

The Effect Of Using A Generative Learning Strategy According To The Cognitive Style (Contemplative - Impulsive) On Learning Some Types Of Basketball Scoring For First Stage Students

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Abstract: In recent years, science and technology have raised controversial issues arising from biotechnological innovations that arouse the interest of all people and in all societies, the more science and technology add to us options and increase our ability to control things and new educational processes, and that learning motor skills are groups of processes The mentality helps the learner to increase his ability to learn, and that the mathematical field is one of the areas in which learning is an important basic element, so the learner needs to know all the details related to the nature of the skill that he wants to learn, so that the learning process is subject to many bad aspects. Scientific or techniques used in the learning process and as a result of the development in the field of sport, especially associated with the kinesthetic aspect of learning, specifically mental processes, which prompted specialists to come up with modern educational and educational strategies and models, including the generative learning model.

1. INTRODUCTION

Generative learning is one of the modern and effective models in the educational and educational process, and the purpose of using generative learning is to help learners acquire a set of skills and knowledge, the purpose of which is the ability of the learner to generate new ideas and trends, the purpose of which is to learn skills better and faster, as well as developing modern learning strategies that enable him From independence in learning and his ability to solve problems, make decisions and take responsibility for them, if this strategy gives an important role to the learner by making him more active and positive, as the generative learning strategy is one of the modern learning strategies, it is a method of learning and teaching at the same time, if students participate in Activities and exercises are highly effective through a rich and varied educational process because the generative learning

processes are used for understanding or meaning-based learning in modifying alternative perceptions and special concepts in light of correct scientific knowledge (66:13).

Knowledge is built hierarchically if the information is linked to each other, so learning the new concept requires learning the previous concepts and making sure of their clarity in the mind of the learner, and this is consistent with the theory of Ausubel if the learner rebuilds his concepts and develops his level during his growth, and this means that the learner changes in the structure Cognitive (111: 14).

As the cognitive methods relate to the activity practiced by the individual more than the perceptual and kinesthetic processes of the educational process, and there are multiple methods, among which the cognitive method (contemplative - impulsive) has been used. They show a relative insufficiency in impulsive behavior, while the opposite appears to be the individuals who describe a method that is related to the individual differences that exist between individuals and the speed of their responses and their accuracy in testing the alternatives that they present as foundations or assumptions to solve the problem they face (11:46).

The importance of research lies in knowing the effect of the generative learning strategy in the game of basketball in learning some types of scoring according to the cognitive style (contemplative - impulsive) that contribute to increasing knowledge and the application side of their skills and educational processes.

2. RESEARCH PROBLEM:

The research problem emerges that there are several methods and models for learning and the aim of which is to reach the possibility of achieving the best results, and through the experience of researchers and their scientific and educational observation of this material, it has been observed that many teachers do not follow modern strategies and apply them in the field of teaching where reliance is only on the recitation of the lesson and listening from The student is in operations and without taking into account the individual differences of students, and that the modern strategy of generative learning encourages the process of learning and education in that one, so the researchers decided to use generative learning according to the cognitive style (contemplative - impulsive) in learning some offensive skills of the basketball game to increase the learning of skills To perform and stimulate their cognitive level.

Research Objectives:

- Preparing obstetric educational units according to the cognitive style (contemplative - impulsive) in learning some types of basketball scoring for first-stage students.
- Identify the effect of using a generative learning strategy according to the cognitive style (contemplative - impulsive) in learning some types of basketball scoring among first-stage students.

Research Hypotheses:

- There are statistically significant differences between the pretest and the post test for the contemplative style group and in favor of the post test.

- There are statistically significant differences between the pre and post tests for the impulsive style group and in favor of the post test.
- There are statistically significant differences for the searched variables between the three groups in the post test.

Research Areas:

The human field: First stage students / Al-Mustansiriya University / College of Physical Education and Sports Sciences.

Al-Majali Al-Zamani: for the period from 9/29/2020 until 11/23/2020

Spatial domain: the stadium or hall of the Interior Al-Mustansiriya University / College of Physical Education and Sports Sciences.

Terminology:

The cognitive method (contemplative - impulsive):

"(Kakan) and his colleagues have created, through their studies, a tool for measuring the reflective cognitive style - impulsivity, and this tool has become one of the most popular measurement tools in this field. I called it the Matching Familiar Figures Test (MFFT). In general, the meditators aim to arrive at the right solutions. Regardless of the time allotted to them, while impulsive people aim to reach solutions in the shortest time without caring about the degree of rightness or error of the chosen solutions, because their preoccupation is to save time, and therefore the advantage of contemplative is the correct solution, while the advantage of impulsive ones is the economy of time. (12:44) .

"In general, the advantage of impulsive people at work is speed, regardless of accuracy. As for the meditators, they are those who work to confront the facts with research and careful examination, as they tend to delay in providing their responses with a longer time than examining the alternatives available before they make decisions about them. In general, the advantage of contemplative at work." Is slow, regardless of accuracy "(144: 6)

"Scientific studies and research have indicated that the management of the learning process is carried out by organizing or directing the educational experiences of the learners by the teacher in a manner that leads to the development of their capabilities and abilities as well as facing their individual differences and since there is no one ideal method in teaching physical education, so the process of choosing One method or method depends on the different educational conditions that may surround the educational process, and for that reason the search for new methods and methods in education has become the main concern that occupies every teacher seeking success in his work "(7:10).

