

The impact of using closed-loops , open-loops and merging between them on the performance level of some basic skills of junior table tennis

*** Dr. / Aml Anwar Abdul Salam Hassan**

Abstract:

The research aims to design a program for beginners in table tennis using a closed loop and open loop and Merging Between them to know its effect on the Level of Performance of some basic skills , the researcher used the experimental method on a sample chosen deliberately of featured junior table tennis students in performance from the first Grade Students at Faculty of Physical Education Girls. Zagazig University for the academic year 2012/2013 and their number is,(24) junior, they were divided into three experimental groups, The first group (8) juniors worked with closed loops , the second group (8) juniors worked with open loops, the third group (8) juniors worked first with closed loops and then with open loops .data collection tools: skill tests, physical tests and education program proposed, the most important results that the use of closed

loop and open loop have a positive effect on improving the level of Performance of some of the basic skills in table tennis for girl students research sample, that the use of a combination of closed loop and open loop has more effect on improving the performance level of basic skills in table tennis than the use of closed or open loop.

Key Words: Technical - Closed Loop - open loop - Table Tennis

Introduction

table tennis sport is considered one of sports activities in which the player deals with the table, the racket and the ball . using different basic skills that without it the distinctive character of the sport doesn't appear. mastery of the basic skills is one of the most important factors that help the player to win , as the player can not perform any playing plan whether it was offensive or defensive but by

* Games Department, Faculty of Physical Education, Zaqaziq University, Egypt

good mastery of these skills , and that explains the attention of a lot of the advanced countries of the world in this sport . at the international level they are working to raise the level of performance skills , which plays a key role during the competitions .

Psychologists have been able to put a set of theories in the current era , each of which includes a set of laws explaining to us what happens in most educational situations psychomotor sports skills .

Judith E. Rink, (2008) refers that it is necessary to perform open skills first under the simplest conditions and this means that these skills can't be performed in a closed environment for a long time.

Performing closed skills must be in steady environmental conditions , in the sense that the link between the performing and the wanted objective to be achieved is constant in each time you repeat the skill. Adams, J.A., (1991)

In the view of David & John (1995) that the open motor skills are those skills which are performed in a changing environment and that environmental changes require

the individual to do some modifications or improvements in the muscle style of the movement in order to fit the requirements of the position, the closed motor skills are those skills which are performed in a stable environment where performer determines when to start the movement . and closed motor skills require consistency in performance .

the researcher noticed- according to her knowledge on the scientific references in the field of table tennis sport , and also through a survey of reference for the studies and previous research noticed that no one of the researchers within the limits of her knowledge have used the theory of closed-loops and open loops on improving the performance level of the basic skills for the sport of table tennis of college students, which gave her the motive to carry out this study to identify the impact of the use of closed-loops , which is performed in a stable environment , open loops, which is performed in a changing environment, and integration between both of them on the level of performance of some of the

basic skills of junior table tennis, as well as the comparison between them to get to know any of them more effective in improving the performance of those skills

The research goals : The research aims :-

1- to design a training program for junior table tennis using a closed-loops , open loops and the merging between them

2- to identify its impact on the performance of some basic skills in table tennis (in this research)

3- to understand the differences in the effects of the use of the three systems

Materials And Methods

The Research Methodology :

The Experimental method has been used by the experimental design with three experimental groups using pre and post measurement for each group.

the research sample :

the first Grade Students at Faculty of Physical Education Girls. Zagazig University for the academic year 2012/2013 Represents the research sample. a sample was selected In Deliberate way from featured junior table tennis students in performance and their number is, (24) junior,

they were divided into three groups as the following: -

The first group (8) juniors worked with closed loops , group II (8) juniors worked with open loops , group III (8) juniors worked first with closed loops and then with open loops .

Data collection tools :

Physical and skill tests Specialized in the sport of table tennis, the proposed program.

The pre measurement :

was performed for the three research groups in physical variables for the sport of table tennis and skills in this search during the period from 10/2 to 02/12/2013 .

The application of the basic experiment :

The proposed program has been implemented on the three research groups (closed - open – closed open) for a period of 8 weeks in the period from 17 /2 to 04/11/2013 AD by (2) units per week .

The post measurement :

The post measurement was conducted during the period from 14/ 4 to 16.04.2013 on the sample in the search and under the same conditions of the pre measurement .

