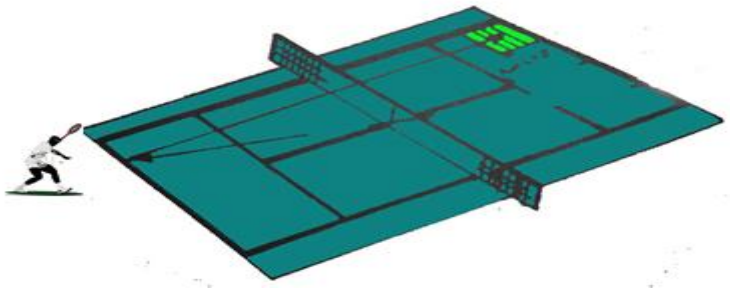
The purpose of the test/measurement of the accuracy of the rear strike.

Tools used / 20tennis balls, square length (275) drawn on the base line and side line.

Description of the test / The laboratory stands behind the starting line and when the start signal by the coach strikes the balls grafted by the coach towards the box drawn on the base line as in form(2).

Record / Record to the laboratory the number of balls that hit the box.

Test conditions / All strikes perform in the face of the back bat.



Shape number (2)

Exploratory experience:

In order to find the best way to implement the field research procedures, the researcher conducted a reconnaissance experiment, which is (practicaltraining for the researcher to identify the disadvantages and answers you meet during the test to avoid it) [(1)] so the researcher conducted his experiment on a group ofthe two players baquba club of the Central Iraqi TennisFederation / Diyala branch (4) Players on Thursday, 24/10/201 9 to identify the most important obstacles that may be faced during the conduct of research and work to correct mistakes and benefit from it during the procedure of the training specialty of his research sample as well as the work of the assistant team and the way it is applied to the test to ensure the avoidance of mistakes that the researcher can encounter in the experience of the president.

Field search procedures:

Pre- tests:

After conducting the reconnaissance experiment, the researcher conducted the basic procedures of the president's experiment by dividing the sample into two groups of officers and the second experimental, where the researcher conducted pre- tests of the basic skills, namely the front and rear strike, on Sunday, 27/10/201 9.

Curriculum:

After completing the work of pre- tests, the researcher directly conducted the educational curriculum and applied the learning units and was as follows where the control group works with its trainer and its own speculations during the regular daily educationalunits, but the experimental group, the assistant team [(*),] cooperated with the researcher by tighteningtheweights ofthe speculators, relying on the classifications scheduled by the Central Iraqi Tennis Federation and according to the age groups To increase the effectiveness of the training effect, the researcher found the relationship between the weight of the bat and the mass of the striking arm in order to obtain the appropriate accuracy using the relative arm mass of the weight of the size and according to the law as an arm = body blocks * 5.6

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/100, and after nominating the weight of the bat for each player according to the law of levers and as it comes.
Depending on the system of levers = for the arm mass and the bat mass where:
The force, her arm, the resistance, her arm.

- Strength = k*c.

K = Relative Atomic Mass.
C = 9.8.
The arm of the force = the length of the arm is measured in centimeters.
As for the bat:
Resistance = the weight of the bat that was predetermined, which is resistance and arm length of the bat and then the researcher applied his educational units on Friday 29 /10 / 2019, and on the courts of the Youth Forum al-Katun tennis / The curriculum included what comes where the procedures for the implementation of the curriculum (6) weeks and spots (3) training units per week and for days (Friday, Sunday,Tuesday).
- For the sake of the safety of work, the general features of the educational curriculum were presented to a group of experts and specialists (*) in motor learning and sports training to express their opinions on the appropriate extent of such a sample and they have shown a set of guidance and modifications that the researcher took into account.
- Suitable for the content of the curriculum for the members of the same research.
- The educational units included educational training for basic skills, which the researcher singled out for its procedures, which are the front and rear strike if the educational units of each player are divided according to the weight of the right bat for the mass of his arm and for two weeks and so on.
- Training fortwo weeks with rackets of size (21) andweight (225) kg andby threeunits per week for players whose relative arm mass has been predetermined through their weights which do not exceed (24 kg - 44 kg) as for the units of the third and fourth week has been Training by size (23) and weight (245) and so on for other weeks is sequenced by sizes and weights (*) respectively (25-27) and for the end of the curriculum in addition, the researcher only intervened in the main part of the main unit at a time of (10 D) of unit time.

post- tests:

The post- tests of the research sample were conducted on Saturday, 23/12/2019, for skilled performance tests and according to the research variables after the completion of the curriculum prepared by the researcher and all the members of the experimental and controlling sample, and the researcher was keen to provide the same conditions for the post- tests and the assistant team itself and its pre-prepared procedures for the tests.
Statistical **means:**

The researcher used the statistical bag(spss) to process the results

Presentation, analysis and discussion of the results of skilled tests:

Presentation and analysis of the results of pre- and post- tests of the experimental group:

Presentation and analysis of the results and statistical coxen of two independent and interrelated samples:

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Table 1

It shows the pre- and post- test scores, the value of the difference between them, the ranks of the teams, the positive and negative grades, the value of the calculated and scheduled coxen, and the level of indication of the skilled tests of the experimental group.

Skills	>And	<and	nun	Calculated value (f)	Scheduling value (f)	Indication
Front strike	3	zero	2	zero	zero	Spiritual
Backstroke	6	zero	3	zero	zero	Spiritual

Table Number (2)

It shows the degrees of pre- and post- test scores, the value of the difference between them, the rank of the teams, the positive and negative grades, the value of the calculated and scheduled coxen, and its level of significance for the skills tests of the control group.

