Biocinametic indicators as a basis for designing an educational program for the skill of closed distance counter-attack for female students fencing specialization at the Faculty of Physical Education minia University

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The increasing interest in the development of sport by its interested, push it to be a scientific field, through which the researches get about by the study and investigation to find out the details of the motor performances that form the different skills, capabilities and energies of the players developing them to the optimum level. This can be done through the processes of learning skills and proficiency perfectly and, Up to be performed as must under any circumstances of competition (7-150).

The stability and constancy of the level of skillful performance are determined according to the degree of the player's perception, understanding and comprehension of the characteristics of this performance. And thus the indicators of the stability and accuracy of the basic performance of the actual skill represent; on which the movement build and then move to the degree of mechanism and perfection (5:90, 91).

This requires the master's proficiency of the skill in its various details, in addition to the coach's understanding of the minutes of skillful performance. The most important means for this are the biomechanics in general and the kinetic analysis in particular in order to identify the precise characteristics of this performance. Several studies have proven the contribution of biomechanics in developing and improving the skillful performance and reach it to the closest of perfect performance (8:2) (3:11).

The developed countries have recently tended to study the mechanical aspects of motor skills and analyze the skillful performance within the various sports activities for their importance in the field of sports training in order to

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upgrade and develop the skillful motor performance by knowing how the player moves in the field (8:68).

Research importance:

The skill of closed distance counter-attack is one of the outstanding skills in the fencing, which is one of the most skills in the performance of different champions and a high positive rate to achieve the touches compared to different skills, so the players and students must learn well, especially the beginners, and it is one of the most important components of the offensive preparation that leads the player to win the points

The researcher believes that it is important to identify the nature of the Biocinametic characteristics which distinguish art of performing the closed-distance counter-attack and also to put an educational program based on these characteristics as this skill has a direct impact on achieving the mechanic goal. So the researcher tries through the study of " Biocinametic indicators as a basis for designing an educational program for the skill of closed distance counter-attack for female students fencing

specialization at the Faculty of Physical Education- Minia University " and revealing the nature of changes resulting from the application of the educational program the building based on the kinetic analysis of the techniques of performing the skill" under consideration" and applied on the female students specialized on fencing at Faculty of Physical Education, Minia University, and the extent of improving the technical performance in accordance with the stages that passes during performing the skill "under consideration".

The applied importance of research lies in the amount of available information about the nature of the variables of skill performance" under consideration" and the effects of applying the educational program based on the optimal performances according to the special performance requirements. This can be reflected in determining the most important characteristics related to the optimal performance.

Research Goal

The aim of this study is to study the biochemical parameters as a basis for

designing an educational program for the skill of closed-range attack through:

1. Identify the biochemical characteristics of the closed-distance counter attack skill in the sport of fencing.

2. Design a proposed educational program in the light of these indicators

3. Identify the impact of the proposed educational program.

To investigate the research objective, the researcher formulated the following questions

Research Questions:

1. What are the Biocinametic characteristics of the performance of the closed-distance counter-attack skill in the sport of fencing?

2. How to design a proposed educational program, and does it has a positive effect on the biocinametic characteristics or indicators to perform the closed-distance counter attack skill?

3. Is there a positive effect of the proposed educational program on the biocinametic parameters to perform the closed-distance counter-attack skill in the sport of fencing?

Research terms:

Biocinametic parameters:

Which are the descriptive and numerical data of time, distance, speed, wheel and angle changes in order to use in data characterization in

the light of technical analysis (4:8).

Closed-distance counter attack:

It is a kind of offensive movements performed by the player (swordsman) on his competitor during the same time in which this competitor performs his attack through a performance form with different stages (prepare for the skill by retreating back and then touch with starting the escape with the trunk and cover). (1:133)

Research Plan & Procedures

Research Methodology

The researcher used the experimental method as it is suitable for the nature of the research. The researcher used one of the experimental designs, namely, the experimental design of two groups; one is experimental and the other is control following the post-measurement of both groups due to lack of prior knowledge of the skill "under consideration".

Community and Sample research:

The researcher used the international player "Mohamed Essam El Din" who won the fifth place in the world where the technical performance of the skill" under consideration"

was filmed to obtain the biocinametic parameters on which the educational program was based.

The research society included students who specialized fencing in the third stage of the Faculty of Physical Education for the academic year 2014-2015 whose number was 8 female students. The researcher divided the students into two groups with (4) students for the control group and (4) students for the experimental one. The researcher followed the traditional system with the control group in learning the skill "under consideration" and applying the proposed educational program with the experimental group, in order to upgrade their skillful level.

