

The Effect of (Mental - Skillful) Exercises According to (Surface - Deep) Cognitive Representation in Attentional Control and Side Pass Skill of Handball for Junior

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Abstract

The importance of the research lies in preparing (mental - skillful) exercises according to the cognitive representation (surface-deep), as the researchers believe that they affect the attentional control and side pass skill of handball for junior. Through the researchers' interest in the handball game and its field follow-up to many training and educational units and matches, they noticed that a large number of young players face difficulty in focusing and diverting attention during matches, as well as in learning and mastering the side pass skill, which is difficult to perform and also to meet the needs and requirements of the game. As for research hypotheses: There is an effect of (mental - skillful) exercises according to the cognitive representation (surface - deep) in attention control and the skill of pushing to the side with hand reel for juniors. While the experimental method was used in solving the research problem, the research community was represented by the 16 players of the Kufa Junior Handball Club, and they were distributed into two groups equally by random method (lottery method), and then data processing using appropriate statistical means.

Key words: cognitive representation (surface - deep), attentional control.

Introduction

Handball is considered one of the team sports that has taken a great position in the lives of the peoples and nations of the whole world ¹ in light of the high level this game has reached as well as the fun, excitement and excitement it carries, so this game needs high capabilities in the mental, physical and skill aspects ².

Mental exercises are also of great importance, as the secret of mental exercises is to allow the athlete to reach the extraction of all his physical, skill and planning abilities and to know the best way to employ them, and thus improve his performance as far as possible, because performance is closely related to the ability to control, control and focus in the most difficult circumstances ³.

Attentional control also contributes to making the learner more amenable to the process of accurate behavior, which needs him to focus his attention and divert it according to the type of skill that the situation needs, and since the handball game consists of several

skills that need to focus attention once and divert attention again, it is also characterized by high accuracy And speed in performance ⁵, so the learner or player needs to have high experience in controlling complex and successive situations that require high attention control, during which the player performs his distinctive movement performance with high accuracy through the achievement of correct decisions that are based on the excitement speed during which the situation is analyzed and interpreted and the correct choice of the method and method of its implementation at the right moment.

The passing skill of handball is one of the most used offensive skills by players during matches, so that they can reach various appropriate playing positions in order to achieve victory in matches. The importance of the research lies in delivering the player to a high capacity of concentration and diverting his attention during matches as well as the best performance of the skill of handling with handball and with less time and effort through the use of exercises (mental - skillful) according

to the cognitive representation (surface - deep), as the researchers believe that it will lead to the development of control. Attentional, as well as developing the skill of side pass skill of handball for juniors.

Research problem :

Through the researchers' interest in handball and their field follow-up to many training and educational units and matches, they noticed that a large number of young players face difficulty in focusing and diverting attention during matches as well as in learning and mastering the skill of side pass skill of handball in order to meet the needs and requirements of the game.

The researchers believe that the reason for this is the lack of use by workers in the educational and training process of exercises (mental - skillful), especially when it is based on the cognitive representation (surface-deep), as well as the lack of interest in mental aspects such as attentional control processes.

Research objective:

- Preparing exercises (mental - skillful) with handball.
- Identify the effect of (mental - skillful) exercises according to the cognitive representation (surface - deep) in attentional control and the of side pass skill of handball for juniors.
- Identify the preference in the effect between (mental- skillful) exercises according to cognitive representation (surface-deep) between the two experimental research groups in attentional control and the of side pass skill of handball for juniors.

Research hypotheses :

- There is an effect of (mental- skillful) exercises on the cognitive representation (surface- deep) on attentional control and the of side pass skill of handball for juniors..

Research fields:

The human field: Kufa handball club players of (14-16) years for the sports season 2020-2021.

Time field: From 10/11/2020 to 15/2 /2021

Spatial field : The closed sports hall of the Kufa Sports Club.

Research methodology and field procedures:

Research Methodology:

The researchers used the experimental approach because it is compatible with the nature of the research problem, and they also chose to design the method of the two equivalent experimental groups with the pre and post-tests to suit the research problem.

