

DOI: <https://doi.org/10.54702/pbdsp489>**A comparative study on visual memory for the game of handball for fourth-year students in colleges of physical education and sports sciences among some Iraqi universities**Basma Naeem Mohsen⁽¹⁾ ✉, Hanan Adnan Aboub⁽²⁾ ✉, Dhuha Abdul Jabbar Muhammad⁽³⁾ ✉

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This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/), © Modern Sport**Abstract**

The purpose of the study is to compare the pictorial memory test for the aforementioned sample in order to benefit those working in the field of teaching for this event. The study was conducted on a sample of students from the faculties of physical education and sports sciences, the fourth stage of morning study at the universities of the middle and middle Euphrates for the academic year 2023-2024 and adult. Their number was (827) students. The handball pictorial memory tests were distributed among (292) students and were randomly selected from the research community. The number of the exploratory sample was (123) students. Among the most important results of the study were that there were significant differences between the universities in which the study was conducted to test the pictorial memory for soccer. The most important thing that the study recommends is to conduct the current study using the scale for an individual game and for all governorates of the country, as the goal of the event is to identify the extent to which fourth-stage students acquire information, focus, and attention to the game of handball. The most important goal is to ensure quality, equitable and inclusive education for all and enhance learning opportunities for students

Keywords

image memory, handball

Introduction:

Image memory is one of the most influential and stable types of memory in the brain because it depends on the most important sense in the input process, which is the sense of sight. Memory in general is the place where motor programs and motor forms for various human movements are stored. Here it is worth saying that every individual maintains a motor program for each sports skill and is able to implement it. Skill training sharpens this stored program and the image memory to be more accurate in determining the motor program for that skill. Especially in handball skills, there may be a connection between more than one movement, so you need... To multiple programs in memory. (Poltavski) pointed out that visual memory is one of the most important mental abilities that contribute to students acquiring new information, storing it,

reusing it, and preparing it to benefit from it according to the requirements of the tasks assigned to them. These features are unique to memory, which makes it the most influential in making him remember all the things in his life, and when there are problems. It leads to deficiencies in learning outcomes, and therefore care must be taken in order for there to be good outcomes by acquiring information and knowledge correctly and storing them in order to employ them in appropriate situations, especially when learning laws and sports games (2). Sensory memory is one of the mental abilities. Therefore, any cognitive mental activity begins from sensory memory as the first process of direct contact with the surrounding environment, and the process of learning, acquiring, understanding, and then processing and processing information depends entirely on the input of sensory memory. (

Marwan) also pointed out that “memory is the center and focus of cognitive processes, which affects everything cognitive and mental and cognitive activities, and in light of its knowledge reserve, cognitive strategies can be derived that are used in learning, thinking, solving problems, and decision-making” (6) that the curriculum The educational approach used in giving parameters on the information received and the recipient has a direct effect on stimulating the senses to focus attention and for the acquired information to be more absorbed by the recipient. It is in a form that stimulates the senses, especially the auditory and visual ones. Therefore, it is necessary to know the extent of the difference between the information received by the student in the fourth stage and what is stored in his information. Learned about handball. From all of the above, the importance of the research lies in the fact that pictorial memory has an essential role for students in the faculties of physical education and sports sciences to recall and retrieve visual images during the situations that are presented to them during the educational units, as researchers seek to conduct such a study to determine the level of students’ performance in pictorial memory. To compare the level of pictorial memory among some Iraqi universities for the fourth stage in handball, to identify the extent of information acquisition after the researchers observed and informed them of research and studies on pictorial memory, and its importance in clarifying the amount of information acquired by physical education students, their capabilities in retrieving information, and the nature of the program stored in the brain, from that I was diagnosed. The problem is the extent to which an image is formed in memory of what was taught in the previous stages for students of the faculties of physical education and sports sciences in the Central and Middle Euphrates universities, specifically the students of the fourth stage, since handball was

taught to them in the previous stages and that in the fourth stage they have acquired a sufficient store of information about handball from Where the skills and law are through explanation, presentation and application, and as a result of the scarcity of studies and tests for this game in visual memory, the researchers decided to compare in testing the visual memory of the aforementioned sample in order to benefit those working in The field of teaching for this event, and the most important goal of the study is to identify the difference in acquiring information between the Central and Middle Euphrates universities for the game of handball for students of the fourth stage for the year (2023-2024).

Method and procedures:

Research Methodology:

The researchers used the descriptive method using survey and correlational methods, which relies on “collecting data and information about a phenomenon, thing, or incident.” (Amer) (4) With the aim of identifying this phenomenon, determining its current situation, and identifying its strengths and weaknesses in order to know the validity of this situation or the extent of the need to make fundamental or partial changes in this phenomenon.”