Table (1)
Technical and Anthropometric Characterization
of the player "Mohamed Essam El Din"

Name	Mohamed Essam El Din
age	25
Training	Egypt national team
Training phase	International player
International Classification	8
Length	188 cm

Table (2)
mean, mediam, STD, skewness of the research sample
In the anthropometric variables (n = 4)

Variables	mean	mediam	STD	skewness	difference coefficient
Total length	165.63	165.00	2.92	0.64	1.77
Length of shoulder joint to elbow	33.00	33.00	1.20	0.00	3.62
Length of attachment to wrist	30.13	28.00	6.17	1.03	20.50
Shoulder length to hand comb	74.13	74.50	2.36	-0.48	3.18

Follow able (2)
mean, mediam, STD, skewness of the research sample
In the anthropometric variables (n = 4)

Variables	mean	mediam	STD	skewness	difference coefficient
From pelvic bone to knee	54.75	54.50	2.12	0.35	3.87
From the knee to the foot	40.50	40.00	2.07	0.72	5.11
From the pelvis to the heel	90.50	97.00	14.52	-1.34	16.05
From the heel to the instep	26.63	26.50	0.74	0.50	2.79
Length of trunk	42.00	40.50	3.25	1.38	7.74
the weight	65.25	64.50	8.35	0.27	12.79

The researcher checked the extent of the distribution of the experimental and control groups in the light of the following variables: age, height and weight by finding the torsion factor and ensuring the homogeneity of the sample within each group by the difference coefficient.

Research tools

The researcher used the following methods to collect research data and divided them as follows

A. photographic equipment and measure the research sample

1. (2) video cameras Sony frequency 25 cadres / w. One of which was fixed vertically at the front and the other at the side level of the performance path at 12 m, from the sample and at an altitude of 1.10 m as in Fig (1).

2. Sony brand video clips 8mm.

3. Calibration system for the analysis program

4. Instructor signs.

5. (2) Short tripods.

6. Restimeter for measuring length and medical balance for weight measurement.
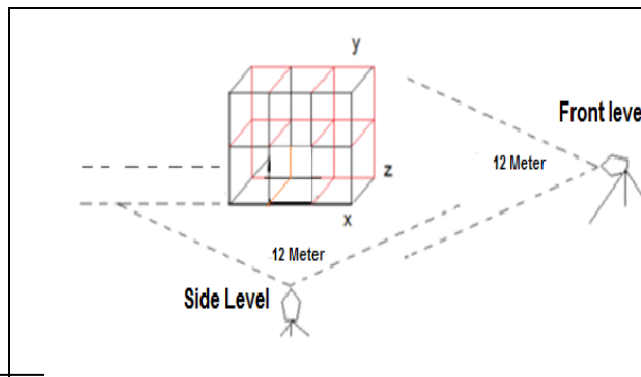
Figure (1) shows the positioning of the cameras and the graphic scale

Biocinametical analysis tools

1. computer (IBM) with 3.1 GB memory, 500 GB Hard Disk, PIIIII 3000

2. Program of kinetic analysis is a (K wone3d)

Post measurement:

After completing the program, the researcher carried out the post measurements of the experimental and control groups on Monday, April 6, 2015 and under the same conditions included the imaging procedures for the performances of the sample members in the experimental and control groups, and then the analysis of the attempts of the maximum eight attempts by trying each student from the two groups.

The used statistical method:

In light of the objectives and research hypotheses, the researcher used the following statistical methods:

SMA- Mediator- standard deviation- Torsion coefficient- Coefficient difference.

The researcher was satisfied with the level of significance at (0.05) and the researcher used the program Spss to calculate some statistical transactions.

Time Frame of the program:

Through the opinion of the experts and the researcher's knowledge of some references, it was found that the most appropriate characterization can be followed when the program is developed as follows

Period of implementation:

one and a half months (6 weeks), number of units one unit per week, total number of units (6) six units, time allocated to unit 90 m distributed as follows (20 m) for management and warming, (60 m) for the main part (10 m) for calming. All conditions for the two groups of research have been established and the researcher has learned the two groups in the normal way in the parts of warm and calm, but in the main part (the educational exercises) are given for the experimental group.

Interpretation& discussion the results:

Firstly: the results of the first level player:

1- Time distribution and determining the stages of skill performance "under consideration":

Table (3)
Time division of performance stages

Performance stages	The international player	
	time	Percentage
Preparing stage	0.28	%٢٨
The main stage to achieve the touch	0.24	%٢٤
The second main stage by sword and escape the trunk	0.20	%٢٠
The final stage by rotating the trunk	0.28	%٢٨
The total time of performance	1.00	١٠٠

The kinetic sequence of the overall performance of the research skill
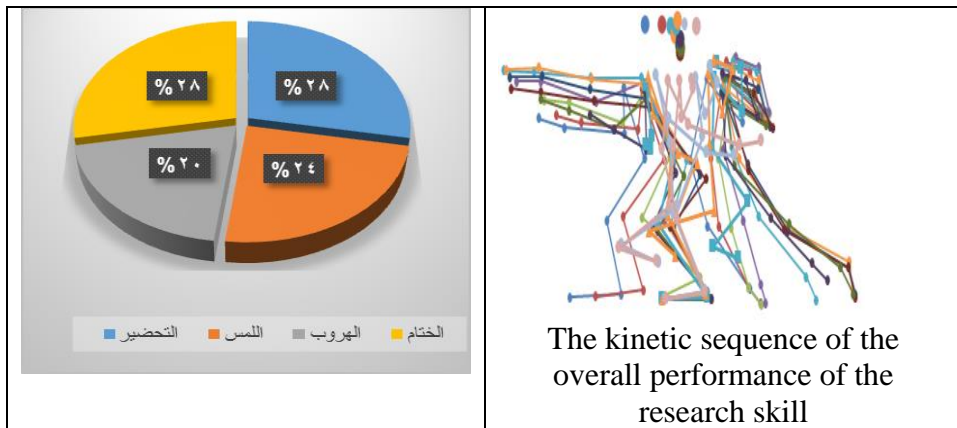
Table (3) and figure (2) show the following

Determining the stages of skill performance: which divided into four stages:- (preparing stage- first main stage- second main stage- final stage)

Determining the total time for performing the skill "under consideration" and its stages time: where the time to perform closed-distance counter attack take one second divided as the following:

The first stage: in 0,28 from the second when preparing to perform the skill with 28% from the total time of skill.

