Training program for counter attack associated with foot work and its effect on the development of the level of performance for youth boxers

Dr/ Ahmed Kamal Abd El-Fatah Eid

Introduction and problem of the research:

The sport of boxing has witnessed many changes and developments in the different playing styles, which had a great impact in terms of excellence and creativity in showing the best planning performances during the competition, as the competition is now among the countries of the world in how to find modern trends of development methods with the latest scientific methods to reach the highest Achievement and achievement of winning in sports competitions.

In order to ensure access to international sporting standards and win the largest number of medals, it is necessary to follow up and evaluate the progress made that allows for the development of various planning methods for boxers and training them in equal groups to link between the boxer's level in competition and his level during training, and the boxer chooses from among models of skills and competitive plans that he mastered during training in line with the changing positions on the ring, and this depends on the element of time from the beginning of the attack punch from his opponent until his defense and then the appropriate counter attack punches towards the opponent. (1: 13) (4: 43) (7: 455)

The research problem is becomes clear by the researcher's observation while practicing the sport of boxing as a player and then a coach, as well as his follow-up to many championships of the Republic for the youth stage , it shows that most youth boxers during their counter attack some counter attack punches don't reach to the opponent because the boxer who attacks makes a quick foot work back words and on the sides directly after attacking to be away from the field of punching , and the researcher also attributes the non-arrival of the opponent's counter attack punches to the fact that most youth boxers who are good at counter attack their counter-attack performance are stability and not through foot work, in which the

performance of the counter attacking punches is at the same time as the foot work towards the opponent. To reach the missing punching distance after performing the appropriate defense, and the researcher also explains that training in counter attack skills from stability is focused on and not paying attention to the counter attack associated with foot work ,while a boxer who is good at the counter attack associated with foot work helps him to reach the appropriate punching distance, so his counter-attack punches reach the opponent, who moves away immediately after his attack ,so the counter attack becomes effective, and on the other hand, the use of one or both feet at the moment of implementation of the counter attack punches helps to supply the boxer with the strength and speed necessary in order to make successful counter-attack punches and is characterized by muscular power to achieve the largest number of points, which prompted the researcher to Design a training program for some of the counter attack skills associated with foot work and knowing its effect on developing the performance level of youth boxers.

Objective of the Research:

- Designing a training program for some of the counter attack skills associated with foot work and finding out its effect on the development of the performance level for youth boxers.

Hypothese of the Research:

- There are statistically significant differences between the average of the pre and post measurements for youth boxers of the research sample in the development of the performance level for post measurement.

Terminology of the Research:

Counter Attack Associated with Foot Work:

It's the ability of youth boxer to receive the competitor's attack by performing the appropriate defense using the foot, trunk , arms, then give a punch or two or a group of counter-attacking punches and linking it to the movement of the foot forward at the moment of giving these counter attack punches**. (Procedural definition**).

Development Of Performance Level for youth boxers:

The youth boxer's ability to score the largest possible number of counter attack performances associated with foot work during the

experimental matches against the competitor's attack to achieve the largest number of points. (**Procedural definition**).

Procedures of the Research:

Method of the Research

The researcher used the experimental method by designing pre and post measurement for one experimental group as it suits the nature of the research.

Community of the Research:

The research community consists of all youth boxers who are eligible to participate in the Egyptian Boxing Federation championships, and representatives of the Menoufia Boxing area (clubs. Youth centers).

Sample of the Research:

The research sample was chosen intentionally form the youth boxers of Menoufia area for, that consists of (22) youth boxers, they were divided to the experimental sample, that consists of (12) youth boxers to apply the suggested training program, and survey study sample, that consists of (10) youth boxers to calculate scientific coefficients of the tests used.

Homogeneity Of The Sample (survey - Basic) :

The researcher makes sure of equation of the (survey - Basic) research sample individual of youth Boxers which consists of (22) youth boxers, in variables (Age - Training Age – Weight - Length- Pulse rate), as the Skewness is applied to be sure that they are equated as shown in Table (1):

Table (1)

The Homogeneity of the (survey - Basic) research sample in (Age - Training Age – Weight – Length - Pulse rate) n=22

Variables	Measure unit	mean	Standard deviation	Median	Skewness
Age	month	204.32	0.87	204.06	0.89
Training Age	month	67.18	0.91	66.90	0.92
Weight	Kg	60.96	8.07	60.12	0.31
Length	cm	169.54	4.31	168.12	0.98
Pulse rate	p/m	72.01	1.82	71.50	0.84

Table (1) shows that Skewness among the individuals of the (survey - Basic) research sample in the variables (Age - Training Age – Weight – Length - Pulse rate) were limited between (-3, +3) which shows the homogeneity

of the research sample individuals in these variables.