Research community and sample:

The research community was represented by the 16 players in the Kufa handball club for junior players, and they were distributed into two groups equally in a random way (the draw method), and then data was processed using appropriate statistical means.

The homogeneity of the sample and the equivalence of the research groups:

Homogeneity of the sample:

Before starting to implement the (mental - skillful) exercises according to the cognitive representation (surface-deep), and in order to control the variables that affect the accuracy of the research results, the researcher verified the homogeneity of the research sample in the variables related to the morphological measurements (length, mass, chronological age and training age). Therefore, a statistical treatment was performed using (Levin coefficient) in order to avoid influences that may affect the search results of the individual differences that exist among the players, as shown in table (1).

Table 1

Variables	Measuring unit	First experimental group (surface)		Second experimental group (deep)		The calculated (F) value	Sig level	Sig type
		Mean	Std. Deviation	Mean	Std. Deviation			
Length	Cm	174.125	2.642	177.250	2.121	0.399	0.538	Non sig
Mass	Kg	70.000	2.777	73.500	3.207	0.563	0.466	Non sig
Age	Year	14.750	0.886	15.250	0.707	1.000	0.334	Non sig
Training age	Month	11.750	1.035	10.875	1.726	2.714	0.122	Non sig

Equivalent the two research groups :

In order for the researchers to be able to attribute the differences in the results of the dimensional tests of the variables under study to the effect of the experimental factor (mental - skillful) exercises on the cognitive representation (surface-deep), so the researchers resorted to checking the parity of the two groups by using the test (test -t) for the independent samples of the variables under study, and as shown in table (2).

Table (2) shows the equivalence of the two groups of research in tests (attention control, and the performance of the of side pass skill of handball for juniors).

N	Variables	Measuring unit	First experimental group (surface)		Second experimental group (deep)		The calculated (T) value	Sig level	Sig type
			Mean	Std. Deviation	Mean	Std. Deviation			
1	Attentional control	Degree	52.625	2.669	53.500	3.464	0.566	0.580	Non sig
2	Side pass skill	Degree	4.625	0.744	4.500	0.534	0.386	0.705	Non sig

Through table (3) we can see that the value of the significance level of the test (sig) is greater than the level of significance (0.05), and for all the variables under consideration, therefore, the significance of the test is not significant.

Means, devices and tools used:

Methods of data collection:

- Arab and foreign sources and references.

- The questionnaire.
- Tests and measurements.
- The global information network (the Internet).

Tools and devices used in the research:

- A legal handball court.
- 12 legal hand balls (Molten).
- 4 colored adhesive tape.

- A tape measure (40 meters).
- (2) whistle.
- Office tools (papers and pens).
- (2) Canon copiers.
- Calculator for laptop (hp), count (2).

field research procedures:

Determining research variables:

- Attentional control.
- The accuracy and performance of the side pass skill of handball.

Determine tests of variables:

First: Attentional Control Measurement: The researchers prepared the control scale.

Second: Test the accuracy of the side pass skill of handball to overlapping rectangles. ⁽¹⁾

The purpose of the test: to measure the accuracy of the performance of the hand reel side thrust handling skill.

Tools: 10 hand balls, a tape measure, tape, a flat wall.

Performance disruption : the laboratory, while holding the ball with both hands, stands behind a line at a distance of 4 m from the wall on which the two overlapping rectangles are drawn with dimensions (160 cm x 180 cm) and (100 cm x 90 cm) and rise a distance of (80 cm) from the ground, and performs the pushing handling to the side trying Infection of the inner rectangle area. As shown in figure 1. The performance shall be according to the following conditions:

- Give the laboratory only five attempts.
- Perform handball from behind the throwing line.
- The attempt in which the laboratory crosses the firing line is canceled.
- Take the test with your favorite hand.

- The ball is not allowed to touch the ground after leaving the hand of the tester and before it reaches the flat wall on which the two rectangles are drawn.