Research community and sample:

The current research community was identified, represented by students of the colleges of physical education and sports sciences, the fourth stage of the morning study among some Iraqi universities for the academic year 2023-2024, who numbered (827) students. Handball visual memory tests were distributed among (292) students and were chosen randomly from the research community, and their percentage was (35.31%) As for the exploratory sample, it was (123) students, with a percentage of (14.78%), as shown in Table.(1)

Table .1 the shows the distribution of the numbers of students in the faculties of physical education and sports sciences in the five universities

No.	University name	Number of students	Exploratory sample	Ratio	Main sample	Ratio
1	Baghdad	234	25	10.674	58	24.786
2	Mustansiriya hh	122	22	18.032	61	26.1

3	Diyala	155	30	19.354	57	24.359
4	Misan	188	28	14.894	60	25.641
5	Kerbala	128	18	14.06	59	25.214
	Total	827	123	14.873	292	35.31

Research tools:

Means of collecting information:

For the purpose of collecting data and information and arriving at the truth, researchers used the following methods:

Arabic and foreign sources and references - Observation - Testing and measurement - Handball visual memory tests in its final form - Assistant work team, (Appendix) - SPSS Statistical Portfolio for the Social Sciences

Tools and devices used in the research:

- One (1) mobile device camera
- Manual electronic calculator of Chinese origin, type (JOINUS), number.(1)
- Theoretical halls in the universities where the study was conducted
- G sport POLO stopwatch (1).
- Modem device.

Field research procedures:

An exploratory experiment on handball visual memory tests:

The exploratory experiment was conducted on a group of testers at each university who were excluded from the sample. The exploratory experiment was conducted on (7-10-2023- in Baghdad, 11-10-2023in Mustansiriyahh, 24-10-2023, Diyala, 22-10-2023, Misan, and 10-25-Kerbala) through which we learned about:

- Clarity and understanding of test instructions for testers
- Ensure that the test statements are appropriate.
- The time the test takes.
- The efficiency of the assistant work team.

The researchers applied the tests to a reconnaissance sample of fourth-year students in the College of Physical Education and Sports Sciences at the University of (five and 123 students) who were randomly selected. The results of the exploratory experiment were largely positive for several reasons, including the enthusiasm of the students of these universities in implementing what was required. As well as the

interest of the researchers and the assistant work team, it became clear that the phrases in terms of wording and meaning were clear and understandable, in addition to the experiment being free of negatives and obstacles. The time taken to perform the tests ranged between (35-40) with an average time of (37.5) minutes.

Scientific foundations of the test:

Validity:

(Allen) defined the degree of validity as “the most important factor for simulating the quality of tests and standards” (1). Female researchers used the apparent validity of the test, and the best way to extract the apparent validity of any tests is to present its statements to a group of arbitrators to judge them. The extent of its validity in measuring the studied variable. This was achieved in this test by presenting it to a group of arbitrators and their agreement on the validity of the test statements, instructions, and alternatives.

Stability:

Stability is of particular importance, and Stability may mean objectivity, and (Muhammad) defined it as “the amount of confidence that we can place in the results of our tests” (3). A Stability coefficient was extracted by adopting the split-half method, and the Stability amount was (0.83), which indicates the Stability of the test.

The main experiment of handball visual memory tests:

After extracting the scientific foundations of the tests (validity and Stability of the tests), the tests were applied to a sample during the period extending from (10/11/2023 to 26/11/2023), and after implementing the main experiment, it was the role of the researchers to collect data electronically for the members of the sample group and arrange it in Tables were prepared in preparation for statistical analysis, after making sure that the laboratory was serious in answering the test statements or not, and through the correction process it appeared that all the student testers were honest in their answers to the tests.

Statistical methods:

The researchers used the Statistical Portfolio for Social and Educational Sciences (Spss) to analyze the results of the study, in addition to using other statistical methods to extract data for the research, as follows:

- Percentage.
- Arithmetic mean.
- Standard deviation.
- Analysis of variance

- LSD

Results:

For the purpose of achieving the objectives of the study and testing its hypothesis, the researchers sought to carry out several procedures, including preparing primary data for the research variables: - and processing them through a statistical program to view the most important results. The statistical description of the sample distribution was extracted as follows in Table(2)

Table .2 shows the statistical description of the Iraqi universities' data for the visual

Test university name	Numb er	Arithmetic mean	Standard deviation	Mediator	Skewness coefficient	Standard error of means
Baghdad	58	29.483	10.490	28.000	-1.226	1.377
Mustansiriyahh	61	33.312	14.412	35.000	-1.414	1.845
Diyala	57	33.070	13.134	30.000	-1.537	1.740
Misan	60	35.667	12.914	39.000	-1.302	1.667
Kerbala	56	30.036	10.701	30.000	-0.771	1.430
Total	292	32.360	12.580	30.000	-1.328	0.736

Table (2) shows the arithmetic means, the standard deviations, the median, the skewness coefficient, and the standard error to identify the sample distribution. Since the skewness coefficient is limited to bin (+_1), then the sample is normally distributed.