The second stage: in o,24 from the second and with 24% from the total time of skill.

The third stage: in o,20 from the second and with 20% from the total time of skill.

The fourth stage: in o,28 from the second and with 28% from the total time of skill.

2- **Determiniation of the educational steps in the light of dividing performance stages and the biocinametic** variables of each stages and its exercises:

The preparatory stage: in which it is prepared for the stage by back retreat starting from move from left to right.

Figure (3) the kinetic sequence of the preliminary phase of the optimal research sample

Table (4)

Range – speed Mean – angular change for the body points of the preliminary stage of the counter attack skill by closing the distance

n	Body points	Range	speed Mean	angular change
1	Right instep	٠.١٦	١.٩٤	
2	Right foot ankle	٠.١٤	١.٦٦	٩٦
3	Knee	٠.٠٩	١.٣	١٥٧.٧٥
4	Pelvic	٠.٢٠	١.٦٢	١٦١
5	Shoulder	٠.١٠	١.٦٥	٢١.٣٥
6	Elbow	٠.١٧	١.٦٣	١١٢
7	Wrist	٠.٤٤	٠.٧٩	١٧٤.٣٥
8	Head of sword	٠.٤٠	٠.٨٣	
9	Left instep	٠.١٠	١.٠٧	
10	Left foot ankle	٠.١٣	١	١٧١.٨٨

Table (4) and figure (3) shoe the technical performance of the preparatory stage:

In this stage the player prepares in the sixth position and ends this preparation by placing the sword in the eighth position in order to distract the opponent and camouflage retreat back to the beginning of the movement through this move so that the competitor does not expect the main movement which is the score the touch.

The educational steps for the preparatory stage (retraction):

Which is a backward retraction with a horizontal distance of 16 cm in 0.6 seconds (where training must be performed at the distance and speed) at a speed of 0.27 m / sec.

Exercises of learning back retraction:

1-from the standby mode, make retraction takes into account the technical aspects of retraction (7 × 8 times × 20 sec break)

2-

perform different retract : short distance (7m× 4 times × 20 sec break) – medium distance(7m× 4 times × 20 sec break) –long distance (7m× 4 times × 20 sec break) taking into account the technical sides.

3- perform different retract : quick rhythm (7m× 4 times × 20 sec break) – medium rhythm(7m× 4 times × 20 sec break) –slow rhythm (7m× 4 times × 20 sec break) taking into account the technical sides.

4-from the standby mode, make retraction taking into account the technical aspects of retraction (7m × 8 times × 20 sec break) with quick rhythm.

The first main stage: which is the stage of touching by performing three steps in that one (flat the armed arm - the tendency of the trunk on the forward- move the back foot back on one step) with the start of escape with the trunk.

Figure (4) The kinetic sequence of the first stage of the optimal research sample

Table (5)
Range – speed Mean – angular change for the body points of the main stage to achieve the touch of the counter attack skill by closing the distance

n	Body points	Range	speed Mean	angular change
1	Right instep	٠.٣٩	١.٦٥	
2	Right foot ankle	٠.٤٣	٢.٥٢	١٠٣.٩٢
3	Knee	٠.٤٥	٢.٦	١٤٤.٠٥
4	Pelvic	٠.٦٠	٣.٤	١٥٠.٣
5	Shoulder	٠.٥١	٢.٨٤	٧٣.٦٥
6	Elbow	٠.٢٤	٢.١٥	١٤٤.٧٥
7	Wrist	٠.٢١	١.٢٤	١٧٢.٣٥
8	Head of sword	٠.٢٧	1.54	
9	Left instep	٠.١٢	1.55	
10	Left foot ankle	٠.٠٩	1.46	١٦٢.٢٩

Table (5) and figure (4) show the technical performance of the main stage to achieve the touch:

In this stage the player will reduce the distance (fencing distance) by performing half movement of retreating only the back foot. During this, the player record the touch where the distance from the competitor closer to the touch and then return the foot back to the front (for the previous position), Where the retraction has not been completed so that the player can close the distance (the distance of the fencing) and surprises the competitor with the touch.

The educational steps of the first main stage:

This is done through moving three parts of the body at one time (flat the arm with bending the trunk and transfer of the back foot to the back) and the description of each part is as follows

1- flat the arm (through opening each elbow until become straight line and with speed angle reached an average of 216,479 degrees per second and shoulder joint, which reached at the angle of 120,153 and average angle speed 451,262 degrees per second).

2-bend the trunk (by opening the pelvic angle between the thigh and the side of the body with an angle started from 90.2 degrees and finished at 79 degrees).(

3- Move back foot to the back (horizontal range is approximately 10 cm with speed reached at 3.5 m per second).

Exercises of learning the touch:

Through three skillful movements in the same time(flat the arm- bending the trunk forward- move the back foot to the back). This motion skill is performed without break (8 times x 6 groups x 20 sec break) taking into account the following specifications: (flexibility- Compatibility- flatting the arm in a straight line- bending the trunk according to the mechanical indicators referred to.