Tools of data collection:

- A form for recording the results of the counter attack associated with foot work for youth boxers in the experimental matches, (prepared by the researcher). (annex1)
- A form to elicit the opinions of experts on boxing to recognize counter attack skills associated with foot work, and the appropriate defenses of youth boxers (annex 2), and to determine the most important skill and physical Tests for youth boxers the researcher accepted the skill and physical tests which are over (90%) (annex 6,7), and determine the suggested training programme variables for counter attack associated with foot work for youth boxers. (annex 4)

Scientific coefficients for the tests used:

The validity of tests (physical - skill):

To be sure of the validity of the tests (physical-skill), the researcher conducted an survey study to calculate the validity of the differentiation by applying the tests on a sample of (10) young boxers who were deliberately selected from the research community and outside the experimental research sample, and it was divided into two groups, one of which is distinguished and it consists (5) Boxers who have advanced positions, and the other is not distinguished, and it consists of (5) boxers who have not advanced positions, as shown in Table (2).

Table (2)

Indication of the differences between the two groups (distinguished and non- Distinguished) in the tests of the research n1=n2=5

Variables		Measure unit	Distinguished Group		Non- Distinguished Group		T-Test
			Mean	St .Div	Mean	St .Div	
physical Tests	Muscular Power of right Arm	M	7.14	0.51	6.22	0.47	3.98
	Muscular Power of left Arm	M	6.09	0.39	5.31	0.34	4.53
	Reaction speed of right Arm	Sec	0.31	0.05	0.39	0.06	3.08
	Reaction speed of left Arm	Sec	0.28	0.04	0.36	0.05	3.81
	Agility	Sec	12.31	0.42	13.01	0.46	3.37

Follow Table (2)

Indication of the differences between the two groups (distinguished and non- Distinguished) in the tests of the research n1=n2=5

Variables		Measure unit	Distinguished Group		Non- Distinguished Group		T-Test
			Mean	St .Div	Mean	St .Div	
skill Tests	Speed performance of right Straight Punch on punching bag through (30sec)	Num	49.62	1.79	44.78	2.39	4.86
	Speed performance of left Straight Punch on punching bag through (30sec)	Num	56.18	2.24	52.11	2.46	3.67
	Speed performance of left and right Straight Punch on punching bag through (30sec)	Num	107.23	2.41	99.82	2.85	5.98

"T" value from the table at (0.05) = 1.860

Table (2) shows that there are statistically significant differences between the two groups (distinctiv - non-distinctive) in the physical and skill tests in favor of the distinguished group, which indicates that these tests are able to distinguish between groups, and so the tests are of a high degree of validity.

To find the coefficient of the stability of the tests (physical-skill), the researcher used the (Test - Retest) method as the researcher applied the retest a week after the first application on the survey sample in order to find the correlation coefficient between the two applications (first and second), as shown in Table (3).

Stability of tests (physical - skill)::

Table (3)

The correlation coefficient between the first application and the second application of physical and skill tests for the survey sample in the research n = (5)

Variables		Measure unit	First application		Second application		R
			Mean	St .Div	Mean	St .Div	
physical Tests	Muscular Power of right Arm	M	7.14	0.51	7.19	0.56	0.87*
	Muscular Power of left Arm	M	6.09	0.39	6.13	0.42	0.89*

Follow Table (3)
The correlation coefficient between the first application and the second application of physical and skill tests for the survey sample in the research n = (5)

Variables		Measure unit	First application		Second application		R
			Mean	St .Div	Mean	St .Div	
	Reaction speed of right Arm	Sec	0.31	0.05	0.30	0.07	0.92*
	Reaction speed of left Arm	Sec	0.28	0.04	0.29	0.05	0.91*
	Agility	Sec	12.31	0.42	12.27	0.39	0.88*
skill Tests	Speed performance of right Straight Punch on punching bag through (30sec)	Num	49.62	1.79	48.98	1.83	0.92*
	Speed performance of left Straight Punch on punching bag through (30sec)	Num	56.18	2.24	55.87	2.32	0.94*
	Speed performance of left and right Straight Punch on punching bag through (30sec)	Num	107.23	2.41	106.14	2.50	0.91*

The tabulated value of "R" is (0.729) at significance level (0.05)

As shown in table (3), that the calculated value of "R" is higher than the tabular value of "R" , as the values of the correlation coefficients between the two applications (first and second) in physical tests ranged between (0.87 and 0.94), which indicates Stability Tests.