Table .3 shows the variation between universities for the handball visual memory test

Variables	Sum of squares	Degree of freedom	Mean squares	Arithmetic mean of difference	Mistake percentage	Indication
Between groups	1522.697	4	380.674	2.453	0.046	Sig
Inside the groups	44532.546	287	155.166			
The total	46055.243	291				

Table (3) shows the variation between the universities for the pictorial memory test at a significance level of 0.05, and that there are significant differences between the universities, as the significance level was 0.046, which is less

than 0.05, that is, there are significant differences, and to know which universities are in favor of these differences, the researchers extracted the LSD to identify the differences and to compare between the universities. The five.

Table .4 shows the LSD differences between universities for the handball visual memory test

Universities	Differences between universities	Average differences	Standard error	Mistake percentage	Indication
Baghdad	Mustansiriyah	-3.82872-	2.28451	0.095	Sig
	Diyala	-3.58742-	2.32325	0.124	Non sig
	Misan	-6.18391-*	2.29377	0.007	Sig
	Kerbala	-.55296-	2.33368	0.813	Non sig
Mustansiriyah	Baghdad	3.82872	2.28451	0.095	Sig
	Diyala	0.2413	2.29476	0.916	Non sig

	Misan	-2.35519-	2.2649	0.299	Non sig
	Kerbala	3.27576	2.30532	0.156	Non sig
Diyala	Baghdad	3.58742	2.32325	0.124	Non sig
	Mustansiriyah	-.24130-	2.29476	0.916	Non sig
	Misan	-2.59649-	2.30397	0.261	Non sig
	Kerbala	3.03446	2.34372	0.196	Non sig
Misan	Baghdad	6.18391*	2.29377	0.007	Sig
	Mustansiriyah	2.35519	2.2649	0.299	Non sig
	Diyala	2.59649	2.30397	0.261	Non sig
	Kerbala	5.63095*	2.3145	0.016	Sig
Kerbala	Baghdad	0.55296	2.33368	0.813	Non sig
	Mustansiriyah	-3.27576-	2.30532	0.156	Non sig
	Diyala	-3.03446-	2.34372	0.196	Non sig
	Misan	-5.63095-*	2.3145	0.016	Sig

At a significance level of 0.05

Discussion:

That pictorial memory has an effective role in the learning process, and that learning through pictures is better than learning through verbal or auditory only. It became clear through comparison between the five universities and their results that there are significant differences between Baghdad and Misan, between Kerbala and Misan, and between Al-Mustansiriyah and Baghdad, which means that pictorial memory For university students in sequential order, it depends on giving the curricula on the sensory method, especially vision, and the preference is according to the results of the study for the University of Misan, and that the rest of the universities do not have significant moral differences, which means that education based on visual memory and the information that is given to the students is equal, that is, there are no noticeable differences, and it became clear. This is based on the results, as photographic memory has a major role in processing information that enters the brain through the senses, and input means the process of obtaining information from the environment, which is obtained through the senses of sight, hearing, touch, smell, and muscle feeling, and that this information is transmitted through... The nervous system to the brain in which the decision-making process occurs, as the information that we hear, see, or learn is constantly stored, but scientists have proposed some models, including: The new education proceeds in three stages. The first stage is for the brain to record sensory experiences, that is, what we see or hear.