The second main stage: which is escaping with the trunk and covering with the sword.
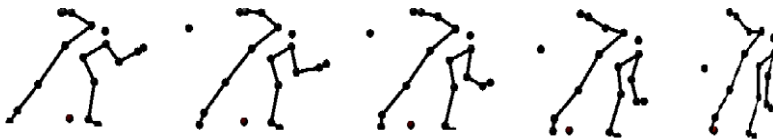
Figure (5) The kinetic sequence of the second main stage of the optimal research sample

Table (6)

Range – speed Mean – angular change for the body points of The second main stage by sword and escape the trunk of the counter attack skill by closing the distance

n	Body points	Range	speed Mean	angular change
1	Right instep	٠.٢٣	٠.٩٥	
2	Right foot ankle	٠.١٨	٢.٧٤	١٠٧.٩٥
3	Knee	٠.٣٩	١.٥٩	١٥٨.٤٥
4	Pelvic	٠.٥١	٢.٥	١٥٤.٢
5	Shoulder	٠.٤٧	٢.٣٣	٩٠.٢٥
6	Elbow	٠.٥٧	٢.٧١	١٦٦.٥
7	Wrist	٠.٣١	١.١٩	١٧٧.٥
8	Head of sword	٠.٨٥	٢.٧٣	
9	Left instep	٠.٧	٣.٧٢	
10	Left foot ankle	٠.٦٤	٤.٥٨	١٦٠.٣٠

Table (6) and figure (5) show the technical performance of the cover stage with the sword and escape with the trunk:

It is noticed at this stage that the player in the position

of a counterattack without securing the goal area after scoring the touch, so the player should close the goal area and close the line of cohesion as the failure of implementing this stage may lead to a correct touch for the competitor and then escape with the trunk.

The educational steps of the second main stage:

Close the distance and escape with the trunk (trough not retreating back after being moved back where it was not followed by the front foot but returned the back foot forward again at a distance of 64 cm and a speed of 4.5 m per second).

The exercises of learning cover and escape with trunk:

Three skillful performances are

completing the backward retraction of the front foot that started in the previous step).

The second part (escape with the trunk by making the two shoulders on straight line against the competitor).

The third part (cover with the sword by oppositeness by sword shield and the its hard part with the sword of competitor (8 times x 6 groups x 20sec break) taking into account the following specifications (flexibility-muscular compatibility between the arm motions and escape with the trunk- the suitable time to escape with the trunk and protect it with the sword)

The final stage: which is completing the escape with the

done in the same time:

The first part: (Close the distance by going back with the back foot forward without

trunk by rotating and completing the coverage with sword;

Figure (6) The kinetic sequence of the second main stage of the optimal research sample

Table (7)
Range – speed Mean – angular change for the body points of The final stage by rotating the trunk of the counter attack skill by closing the distance

n	Body points	Range	speed Mean	angular change
1	Right instep	٠.٩٨	٣.٨	
2	Right foot ankle	١	٣.٢٣	١١٨
3	Knee	٠.٥٧	٢.٠٨	١٦٦.٧
4	Pelvic	٠.٤٢	١.٦٧	١٦٤.٥
5	Shoulder	٠.٣٢	١.٢٤	٨٢.٣
6	Elbow	٠.٣٦	١.٨٣	١٨٥.٢٥
7	Wrist	٠.٣٠	1.98	١٦٦.٩٥
8	Head of sword	٠.٣٩	3.10	
9	Left instep	١.١١	٣.٤٥	
10	Left foot ankle	١.٢٢	٣.٧٢	١٣٠.٣٢

Table (7) and figure (6) show the technical performance of the rotating with the trunk stage:

In this stage , the player secures his goal area during performing the skill and at the same time, it is a normal continuous for rotating the trunk to the side in order to keep the flexibility consistent with the movement of the player who scores the touch.

The educational steps of the final stage:

Complete the trunk escape by rotating the trunk full roll to avoid the opponent's attack where the movement continues smoothly to complete the rotation of the feet and transfer the back foot forward at a speed up to 6.1 m per second, and in final mode, the players are side by side looking in the same direction as a result of the rotation of the player full cycle

Exercises for learning the final stage

Exercises to complete escaping with trunk by turning back with trunk and covering with the sword.

This is the final movement and is done by training to turn back and continue to follow the sword of the opponent (8 times × 6 groups x 20 sec break), taking into account the following specifications (fitness and speed of the body distances from the competitor- flexibility)

Secondly: The results of application and differences between the two dimensions in the biochemical variables "under consideration":

A) Review the time division of the performance stages of the

skill "under consideration" for both experimental and control groups:

Table (8)

Average time division for Performance stages to Experimental and Control group

Performance stages	Experimental group	Control group
Preparing stage	٠.٤٨	٠.٧٢
The main stage to achieve the touch	٠.٣٢	٠.٥٦
The second main stage by sword and escape the trunk	٠.٣٢	٠.٤٨
The final stage by rotating the trunk	٠.٢٨	٠.٣٢
The total time of performance	١.٤٠	٢.٠٨

Table (8) shows the following

The time difference between the experimental and control groups for all phases ranged between 0.04 sec (0.24 sec) in favor of the experimental group at all, where there were the lowest differences were in the final stage and rotation in the trunk; while the largest time differences were during the first preparation and basic stages The differences between the technical stages of performance between the two groups decreased with the progress of performance and this is consistent with the nature of performance requirements and shows the positive role of the exercises of the educational program that have been applied.