Register:

- If the ball hits the entire circumference of the inner rectangle, the tester will be counted by two points.
- If the ball hits the entire perimeter of the outer rectangle (inside the rectangle or on the lines specified for the inner rectangle), the tester will be calculated one score.
- If the ball comes outside the two rectangles or touches the ground, the tester is calculated a score of (zero).

Note: The total score of the test is (10).

Figure (1) test the accuracy of the side pass skill of handball to overlapping rectangles

Main experience:

Pre-test:

After the researchers completed the experiment, they conducted, with the help of the assistant work team, preliminary tests on the research sample for the two experimental groups and for the study variables (attentional control, accuracy of side pass skill) on 13/11/2020.

Preparing and applying exercises (mental-skill):

Exercising (mental-skill) exercises according to the cognitive representation:

The researchers prepared and organized the exercises (mental - skill), and began to apply the exercises (mental - skill) according to the cognitive representation (surface - deep) on the two experimental groups started on 15/11/2020 .

The details of implementing the exercises (mental-skill) were as follows:

- The period of implementing (mental-skill) exercises is (8) weeks.
- The number of educational units per week is three educational units on Sunday, Tuesday and Friday

of each week.

- The total number of units is (18) units.
- The time for the educational unit is (90) minutes.
- The time for the main section of the educational unit is (60) minutes.
- The researchers took into account the following in developing (mental - skill) exercises according to the (surface - deep) cognitive representation:

A- Diversity of exercises (mental-skill) according to the cognitive representation (surface -deep) to prevent the state of boredom and boredom that may afflict members of the two groups.

B- The gradation from easy to difficult in implementing (mental-skill) exercises.

- The curriculum prepared on the members of the two groups of research was implemented and applied by the team coach.

Post-test:

The researchers, with the help of the assistant

work staff, conducted the post-tests for the research sample after completing the exercises (mental-skill), two days (14-15/2/2021) and with the same sequence of pre-tests, as the researcher took into account the same conditions in which the pre-tests were conducted from where the sequence of tests.

Statistical means:

The researcher used the statistical bag (spss) in analyzing the research results, including: -

Mean, Levin coefficient, Pearson correlation coefficient, (t) test for correlated samples. (T) test for independent samples, percentage, Ka^2 .

Presentation, analysis and discussion of results:

Presentation, analysis and discussion of the results of the pre and post-tests of the two experimental groups of the variables under consideration.

Presentation and analysis of the results of the pre and post tests for the first experimental group of the variables under consideration:

Table (3) shows the means, standard deviations, the calculated value of (t) for the correlated samples, the level of test significance, and the meanness of the difference for the pre and post tests for the first experimental group (surface)

N	Variables	Measuring unit	Pre-test (surface)		Post-test (surface)		The calculated (T) value	Sig level	Sig type
			Mean	Std. Deviation	Mean	Std. Deviation			
1	Attentional control	Degree	52.625	2.669	65.375	3.248	7.202	0.000	sig
2	Side pass skill	Degree	4.625	0.744	6.875	0.640	9.000	0.000	sig

Presentation and analysis of the results of the pre and post tests for the second experimental group (deep):

Table (4) shows the arithmetic mean, standard deviations, the calculated value (t) for the correlated samples, the level of test significance, and the meanness of the difference for the pre and post- tests of the second experimental group (deep).

N	Variables	Measuring unit	Pre-test (deep)		Post-test (deep)		The calculated (T) value	Sig level	Sig type
			Mean	Std. Deviation	Mean	Std. Deviation			
1	Attentional control	Degree	53.500	3.464	69.625	2.386	11.565	0.000	sig
2	Side pass skill	Degree	4.500	0.534	7.250	0.707	11.000	0.000	sig

Discussing the results of the pre and post-tests of the research variables for the two experimental groups:

Through the results presented in tables (3) and (4) for attention control tests, the results of the tests (for attention control) showed that there are significant differences between the pre and post tests for the two experimental groups and in favor of the post tests. The researchers believe that the reason for the significant difference for the members of the two experimental groups is due to the exercises. The skill mentality prepared by the researchers and which was used and applied to the members of the two groups, and the repetitions

performed by the members of the two experimental groups and the continued repetition of these exercises lead to the development of attentional control, and this is what helped the members of the two experimental groups to make that difference. (Muhammad 2002) indicates ⁽²⁾ that attention control is of vital importance in training and competition, and is the basis for reaching the top of performance in training and competition. "The more the player is able to focus attention in a way, the better he can mobilize his muscular, emotional and mental powers to excel in the match" ⁽³⁾.