Alternatively, we smell it, then the memory moves to a short-term storage system, and finally it either goes to a long-term storage system or the experience is completely neglected if it is not important as a result of the succession of cognitive processes. Each stage of forming and processing information receives information from the previous stage before performing its functions (Wissam.) "The perception and discrimination of large numbers of pictures at once has led to the belief that the process of learning these topics through the dual method and instructions with pictures is more beneficial than the process of learning by giving instructions only (7). It is clear to us through the results of many experimental studies that tested the dual coding hypothesis, trying to develop a hypothetical system to clarify the relationship between verbal and visual coding related to memory, learning, and language.(Ayed) found that remembering pictures is usually better than remembering words and sentences, even if these... Pictures are complex, and it was found that remembering the names of physical stimuli is easier and faster than remembering abstract words. (5), as it is mentioned in the similar studies (8) and (9)

Conclusions:

- There are significant differences between the universities in which the study was conducted to test visual memory for handball.
- The significant differences obtained by the researchers between the universities over the students showed that the visual memory test

showed that the preference in retrieving information and memory is in favor of Misan Baghdad Kerbala Diyala over

Recommendations:

- Conducting the current study using the scale for an individual game and for all governorates of the country
- Conducting the same study on a sample of female students and all Iraqi universities.
- Statistical expert: Ed Hanan Adnan Abaoub
- Beneficiary body of the study: Faculties of Physical Education and Sports Sciences (Ministry of Higher Education and Scientific Research)

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Appendix (1)

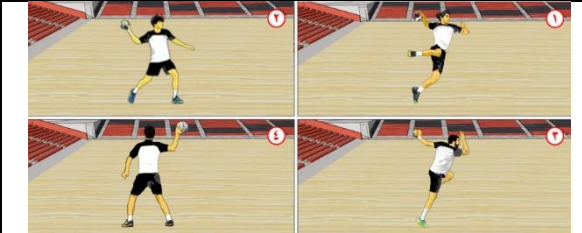
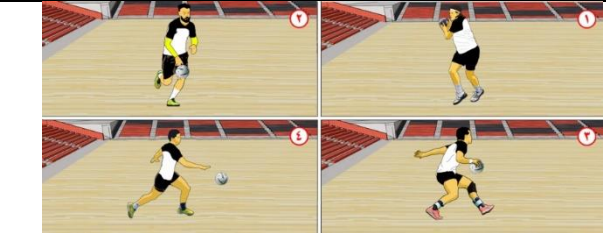
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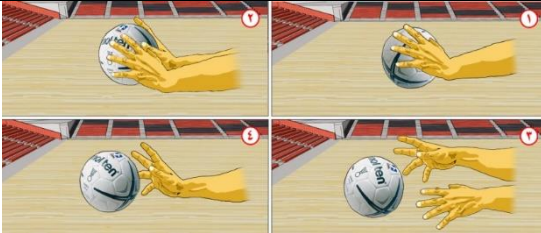
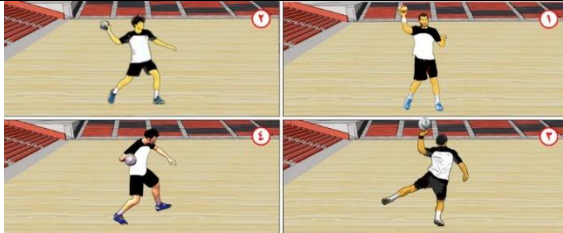
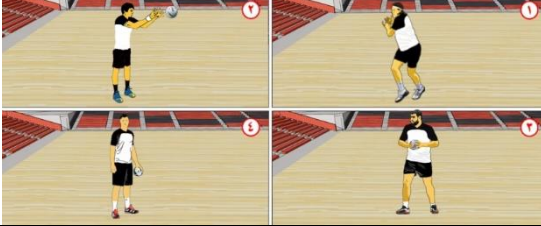
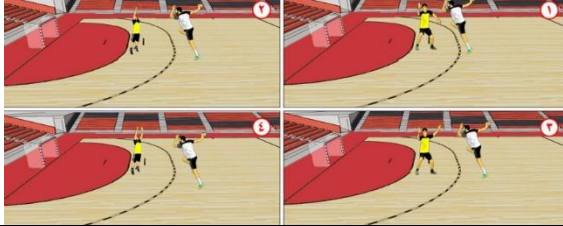
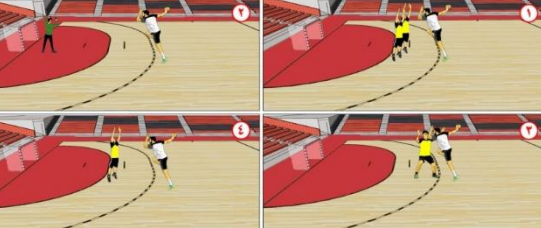
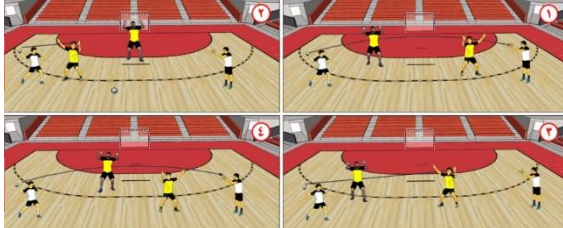
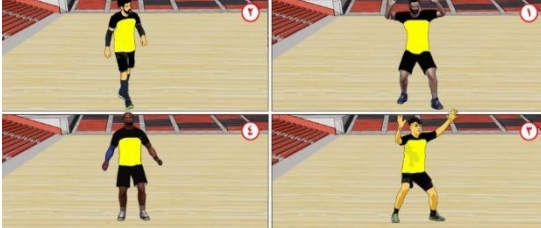
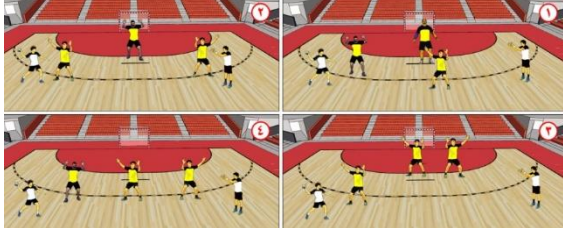
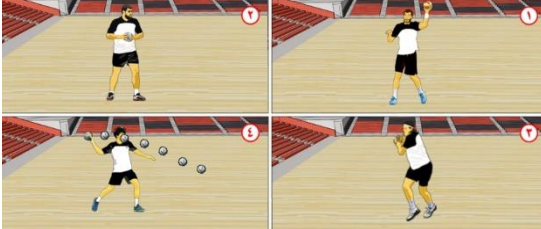
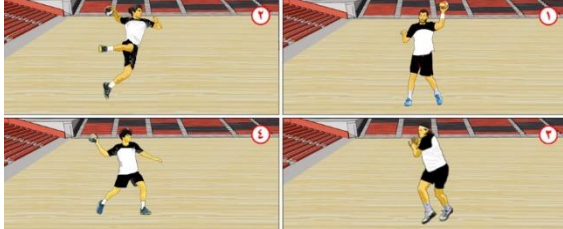
No.	Name and surname	Affiliations
1	Lec.dr. Oras Adnan Hatroush	University of diyala, college of physical education and sports sciences
2	Lec.dr.. Nibras Adnan Hatroush	University of diyala, college of physical education and sports sciences
3	Lec.dr. Nour Abdel Qader	University of diyala, college of physical education and sports sciences