B) Review data of the Biocinametic variables for the stages of performing the skill "under consideration" for the experimental and control groups and the difference between them
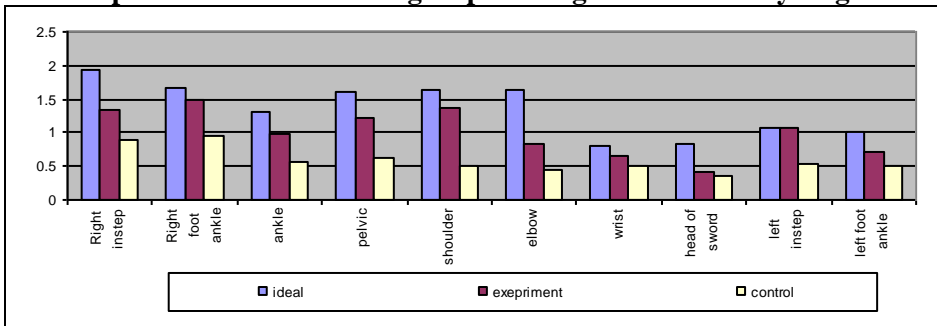
Table (9)
Mean - Standard deviation and significance of differences between mean post measurements of both experimental and control groups in horizontal range variables – speed Mean – angular change for the body points of the preliminary stage of the counter attack skill by closing the distance

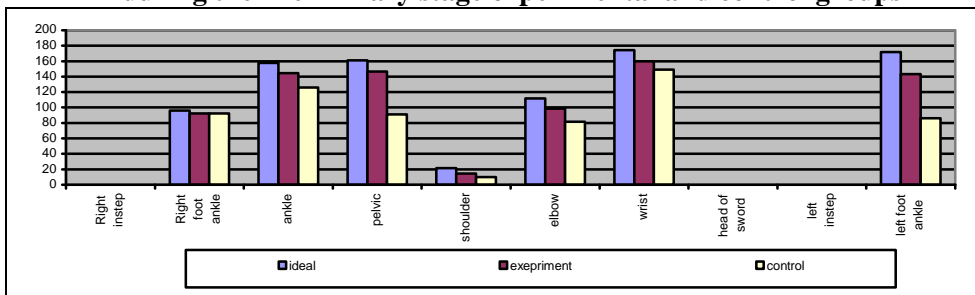There were statistically significant differences between the mean of the two post measurements of the experimental and control groups in the variables of the motor extent - the result of the velocity - the amount of angular change of the skill" under consideration" and for the post measurements of the experimental group, where the value of tabled (T) was at 0,05 level.
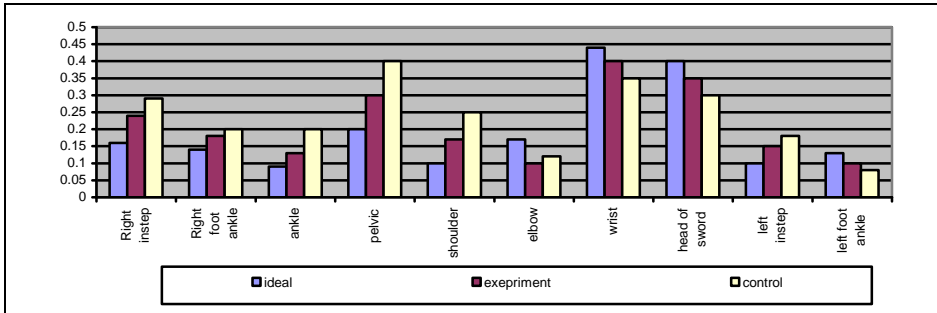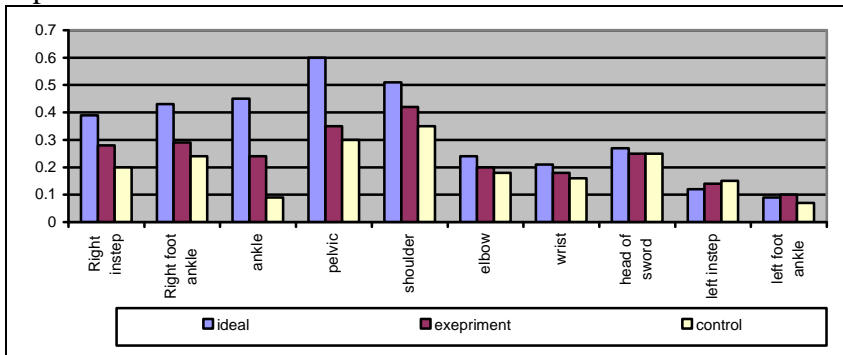

Figure (7) Mean differences of the Extent of Ideal Player,
experimental and control groups during the Preliminary stage

Figure (8) Mean differences of the Speed mean of Ideal Player,
during the Preliminary stage experimental and control groups

Figure (9) Mean differences of the Angular change of Ideal Player,
experimental and control groups during the Preliminary stage

Table (10)

Mean - Standard deviation and significance of differences between mean post measurements of both experimental and control groups in horizontal range variables – speed Mean – angular change for the body points of The main stage to achieve the touch of the counter attack skill by closing the distance

The previous table shows the following:

There were statistically significant differences between the mean of the two post measurements of the experimental and control groups in the variables of the motor extent - the result of the velocity - the amount of angular change of the skill" under consideration" and for the post measurements of the experimental group, where the value of tabled (T) was at 0,05 level.