Homogeneity of the experimental research sample of youth boxers:

The researcher made sure of the moderate distribution of the members of the experimental research sample, which consists of (12) youth boxers, in (physical variables - skill variables. The level of plan performance), Table (4) shows that:

Table (4)
The homogeneity of the experimental research sample of youth boxers in the variables (physical - skill - The level of plan performance) n=12

Variables		Measure unit	mean	Standard deviation	Median	Skewness
Physical Tests	Muscular Power of right Arm	M	7.18	0.47	7.10	0.51
	Muscular Power of left Arm	M	6.12	0.34	6.05	0.62
	Reaction speed of right Arm	Sec	0.32	0.04	0.31	0.75
	Reaction speed of left Arm	Sec	0.29	0.05	0.28	0.60
	Agility	Sec	12.26	0.31	12.20	0.58
	Speed performance of right Straight Punch on punching bag through (30sec)	Num	49.93	1.68	49.60	0.56
Skill Tests	Speed performance of left Straight Punch on punching bag through (30sec)	Num	57.06	2.19	56.70	0.49
	Speed performance of left and right Straight Punch on punching bag through (30sec)	Num	107.95	2.41	107.45	0.62
The level of plan performance	The counter attack associated with foot work after defense by the trunk back	Num	0.58	0.593	0.52	0.304
	The counter attack associated with foot work after defense by Turning the trunk to the right	Num	0.33	0.481	0.29	0.249
	The counter attack associated with foot work after defense by Turning the trunk to the left	Num	0.42	0.572	0.38	0.210
	The counter attack associated with foot work after defense by step back	Num	0.25	0.369	0.21	0.325
	The counter attack associated with foot work after defense by Blocking with arms	Num	0.67	0.525	0.63	0.229

Table (4) shows that Skewness in the variables (physical - skill - The level of plan performance) was limited between (-3, +3) which shows the homogeneity of the experimental research sample from youth boxers in these variables.

The Foundations of designing a proposed training programs :

- The suitability of the training program and its contents to the sample age.
- The training program should be compatible with the established objectives
- The program flexibility and its ability to be adjustable.
- Regularly practicing the exercises that are in the program until it has the desired benefit.
- Taking into account the principles and foundations of training when putting the training program.

Determinants of the training program:

The program implementation period:

The time plan for applying the proposed training program amounted to (12) weeks, by (36) training units, each week includes (3) training units, and the time of the training unit reached (120minutes).(annex 5)

Determination of the defenses used in the counter attack associated with foot work:

Determining (5) defenses suitable for the age stage through presenting the defenses to the experts and placing them in the proposed training program for the boxer to perform the counter attack associated with foot work after these specific defenses, which are as follows:

- Defense by the trunk to back.
- Defense by turning the trunk to the right.
- Defense by turning the trunk to the left.
- Defense by step back.
- Defense by Blocking with arms.

Determination of counter attack skills associated with foot work:

Determining (5) counter attack skills associated with foot work have been identified suitable for the age stage by presenting the skills to the experts, annex (8) and placing them in the proposed training program, which are as follows:

- Counter attack associated with foot work by taking a half step forward with

the front foot and giving a straight left punch to the head.

- Counter attack associated with foot work by taking a half step forward with the front foot and giving a straight right punch to the head.
- Counter attack associated with foot work by taking a half step forward with the front foot and giving a straight left punch to the head, followed by a half step forward with the back foot and giving a straight right punch to the head.
- Counter attack associated with foot work by taking a half step forward with the front foot and giving a straight right punch to the head, followed by a half step forward with the back foot and giving a straight left punch to the head.
- Counter attack associated with foot work by taking a half step forward with the front foot and giving a straight left punch to the head, followed by a half step forward with the back foot and giving a straight right punch to the head,

followed by a half step forward with the front foot and giving a straight left punch to the head.

Training methods used in the proposed training program:

. The training method used in the proposed training program has been determined and experts have agreed to use the interval training method (low intensity - high intensity).