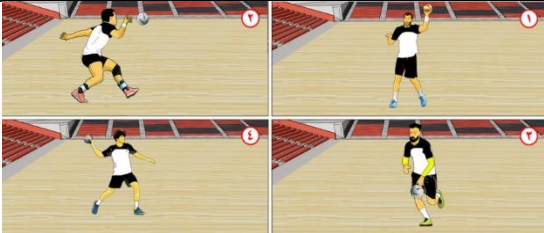
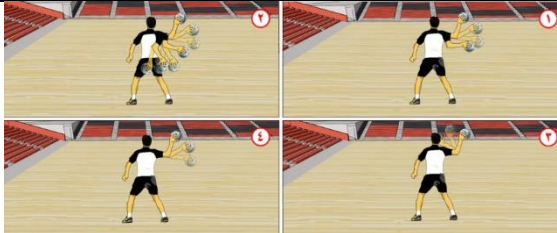
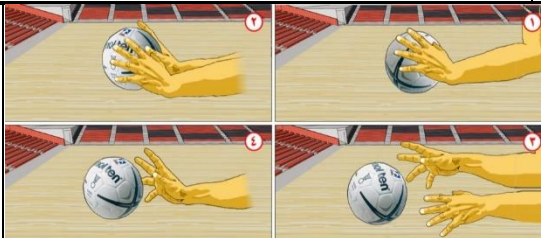
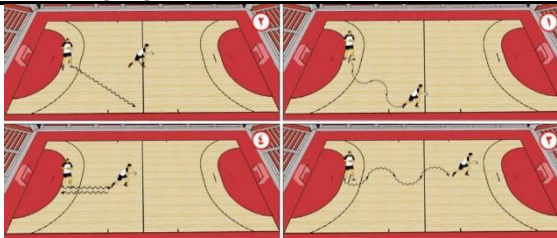
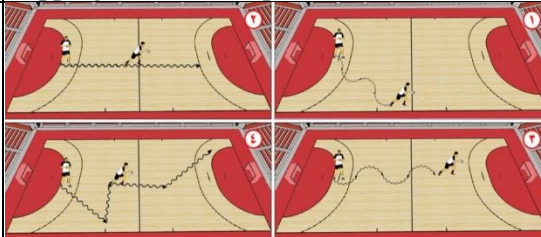
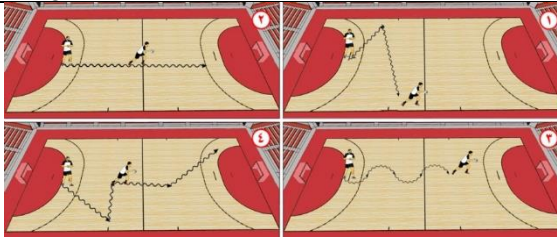
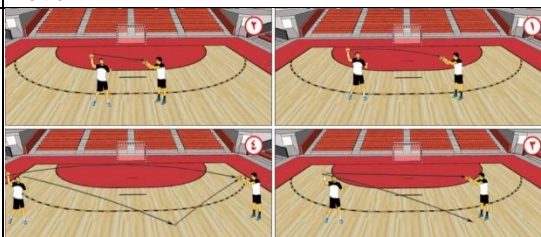
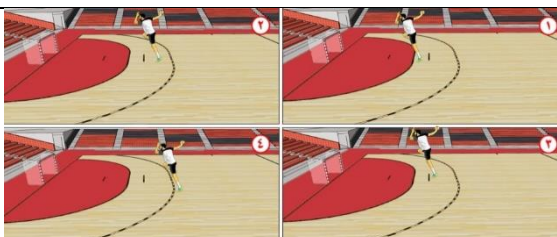
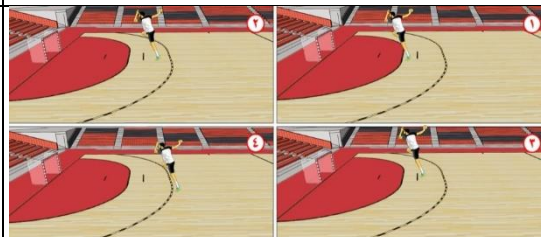
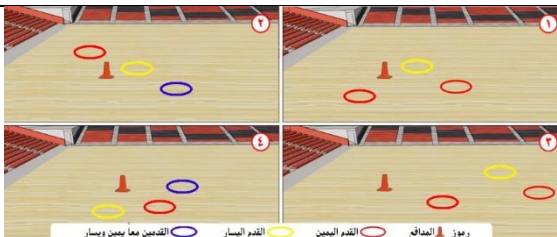
Appendix (2)