Figure (10) Mean differences of the Extent of Ideal Player, experimental and control groups during the main stage to achieve the touch
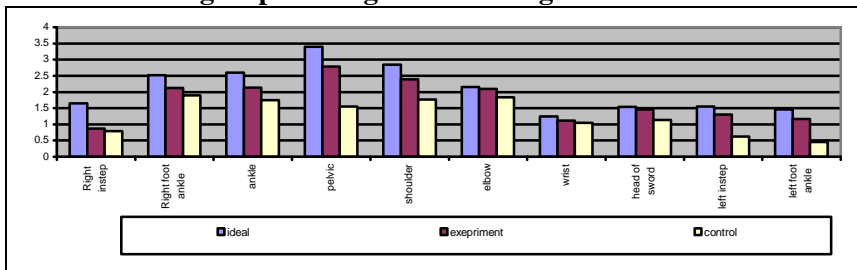
Figure (11) Mean differences of the Speed mean of Ideal Player, experimental and control groups during the main stage to achieve the touch
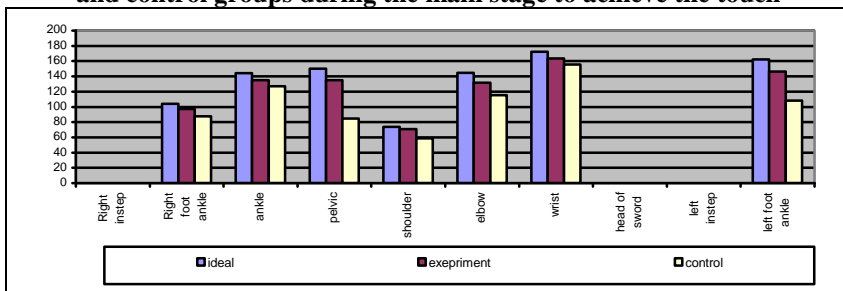

Figure (12) Mean differences of the Angular change of Ideal Player, experimental and control groups during the main stage to achieve the touch

Table (11)
Mean - Standard deviation and significance of differences between mean post measurements of both experimental and control groups in horizontal range variables – speed Mean – angular change for the body points of The second main stage by sword and escape the trunk of the counter attack skill by closing the distance

The previous table shows the following:

There were statistically significant differences between the mean of the two post measurements of the experimental and control groups in the variables of the motor extent - the result of the velocity - the amount of angular change of the skill" under consideration" and for the post measurements of the experimental group, where the value of tabled (T) was at 0,05 level.
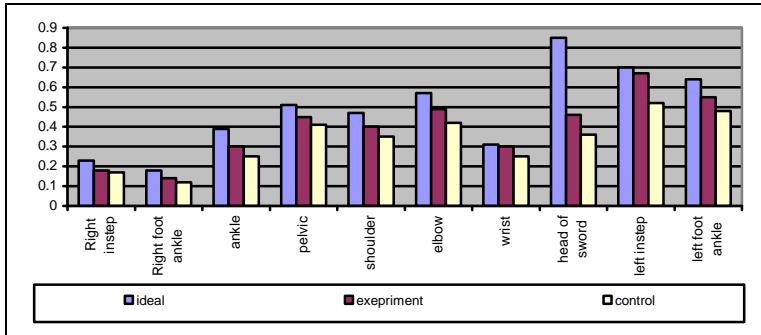

Figure (13) Mean differences of the Extent of Ideal Player, experimental and control groups during the second main stage by sword and escape the trunk
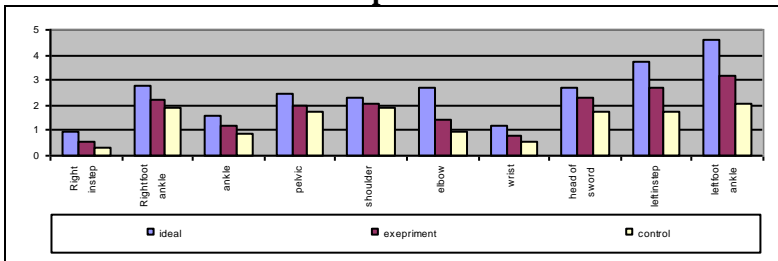

Figure (14) Mean differences of the Speed mean of Ideal Player, experimental and control groups during the second main stage by sword and escape the trunk
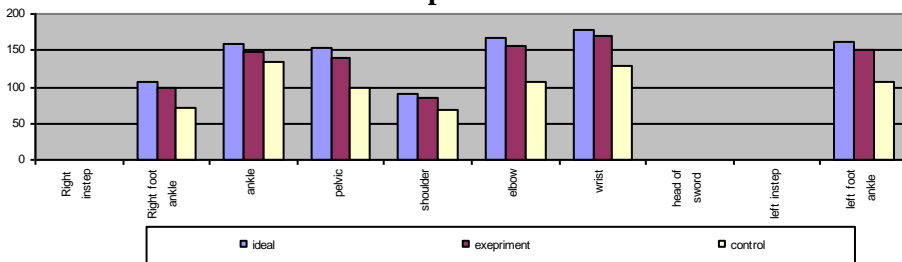