Skills	>And	<and	nun	Calculated value (f)	Scheduling value (f)	Indication
Front strike	zero	3	2	zero	zero	Spiritual
Backstroke	1.5	1.5	2	1.5	zero	unethical

Presentation and analysis of mann and tini statistical test results for independent and unrelated samples:

Mann and Tini's statistical test was used for two independent and unrelated samples, and the results obtained indicated that there was a moral difference for the experimental group and the control group in the post- test, and afters statistically processing the results, it was found that the value of Mann and Tini calculated was smaller than that of Mann and Tane scheduling below the indication level (0.05), indicating a moral difference for the experimental and controlled groups and the experimental groupthief.

Table Number (3)

It shows the degrees of pre- and post- tests and their grades, the value of man, the calculated, scheduled, the level of indication of the skill tests of the experimental and controlling groups and the skill of the front strike.

Experimental Group		Control Group		The value of Man and Ney calculated	Man and Tni's scheduling value	Indication
Grade	Level	Grade	Level			

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zero	**15**	**9**	**6**	**zero**	**zero**	**Spiritual**

Table Number (4)

It shows the degrees of pre- and post- tests and their grades, the value of man, the calculated, scheduled, the level of indication of the skill tests of the experimental and controlled groups and the skill of the rear strike.

Experimental Group		**Control Group**		**The value of Man and Ney calculated**	**Man and Tni's scheduling value**	**Indication**
Grade	**Level**	**Grade**	**Level**			
zero	**15**	**9**	**6**	**zero**	**zero**	**Spiritual**

Discussion of results:

Through the results of the previous differences and after presenting and analyzing them it became clear that the experimental group had moral results for the level of skilled performance and both skilled researchers for the front ground strike and the rear ground strike and the researcher explains the reason for the moral differences because the experimental group was characterized by submission It has an educational approach, although the educational method differs from its predecessor of research, which is the use of different rackets and the adoption of the researcher to teach the method of skilled performance in a modern scientific way adopts the biomechanical foundations as one of the factors with scientific contexts studied in advance and out of the usual range and using educational means hammered and repeated Its results are hammered and therefore the researcher initiated a step that may be new in the system of educational units and a basis adopted especially for the small age groups and their first educational stages as a cornerstone to build advanced players by focusing on the aspect of training and education and adopting the positive and effective impact in the specifications of motor performance (technical) which is one of the most important requirements are the instruments of play used and the bat is one of them as the bat is an important necessity that helps to play well in ground tennis.

It is common that whenever the bat is heavy whenever the strike gaines momentum forward and generally the strength of lifting the bat is the result of mass and speed, if the bat is heavy to the extent that it is difficult to control it, therefore the player will lose the weight of the bat in front of him and result in a lack of momentum and accordingly the weight of the ideal bat for the player should be placed in considerations which the researcher focused on adopting this basis within his educational units by adopting the biomechanical side and applying one of his important theories using the law of levers to suit or The striker's weight with the mass of the playing arm considering that the bat and the player's arm represents a lever to achieve gaining strength and overcoming certain resistance if we control the arm of the force, which was the basic principle adopted by the researcher before starting to apply the curriculum to get the desired results by raising the level of skilled performance of the players of the mini tennis, but for the results of the control group, which had moral results for the front strike, the researcher attributes that the educational process by other coaches was systems with a positive effect on considering it easier than The skill of the backstroke, whose results were not moral by adopting the basis for other sub-skills derived from them and it is easy to learn and educated absorbed the explanation of the technical performance of this skill and was applied with a few mistakes which achieved positive results.

As for the skill of the back strike, it is a difficult skill in the style of technique and the steps opposite the body of the player when receiving the ball and the movement of the ball next to the player opposite his arm are all factors hindering the development of performance and the precise and correct technique of this skill and this is illustrated by the non-moral results mentioned above **the conclusion**

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In light of the researcher's findings by conducting practical applications to see the effect of the curriculum using different weight rackets suitable for the mass of the striking arm in the learning and development of the skilled performance of the front ground strike and the back ground strike of the mini tennis players.

Miley was concluded:

1- There is a positive effect in the curriculum using different racket weights in the education and development of the front and backstroke skills, especially for the experimental group.
2- There is a preference in the results of the front strike of the control group using regular players' rackets while the results of the backstroke did not show any noticeable development in the level of performance between the pre- and post- tests of the same group.
3- The experimental and controlled groups were characterized by the ratios of the results of the post- test and in favor of the experimental group in the skilled tests used in the research.
4- The weights of the bats identified by the researcher (21, 23, 25, 27) and according to the arm mass of the players had a positive effect in learning some of the basic skills in tennis that the researcher focused on in his research.
    1- Use of mechanical principles for the purpose of diversifying the curriculum to identify indicators of areas of strength in performance that contribute to the process of correct learning.
    2- The researcher recommends the use of weighted rackets and that the researcher specified in advance according to the sample used to be suitable for the mass of the player's arm and according to the age group on which it was studied.
    3- Conduct similar research and different types of age groups graded according to the divisions of the International Tennis Federation in order to link the biomechanical side to determine an educational method that serves skill and its proper motor path to ensure the process of learning and performing skill free as much as possible from mistakes.

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(*) See Annex 8.