Handball visual memory tests Handball visual memory tests(2023-2022) The key to correcting pictorial memory tests for the handball game


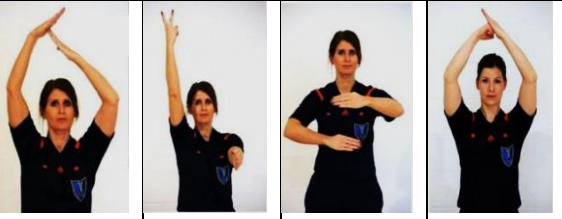
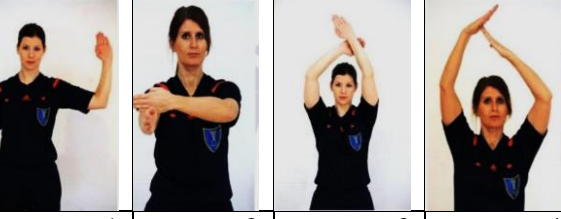

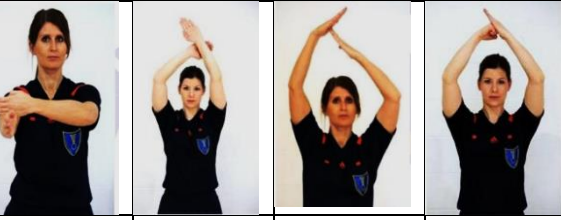



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27	3		
28	3		
29	1		
30	1		
31	1		
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34	1		
35	1		



	1	
Which of the following pictures represents the artistic performance of the skill of catching the		Which of the following images represents the technical performance of the handling skill from