Figure (15) Mean differences of the Angular change of Ideal Player, experimental and control groups during the second main stage by sword and escape the trunk
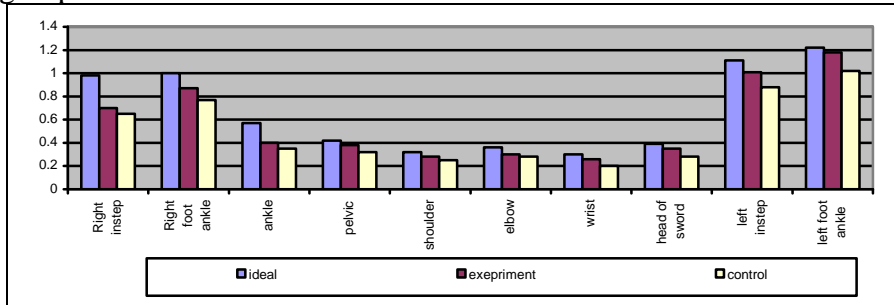
Table (12)

Mean - Standard deviation and significance of differences between mean post measurements of both experimental and control groups in horizontal range variables – speed Mean – angular change for the body points of the final stage by rotating the trunk of the counter attack skill by closing the distance

The previous table shows the following:

There were statistically significant differences between the mean of the two post measurements of the experimental and control groups in the variables of the motor extent - the result of the velocity - the amount of angular change of the skill" under consideration" and for the post measurements of the experimental group, where the value of tabled (T) was at 0,05 level.

Figure (16) Mean differences of the Extent of Ideal Player, experimental and control groups during the final stage by rotating the trunk
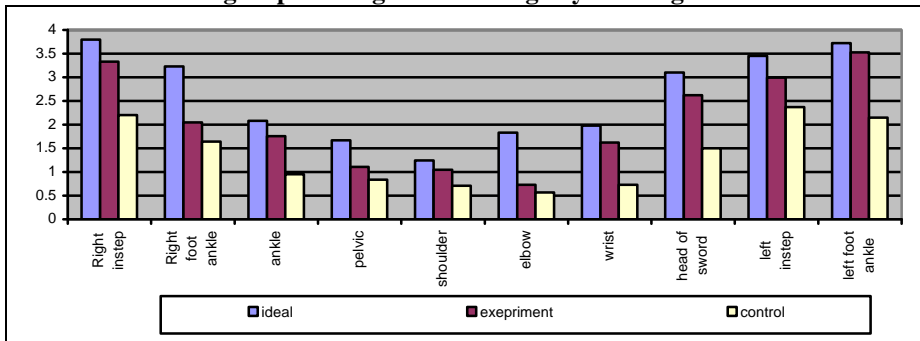
Figure (17) Mean differences of the Speed mean of Ideal Player, experimental and control groups during the final stage by rotating the trunk
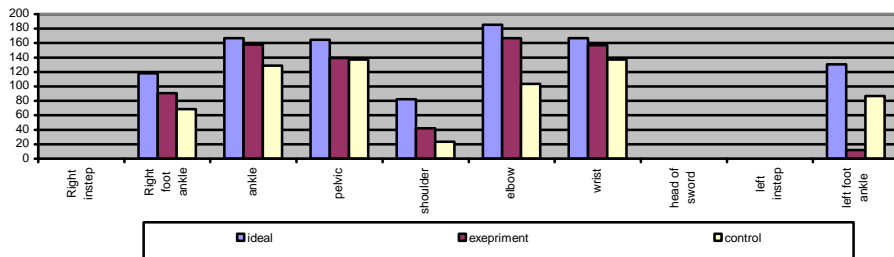
Figure (18) Mean differences of the Angular change of Ideal Player, experimental and control groups during the final stage by rotating the trunk

The previous show of the research results and through review table (9, 10. 11. 12) figures (7, 8, 9, 10, 11, 12, 13, 14, 15), show that all differences values of (T. test) on the table are statistically significant in favor of the experimental group.

During the preparatory stage, the significance of difference between the two experimental and the control groups for the motor range variable was between (2: 10.01). The difference in the dynamic extent variable of the body points common in the performance between the experimental group and the optimum rates of the player performance was between (0.1 to 0.5 m), for the velocity variable between the two groups was(1.05: 12.14 m / sec) in favor of the experimental group, and for the experimental group and the optimal performance of the player (model) for the common body points in performance was between 0.37 to 0.44 cm / sec. For the angular change, the values of significance between the two groups varied between (1.16: 29.12) for experimental group and between the experimental

group and the ideal player (model) (7.1: 10.13). The researcher observed from Table (9) that the highest percentage of differences between the experimental and control groups was for the angular traction specially the ankle joint, the pelvic then the elbow. The second variable is the speed, specifically the point of the shoulder, then the ankle and the left foot, followed by the variable range of the motor, specifically the pelvic point, then the shoulder and the knee. During the first main stage, the significance difference in the post measurement between the experimental and control groups for the dynamic range variable was (3.5: 15) for the experimental group. The difference in the motor range variable between the experimental group and the optimum rates of the player's performance was between (0, 1 to 0, 2). According to speed variable, the significance differences between the two groups were (1.47: 13.6 cm / sec) in favor of the experimental group and between the experimental group and the optimal performance of the player (model) of the common body

points in performance ranged from 0.37 to 0.61 cm / sec. according to the angular change, the difference between the two groups (4.18: 23.57), respectively, in favor of the experimental individuals, and between the ideal player (model) and the experimental group was between (3: 9.52 degree). It is noted that the highest percentage of the significance differences between the experimental and the control groups was for the displacement angle variable and specifically for the pelvic joint followed by the ankle of the left foot and then the ankle of the right foot. And the variable of speed comes in the second range specifically the point of the left instep and then the right instep of the left foot ankle, followed by variable of extent range specifically the point of the knee and then the right instep and pelvis.