.The load intensity was determined for the counter attack skills associated with foot work used in the proposed training program, where the intensity of the load for the experimental group in the selected skills ranged between (54%: 97%), and the pulse rate between (143: 199) Pulse/min, The training loads were standardized by using pulse rate through the following equation:

Target pulse Rate =

Resting pulse rate +[Training ratio×(Maximum pulse rate – Resting pulse rate) /100]

Where:

- Maximum pulse rate= 220 – age = …. Pulse/min
- The reserves of the maximum rate of the pulse = Maximum pulse rate – pulse rate at rest = …. Pulse/min (3:235)

- Rationing of training loads inside the program:

- The average age of the research sample (17 years).

- Average pulse rate at rest for the research sample (72) pulse/min**.**
- Maximum pulse rate = 220 – average age.

Maximum pulse rate for the research sample = 220 – 17 = 203 pulse/min

- The reserves of pulse = Maximum pulse rate – pulse rate at rest

The reserves of pulse for the research sample = 203 – 72 =131 pulse/min.

- Rationing of training loads by using the pulse rate:

- (Average load), percentage 50:74 %, Pulse rate 137:169 pulse/min.
- (High load), percentage 75:89 %, Pulse rate 170:189 pulse/ min.
-(Maximum load), percentage 90:100 %, Pulse rate 190:203 pulse/min.

The pre - measurement:

The researcher conducted a pre-measurement for the experimental research sample of youth boxers on Wednesday 23/1/2019, to recognize the performance level of the boxers, by conducting experimental matches between youth boxers, the experimental research sample, and the matches were recorded to recognize the reputation of counter attack performances associated with foot work, through the prepared data registration form.

Applying the training program:

The researcher applied the proposed training program on the experimental research sample of youth boxers, from Saturday 26/1/2019 to Wednesday 17/4/2019, for (12 weeks) at (36) training units.

The Post - measurement:

The researcher conducted a pre-measurement for the experimental research sample of youth boxers on Thursday 18/4/2019,, to recognize the performance level of the boxers, by conducting experimental matches between youth boxers, the experimental research sample, and the matches were recorded to recognize the reputation of counter attack performances associated with foot work, through the prepared data registration form.

Statistical processing:

The researcher used the following statistical processes to process the data of this research: Arithmetic mean- Median- The standard deviation - Skewness - T. test Correlation coefficient.

Presentation and discussion of the results:

Table (5)
Indication of the differences between the two measurements (Pre – Post) for the experimental research sample of youth boxers in developing the level of performance N= (12)

Research variables	Pre - measurement		Post - measurement		T
	Mean	St .Div	Mean	St .Div	
The counter attack associated with foot work after defense by the trunk back	0.58	0.593	2.64	2.151	3.065*
The counter attack associated with foot work after defense by Turn the trunk to the right	0.33	0.481	2.17	1.346	4.270*
The counter attack associated with foot work after defense by Turn the trunk to the left	0.42	0.572	2.28	1.491	3.859*
The counter attack associated with foot work after defense by step back	0.25	0.369	1.94	2.032	2.713*
The counter attack associated with foot work after defense by Blocking with arms	0.67	0.525	2.81	1.726	3.989*

The tabulated value of "T" (1.796) at significance level (0.05)

Table (5) shows the presence of statistically significant differences at the level (0.05) between (pre – post) measurements for The experimental research sample of youth boxers in favor of post measurements in counter attack performances associated with foot work, where the calculated "T" value is higher than the tabulated value of "T" for all variables on the research:

Skill of (The counter attack associated with foot work after defense by the trunk back), where the calculated "T" value is (3.065), (The counter attack associated with foot work after defense by Turn the trunk to the right), where the calculated "T" value is (4.270), (The counter attack associated with foot work after defense by Turn the trunk to the left), where the calculated "T" value is (3.859), (The counter attack associated with foot work after defense by step back), where the calculated "T" value is

(2.713), (The counter attack associated with foot work after defense by Blocking with arms), where the calculated "T" value is (3.989).

The researcher attributes this result to the fact that the proposed training program contains counter attack skills associated with foot work, which were applied to youth boxers, the experimental research sample in the scientific method regulated according to a specific time program, which contributed to these youth boxers gaining sufficient self confidence in themselves and gave them the ability to fully benefit from the performance of Counter attack skills associated with foot work and thus positively affect the development of their performance level.