Statistics Solutions:

SMA- standard deviation- median- Sprain coefficient - simple correlation coefficient (person) - "T" Test -

analysis of variance- least significant difference test LSD.

Presentation and discussion of the results :

Table (1)

significant differences between the average of the pre and post measurements for the first experimental group (closed loops group) the level of performance of some of the basic skills (listed in the research) n = 8

	pre		post		t	Sig. (2-tailed)
	Mean	Standard deviation	Mean	Standard deviation		
The forehand service with the side spin	٢٩,٧٧٥	١,٠٤٤	٣٦,٨٧٥	٠,٨٣٥	*١٤,٠٥١	0.05
The backhand service with the side spin	٢٦,٨٧٥	١,٢٤٦	٣١,٢٥٠	١,٠٣٥	*٧,١٤٦	0.05
The forehand straight Loop	٩,٧٥٠	٠,٧٠٧	١٣,٣٧٥	١,٠٦١	*٧,٥٢٢	0.05
The backhand straight loop	٦,٨٧٥	٠,٦٤١	١١,٠٠٠	١,٣٠٩	*٧,٤٨٨	0.05

Table (2)

significant differences between the average of the pre and post measurements for the second experimental group (open loops group) the level of performance of some of the basic skills (listed in the research) n = 8

	pre		post		<i>t</i>	Sig. (2-tailed)
	Mean	Standard deviation	Mean	Standard deviation		
The forehand service with the side spin	٢٩,٢٧٥	١,٥٠٤	٤٠,٦٢٥	١,٠٦١	*١٦,٣١٥	0.05
The backhand service with the side spin	٢٧,٠٠٠	١,٠٦٩	٣٤,١٢٥	١,٢٤٦	*١١,٤٨٢	0.05
The forehand straight Loop	٩,٥٠٠	٠,٧٥٦	١٦,٢٥٠	١,٠٣٥	*١٣,٩٣٤	0.05
The backhand straight loop	٦,٨٧٥	٠,٦٤١	١٥,١٢٥	١,١٢٦	*١٦,٨٤٦	0.05

Table (3)

significant differences between the average of the pre and post measurements for the third experimental group (Merge group) the level of performance of some of the basic skills (listed in the research) n = 8

	pre		post		<i>t</i>	Sig. (2-tailed)
	Mean	Standard deviation	Mean	Standard deviation		
The forehand service with the side spin	٢٩,٧٧٥	١,٤٩٥	٤٤,٦٢٥	٠,٩٢٦	*٢٢,٣٤٢	0.05
The backhand service with the side spin	٢٦,٨٧٥	١,٢٤٦	٣٩,٥٠٠	١,٣٠٩	*١٨,٤٨٣	0.05
The forehand straight Loop	٩,٨٧٥	٠,٨٣٥	٢٠,٣٧٥	١,٠٦١	*٢٠,٥٧٦	0.05
The backhand straight loop	٦,٦٢٥	١,٠٦١	١٨,٣٧٥	٠,٩١٦	*٢٢,١٧٨	0.05

Table (4)

denote the differences between the post measurements of the three groups of the search (closed - open – Merge group) in the level of performance of some of the basic skills in the search

Basic Skills studied in the research	Groups	Averages	L.S.Dvalue	Closed Loop Group	Open Loop Group	Merge group
The forehand service with the side spin	Closed loop group	٣٦,٨٧٥	٢,٧٦٨		*٣,٧٥٠-	-
	Open loop group	٤٠,٦٢٥				-
	Merge group	٤٤,٥٠٠				*٣,٨٧٥
The backhand service with the side spin	Closed loop group	٣١,٢٥٠	١,٦٢٤		*٢,٨٧٥-	-
	Open loop group	٣٤,١٢٥				-
	Merge group	٣٩,٥٠٠				*٨,٢٥٠
The forehand straight Loop	Closed loop group	١٣,٣٧٥	١,٧٨١		*٢,٨٧٥-	-
	Open loop group	١٦,٢٥٠				٤,١٢٥-
	Merge group	٢٠,٣٧٥				
The backhand straight loop	Closed loop group	١١,٠٠٠	٢,٠٧٦		*٤,١٢٥-	-
	Open loop group	١٥,١٢٥				-
	Merge group	١٨,٣٧٥				*٣,٢٥٠
					*٣,٧٥٠-	