The results of the second main stage showed the significance difference in the post measurement between the experimental and control groups for the variable of motor range was between (1.3: 15) in favor of the experimental sample. The difference in the variable range

of the body points in the performance between the experimental group and the optimal rates of the player's performance was between (0.11 to 0.18 m) and for the variable velocity was between (1.42: 12.5 m / sec) for the experimental group. The significance difference between the experimental group and the optimal performance of the player for the common body points in performance ranged from 0.45 to 1.44 cm / sec. For angular change, the difference between the significance difference was between (6.8: 28.24) and between the ideal player and the experimental group was between 4.65: 7.4 degrees). It is noted that the highest percentage of the significance differences between the experimental and control groups was the variable of angle displacement specifically for the joint of the elbow followed by the pelvis and then the ankle of the right foot. Speed variable comes in the second range specifically the point of the wrist and then the right shoulder joint. Then the variable of motor extent specifically the point of the

instep Left then the front sword and elbow.

During the final stage, the value of significance difference in the post measurement between the two experimental and control groups for the variable of motor extent ranged between (2: 1.6). And the difference in the variable of motion extent of the common points of the body in performance between the experimental group and the rates the optimal performance of the player (model) ranged between (0.09 to 0.18 m). The speed variable ranged between (1.98: 3.4 m /sec). While it reached between the experimental group and the optimal rates of the player performance (model) for the point's body common in performance between (0.55 to 27 cm / sec). According to the angular change, the differences between the two groups ranged between (2.35: 31.26 degrees) and between the ideal player (the Models) and the experimental group was between (10.12: 18.64 degrees). It is noted that the highest percentage of the significance differences between the experimental and the control groups was for the

variable of displacement angle specifically for the elbow joint followed by the ankle of the left foot and knee. Speed variable comes in the second range specifically the point of the shoulder and then the elbow and pelvis, followed by variable range of motor specifically the point of the left foot then the ankle of right foot and the front of the left foot.

Based on the above tables and figures, it is shown that the performance variables rates between the experimental group and the international player is near from the control group. This is due to the effect of the designed program in light of the optimal performance indicators that the researcher has extracted by analyzing the motor performance of the ideal player of the skill "under consideration".

The researcher also points out that the most advanced stage of performance is to respond to the effect of the designed program in the light of the Biocinametic indicators derived from the kinetic analysis of the performance of the player at

the international level is the main stages then the final one and finally the preparatory stage. Observing the differences between the post measurements between the experimental and control groups in the research variables and comparing with the optimal rates, we find that it is in favor of the experimental group, indicating the positive effect of the proposed educational program based on Biocinametic parameters for the performance of the optimal player.

Conclusions

In the light of the nature of the research field and its objective, and in light of the research questions, the methodology used and the frame of reference of theoretical studies, scientific research and the nature of the sample, the following conclusions were reached:

1. The proposed educational program for the experimental group has a positive impact on the learning level of the sample" under consideration"..

2. The program in the usual way of the control group had a slight effect on the physical variables and the learning level of the sample " under consideration".

3. The proposed educational program in the light of biochemical parameters was more accurate and more effective than the conventional method

4. Most Variables responding to the Biocinametic –indicators based was the angular change of the working body joints during skill performance followed by the speed variable and the motor range

5. During the preparatory stage, the most positive points in the proposed educational program was the pelvic point variable, in the velocity variable was the shoulder point, and in the variable of angular change was the left

ankle point due to the performance of the player. Where the player performed half of the movement back to prepare for the performance of the first stage

6. During the first stage (touching), the kinetic range of the knee came from the most points in response to the proposed educational program, the variable velocity of the left foot comb, and the variable angular change of the pelvic point during that period due to the player scored the touch and performed half rotation by the left foot (the start of the escape) during the press on the opponent's blade to avoid the counterattack.

7. During the escape phase the kinetic range of the point of sword front came from the most moving points, the armed wrist in the velocity variable and the elbow point for the angular change. The movement at this stage was restricted to the armed arm.

Recommendations:

In light of the findings of the current research findings, the following recommendations can be formulated

1. Taking into consideration the application of the proposed educational program under consideration"."

2. The technical points that affect the performance when learning the skill (movement of the trunk during the escape phase, the movement of the ankle, knee and pelvis during the preliminiary stage, the movement of the arm during the touching phase) and correcting the common mistakes should be considered(

3. Design the proposed educational programs to improve the performance of youth in particular and athletes in general

4. Apply the proposed educational program to develop and improve the performance of students specialized in the sport of fencing with a gun

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