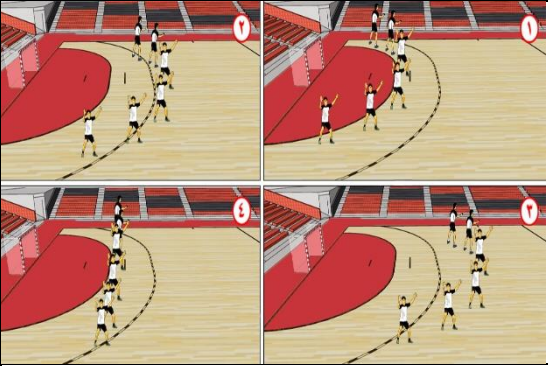
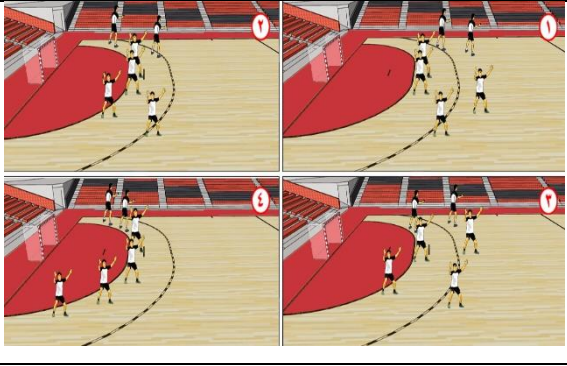
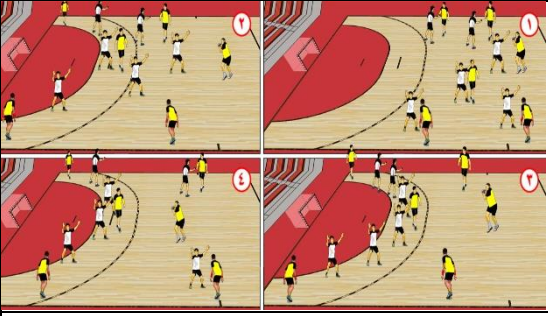
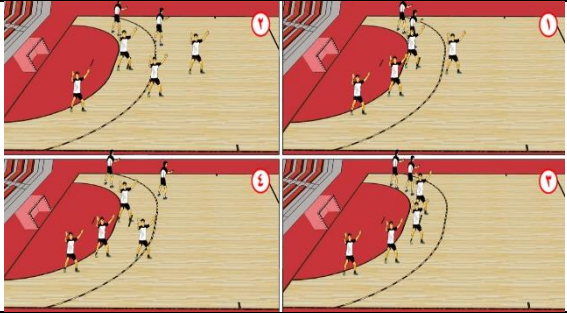
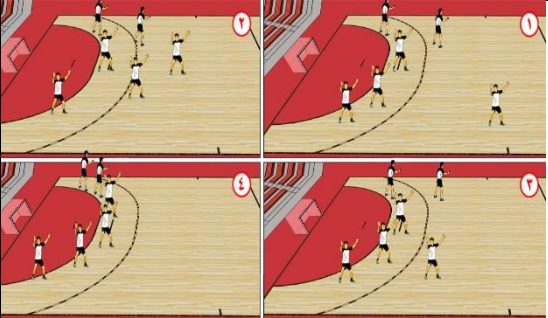
<p>ball with two hands?</p> 		<p>the head level?</p> 
<p>Which of the following images represents the technical performance of the skill of receiving the ball?</p>	2	<p>Which of the following images represents the technical performance of the defensive skill, the individual blocking wall?</p>
		
<p>Which of the following images represents the technical performance of the defensive skill, confronting the attacker (confronting the attacker)?</p>	3	<p>Which of the following images represents the technical performance of the defensive skill of cutting and dispersing the ball?</p>
		
<p>Which of the following images represents the technical performance of the defensive stance?</p>	4	<p>Which of the following images represents the technical performance of the defensive coverage skill?</p>
		
<p>Which of the following pictures represents the artistic performance of the ball handling skill?</p>	5	<p>Which of the following images represents the technical performance of the defensive stance?</p>
		
<p>Which of the following cases represents the technical performance of the passing skill from running?</p>	6	<p>Which of the following cases represents the technical performance of the pendulum passing skill behind the back?</p>

		
<p>7 Which of the following pictures represents the artistic performance of the skill of catching the ball with one hand?</p>	7	<p>7 Which of the following images represents the artistic performance of the continuous tapping skill in a zigzag direction?</p>
		
<p>8 Which of the following images represents the artistic performance of the continuous tapping skill in multiple directions?</p>	8	<p>9 Which of the following pictures represents the artistic performance of the skill of tapping in a straight line?</p>
		
<p>10 Which of the following images represents the technical performance technique for the skill of passing and receiving from chest level?</p>	10	<p>11 Which of the following images represents the technical performance of the shooting skill from behind the 7m line?</p>
		
<p>12 Which of the following images represents the technical performance of the shooting skill from behind the 9m line?</p>	12	<p>13 Which of the following pictures represents the artistic performance of the simple deception skill?</p>
		