group					
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It is clear from the results of table (4) the presence of statistically significant differences at the level of 0.05 between the post measurements for the three experimental groups to the third experimental group (the merging group between closed-loops and open loops) in the level of performance of some of the basic skills in table tennis in the search, and the researcher attributes this improvement to a combination of immediate feedback in form of knowing the performance and the result and this is more useful when developing the performance of motor skills as it leads to the development of a good and consistent kinesthetic skill pattern, and this pattern should increase the likelihood of achieving the goal in every attempt, which leads to increase junior motivation to continue in practice to adjust performance to reach the correct response , and this has had a positive impact on the construction and development of the correct perception of motor skills have also led to improved performance specifications during practice,

whether in the circumstances of the performance of fixed or variable .

This is what Amin, A.F., (1992) refers to , David L., Gallahue, (1993), Allawi, M. H., (1997) that the feedback works to increase the motivation of the player during training , and without feedback information the player quickly lose enthusiasm and the desire to complete the training process .

This agrees with the results of the study of each of Highlen, & Bennett, (1993) (15), Abdel Moneim, M.A., (2000) (9) , Mohammed, K.R., (2001) (3) in that the use of a combination of closed-loops and open loops in the education or kinetic skills training had positive effect on the level of accuracy and performance skills

It is clear from the results of table (2) the significant differences between the average of the pre and post measurements for the second experimental group (open loops group) in the level of performance of some of the basic skills in favor of the post measurement the researcher sees that the reason why it may be due to the open circles rely

on immediate feedback by knowing the result, which is doing its part in the discovery of errors that occur during the performance and corrected in the next attempts to reach the correct performance, resulting in the improvement of their performance to the level of these skills and their access to the best possible level. The working conditions are similar to the open loops with the conditions of play during the match in terms of continuous change the direction of the ball coming from the opponent, the need for diversification of places the ball fall in the service. David L., Gallahue, (1993) Indicates that feedback provides information to the performer leading to knowledge of the results or knowledge of performance which results to lead to correct the mistakes to get the desired response.

Zaghloul, M.S., (2001) and others Adds : the feedback describes the positions of the error then we make it right and modified towards the better, eventually leading him to reach to the maximum degree of proficiency in performing sports activities skills.

David & John (1995) Indicates that the open motor skills are those skills that are performed in a changing environment and these environmental changes require the individual to make some adjustments or improvements in the muscle movement pattern in order to fit the requirements of the position.

This is consistent with the results of a study of each of the Abdel Mageed, A.M., (1986) (4), Abdel Moneim, M.A., (2000) (9), Mohammed, K.R., (2001) (3), Del Ray (2001) (13) in that the use of open loops in education or motor skills training affects in a positive impact in the level of accuracy and performance skills.

It's clear from Table (3) the existence of statistically significant differences at the level of 0.05 between the two measurements pre and post for the experimental group first (closed loops group) on the level of performance of some of the basic skills in table tennis in the search for post measurement favor, the researcher attributes This improvement to that the closed-loops depends on the immediate feedback knowing

the performance and the result, which provide them with information on how to implement the performance and outcome rapidly helping them to modify wrong emotional responses in the following attempts to perform, in addition to the juniors of this group they repeated the performance on an ongoing basis in a fixed place on the table, which led to their performing skills correctly and with great precision, and that had a positive impact on the level of their skill performance, David & John (1995) indicates that the closed-loops motor skills performed in a fixed environment where the performer determines when to start the movement, the closed loop motor skills require consistency in performance.

Conclusions :

- 1 - the use of closed-loops and open-loops individually had a statistically significant positive impact on improving the level performance of some of the basic skills (in the search) for junior table tennis players.
- 2 - Increase the effectiveness of the merging between the closed loops and open loops on improving the performance of

some of the basic skills in the search for junior table tennis players.

Recommendations:

- 1 - Using a combination of closed-loops and open loops when learning the basic skills in the table tennis sport.
- 2 - Taking advantage of the feedback information in the juniors learning the basic skills in table tennis.
- 3 - to take advantage from the application of the tests listed in the search to identify the level of progress in performance offered in the basic skills of junior table tennis.

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