Presenting the results of the dimensional tests for the first experimental group and the second experimental group (surface - deep):

Table (5) shows the arithmetic means, standard deviations, the calculated value of (t) for the correlated samples, the level of test significance, and the significance of the difference for the post-post tests of the first experimental group and the second experimental group (surface - deep)

N	Variables	Measuring unit	Post-test (surface)		Post-test (deep)		The calculated (T) value	Sig level	Sig type
			Mean	Std. Deviation	Mean	Std. Deviation			
1	Attentional control	Degree	65.375	3.248	69.625	2.386	2.982	0.010	sig
2	Side pass skill	Degree	6.875	0.640	7.250	0.707	1.111	0.285	sig

When we noticed Table (5), which shows the arithmetic mean, standard deviation, and (t) value calculated for correlated samples, the level of significance and the significant differences for the members of the first experimental group and the second experimental group in the pre and post- tests, as we find that the arithmetic mean of attentional control in the pre-test of the first experimental group was a value of (65.375) and a standard deviation of (3.248), either the arithmetic mean of the post-test for the second experimental group was (69.625) and a standard deviation of (2.386) and the value of (t) calculated for the correlated samples was (2.982). Either the test significance level value was (0.010) which is greater than the level of significance (0.05), which indicates However, the deep cognitive representation group had their level of development more with the attentional control variable because they deal in depth, which comes from the depth of their thinking in acting in different situations.

Also, we find that the arithmetic mean of the accuracy of the side pass skill handball in the pre-test of the first experimental group was (6.875) with a standard deviation of (0.640), either the arithmetic mean of the post test of the second experimental group was the value (7.250) and a standard deviation of (0.707) and the value of (C) Computed for correlated samples reached (1.111). Either the test significance level value was (0.285), which is greater than the significance level (0.05), which indicates that there are no differences in the level development process between members of the two experimental groups, where their level of development was at a similar level.

Conclusions

- The duration of the independent variable, represented by (mental _ skill) exercises distributed over the number of training units, was appropriate in creating a change that expresses the extent of the development of the two experimental research groups for attentional control and the of side pass skill of handball for juniors.

Recommendations:

- The researchers recommend the adoption of (mental _ skill) exercises, because it has a high impact

on the development of attention control and mastery of the of side pass skill of handball for juniors.

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Conflict of Interest: None to declare.

Ethical Clearance: All experimental protocols were approved under the Faculty of Physical Education and Sports Sciences and all experiments were carried out in accordance with approved guidelines.

References

1. Al-Badr NM. The effect of an educational curriculum according to the sensory preferences of the skills of handling and correction and transferring the effect of her vertical and vertical inverted education with hand reel to students, unpublished PhD thesis, University of Babylon. 2014.
2. Chamoun MA. Mental toughness and sporting achievements, the International Annual Scientific Conference, College of Physical Education for Boys, Helwan University / Psychological Care for Athletes. 2007.
3. Abdul-Majeed MA. Psychology of facing pressures in the mathematical field, 1st Edition, Al-Kitab Center for Publishing, Cairo. 2005.
4. Gallahue .D. understanding motor development in children .wiley& sons. 1982.
5. Loovis E, Ersing W. Assessing & Programming Gross motor Development for children blooming in college town press. V.S.A.1979.
6. Al-Zyoud NF. Education of Mentally Retarded Children, "Third Floor, Dar AlFikrAlArabi, Publishing and Distribution, Jordan, 1995; 104.
7. Ibrahim AA. Training Program for Children with Mental Disabilities, Faculty of Education, Ain Shams University, 1st Floor, 1997; 11.