<p>14 Which of the following images represents the technical performance technique of the complex deception skill?</p>	14	<p>15 Which of the following images represents the technical performance of the skill of receiving the ball with one hand?</p>

<p>رغوز المدافع، القدم اليمين، القدم اليسار، القدمين معا يمين ويسار</p>	
<p>16 Which of the following images represents the technical performance technique of receiving the ball with two hands?</p>	<p>17 Which of the following images represents the technical performance of the side scrolling skill?</p>
<p>18 Which of the following pictures represents the technical performance of the skill of passing behind the back?</p>	
<p>19 When the attacking player shoots the ball outside the goal. When this situation occurs and a decision is made, the referee signals with his hand one of the following:</p>	<p>20 The defending player commits a foul against the attacking player in the 9m zone when this situation occurs, and to make the decision, the referee signals with his hand one of the following?</p>
<p>1 2 3 4</p>	<p>1 2 3 4</p>
<p>21 When a player commits a violation of walking the ball for more than three steps when this situation occurs and a decision is not taken, the referee signals with his hand one of the following:</p>	<p>22 Which of the following images indicates a violation of the attacker entering the defender?</p>
<p>1 2 3 4</p>	<p>1 2 3 4</p>
<p>23 When the ball exits the side boundaries of the court. What is your decision and you are the</p>	<p>24 As a referee, what is the first decision you make when a player is injured?</p>

	closest judge to the situation?		
			
	1 2 3 4	1 2 3 4	
25	Choose from the following pictures the warning sign of negative play?	26	Choose from the pictures below the bump violation sign (double turn)?
			
	1 2 3 4		1 2 3 4
27	The following images represent some arbitration signals. Choose the correct answer for the violation of the defending player hitting the attacking player's hand?	28	When executing a free throw, the defending players are required to move 3 meters away. When this situation occurs, and to make a decision, the referee signals with his hand one of the following:
			
	1 2 3 4		1 2 3 4
29	As a referee, what is the health signal to stop time in the match?	30	As a referee, what is the correct signal to stop the player for two minutes?
			
	1 2 3 4		1 2 3 4

31	Which of the following signals is the correct signal for the referee's decision when scoring a goal?	32	Which of the following refereeing signals represents the referee's signal when giving a goal throw?
			
	1 2 3 4		1 2 3 4

33	One of the following images represents performing the correct stance for the defensive formation (6 - zero)?	34	In the pictures below, one represents the correct performance of the defensive stance?(3 - 3)
			
35	What is the correct position for the combined (mixed) defense from the following pictures?	36	Which of the following pictures represents the correct position for the defense formation-5)?(1
			
37	Which one of the images shown below - 2 - 3) represents the defensive formation ?(1		
			

دراسة مقارنة في الذاكرة الصورية بلعبة كرة اليد لطلاب المرحلة الرابعة في كليات التربية البدنية وعلوم الرياضة بين بعض الجامعات العراقية

بسمه نعيم محسن 1 ، حنان عدنان عيوب 2 ، ضحي عبد الجبار محمد 3
3&2&1 جامعة ديالى / كلية التربية البدنية وعلوم الرياضة

ان الغرض من الدراسة هو المقارنة في اختبار الذاكرة الصورية للعينة المذكورة من اجل الافادة للعاملين في مجال التدريس لهذه الفعالية, اذ أجريت الدراسة على عينة من الطلاب لكليات التربية البدنية وعلوم الرياضة المرحلة الرابعة للدراسة الصباحية في جامعات الوسطى و الفرات الأوسط للعام الدراسي 2023- 2024 والبالغ عددهم (827) طالباً توزعت اختبارات الذاكرة الصورية لكرة اليد على العدد (292) طالباً واختيروا بصورة عشوائية من مجتمع البحث اما عدد العينة الاستطلاعية بلغ (123) طالباً وكانت من اهم نتائج الدراسة توجد فروق معنوية بين الجامعات التي أجريت عليها الدراسة لاختبار الذاكرة الصورية لكرة اليد واهم ما توصي بها الدراسة اجراء الدراسة الحالية باستخدام المقياس للعبة فردية وعلى جميع محافظات القطر اذ ان الهدف من الفعالية هو لغرض التعرف على مدى اكتساب المعلومات لطلاب المرحلة الرابعة والتركيز و الانتباه لديهم للعبة كرة اليد . والهدف الأهم هو ضمان التعليم الجيد والمنصف والشامل للجميع وتعزيز فرص التعلم للطلاب

البحث
مستخلص

الذاكرة الصورية ، كرة اليد

الكلمات المفتاحية