This is consistent with what was indicated by Abd al-Rahman Saif (2011) (1), Yasser Abd el-Jawad (2007) (14), Diaa al-Din Muhammad, Mahmoud Hassan (2006) (5), Sami Hafez (2005) (9) to The higher the level of boxers of different weights, they possess the high ability to master all defensive skills with arms, legs and trunk and link them with offensive counter punches and shoot them from different distances to punching areas towards their competitors, and the boxers who depend in their performance on the speed of the foot work, it enables them to achieve the goal of The counter attack, as the good use of the feet can be a source of winning by controlling the opponent and moving quickly towards him without disturbing the balance of the body.

And both Yahiya - Ismail (2004) (13) and Tomasz (2001) (11) add that a boxer who has a great interest in the accuracy of movement compatibility and a time estimate of the various punches of the competitor enables him to choose appropriate defensive movements and link them and take them out in an integrated defense method so that he can move from defensive to counter attack modes quickly and easily.

As indicated by Ahmad-Khader (2010) (4), Gursoy (2009) (6), Verlag (1996) (14), Abd al-Fattah Khader (1996) (2), Muhammad Abd al-Aziz (1995) (8), Takrid (1990) (10) states that those in charge of the education and training of boxers must choose from among the various planning methods that are suitable for the capabilities and abilities of

the boxers so that they can be used in the optimal way of controlling and good behavior in the changing playing situations on the ring during the match, and then achieving Winning and reaching the highest levels of sports.

Conclusions:

Through the objective of the research and the results that have been reached, the conclusions came as follows:

- There are statistically significant differences between (pre- post) of measurements for the experimental research sample of youth boxers in the performance of the counter attack associated with foot work, in favor of post measurements.
- The proposed training program led to the development of the performance level of the youth boxers through their reliance on the counter attack method associated with foot work.

Recommendations:

The coaches of the boxing must take care of counter attack method associated with foot work and train youth boxers on them to reach the higher levels.

- Directing the steps of implementing this training program for workers in the boxing sport to design similar programs for the different ages.
- Holding seminars to direct the coaches' attention to the importance of the counter attack associated with foot work and its impact on the match results.

References

1- Abd- AL Rahman Abd- Al Azeem Saif (2011): " Sports Training for Boxers, Al-Wafa of Printing and Publishing, The First Printer, Alexandria.

2- Abd -EL Fattah Fatty Khedr (1996): "Resource at Boxing",1st Edition, Monchaat Al-Maaref, Alexandria.

3- Abu-Ela Ahmed Abdel Fattah, Ahmed Nasr El-din (2003): Fitness Physiology, Dar of the Arab Thought, Cairo.

4- Ahmed Said Khedr (2010): "The Profile of Competitive Boxer", Published, The Research's Physical Education magazine, faculty of physical education for boys, Zagazig University.

5- Diaa El-Din Alazab, Mahmoud Hussein (2006): ''Analytical Study of the Punching Schools' Results at Olympic Tournaments in (Atlanta 1996 – Sydney 2000 – Athena 2004) published research, Journal of Physical and Sports Sciences, Faculty of

Physical Education, University of Menoufia.

6- Gursoy (2009): Effects of left or right hand Preference on the success of boxers in Turkey.

7- Ismael Hammed Osman, Mohamed Abdel-Aziz Ghoneim, Dyaa El-Din Alazab, Atef Maghawry Shalaan (2005): "Boxing (teaching, training, and managing)", 3th edition, Cairo.

8- Mohamed Abdel-Aziz Ghoneim (1995): "Analytical Study of the Effective of Attack's Plans of the Arabic Boxer", Published, Magazine of faculty of physical education", Tanta University.

9- Sami Moheb Hafez (2005): "(2005) The entry to modern boxing, shagret Eldor library in Mansoura.

10- Takrid (1990): boxing for boys Bulgaria.

11- Tomas (2001): technique of attack of the best amateur boxers of the world and Europe.

12- Verlag (1996): methods of training - boxing, teaches the c.v. mostly company saint Louis.

13- Yahia El-Sayed Ismael (2004): "Sports Talent and Motor Creativity", The Arabic Center for Publicity, Zagazig.

14- Yasser Abdel-Gwad El-Wraky (2007): Analytical study for attack accompanied by foot work in the Olympics in Athena (2004), published research, Journal of Physical and Sports Sciences, Faculty of Physical Education, University of Menoufia.