3. RESEARCH METHODOLOGY AND FIELD PROCEDURES:

Research Methodology:

In order to reach scientific and objective facts, it is necessary to choose the appropriate method for the research, so the researchers chose the experimental method as it is the most

appropriate method for solving the research problem. And the experience of all kinds "(4: 80), if the researchers used the experimental method in a method (the two groups are experimental) for its relevance and the nature of the research.

The research sample:

The research community included students of the first stage / Al-Mustansiriya University / College of Physical Education and Sports Sciences for the academic year (2019-2020), and their total number (150 students) was chosen by the deliberate method and (30) students were selected, representing (20%)) From the community of origin where the experiment was conducted on them and divided into three groups (10) students for each group, taking into account the exclusion of student players and basketball practitioners, a control group and two experimental groups, and (10) students were selected from outside the research sample for the purpose of conducting the exploratory experiment.

In order to ensure the homogeneity of the sample members and the correctness of the normal distribution among its members, the researcher used the skew coefficient in the research variables, as shown in the table.

Table (1) shows the variables, the unit of measure, the arithmetic means, the mean, the standard deviation, and the torsion coefficient for the homogeneity of the research sample.

Variables	measuring unit	Arithmetic mean	Mediator	standard deviation	Coefficient of torsion
Age	Year	19.31	1.901	0.70	0.150
weight	Kg	65.14	5.112	3.15	1.120
Length	Cm	169.01	2.521	1.77	2.353

Skew values appeared less than +_3 for all variables, which indicates the homogeneity of the research sample. To ensure the equivalence of the sample members, the researchers used analysis of variance for study groups for the results of the pre-tests, as shown in Table (2).

Table (2) the statistical parameters between the groups in the research variables for the purpose of parity

Skills	The source of the contrast	Sum of squares	Degrees of freedom	Average of squares	(F) value Calculated	Error Percentage	significance of differences
Free throw	between	1.110	2	0.233	0.132	0.738	Random
	In	49.201	27	1.318			
Shooting from jumping	between	0.003	2	0.012	0.226	0.679	Random
	In	0.022	27	0.002			
Peaceful aiming	between	0.036	2	0.001	0.433	0.701	Random
	In	0.134	27	0.003			

* Significant at the error level (0.05) if the error level is less than (0.05).

Devices and tools used:

- 1- Basketball court (educational).
- 2- Two (2) stop hours.
- 3- 10 basketballs.
- 4- Sticky numbers.
- 5- Number of chairs (2).
- 6- whistle.

Cognitive scale (reflective - impulsive):

The familiar form analogy test is the main tool for measuring the contemplative-impulsive cognitive style. In general, the test consists of twelve situations. Each position consists of a standard image of something familiar to the subject and eight other images that are similar to the standard images except for a simple thing. Of these eight images there is one image that applies perfectly On the standard image and after the task is completed, the number of errors and the time taken for the subject are calculated. If the subject is considered impulsive if his errors are above the mediator and the time of his response is without the mediator after extracting the median of the number of errors and the median of the time of the response.

Search Tests:

Free throw test (236; 8)

The purpose of the test: To measure the accuracy of the free throw's aim behind the free throw line.

Necessary tools: basketball court, basketball goal, basketball.

Number of attempts: Each player is awarded (20) attempts divided into four groups, each group consisting of (5) consecutive attempts.

Calculation of points: one point is calculated and recorded for each player for each successful throw (a ball that enters the basket), and no point is counted for the tester when the ball does not enter the basket, and the highest points that can be obtained are (20) points.

Test the accuracy of shooting from jumping from ten areas: (87:16)

The purpose of the test: - To measure the accuracy of the aim of the jump from within the calculated arc with three points.

Tools: a digital electronic device that gives a digital signal from one to ten and can be controlled manually. Ten basketballs, a stopwatch.

Measures:

- Determine a central point at the bottom of the basket that you can rely on to mark the main points

From the central point we determine (10) points as follows:

1- From the central point, we draw (5) points in the form of an arc at a distance of (3.5) meters.

2- From the central point, we draw (5) points in the form of an arc at a distance of (4.5) meters.

3- Clear numbers, in a different color, are placed on the pitch, from one to ten, and on the points that have been marked, and the numbers are sticky.

4- A basketball is installed next to each basketball number.

5- Each laboratory has ten correction attempts.

Performance specifications:

The device is installed on the basket column below the target plate and the tester stands facing the target plate and outside the three point bracket and the tester stands under the basket holding the control device and when the signal is given, he starts the stopwatch and presses the stop button on the control device so that the screen stops at a specific number from one to ten Randomly, when the number is seen in the device by the laboratory, the laboratory turns towards the same number installed on the ground to pick up the ball next to the number and shoot from the jump, then the test-maker turns on the device again to turn the screen on again and when the laboratory finishes the first attempt, the test-maker By directly pressing the stop button, the screen stops on another number, so the tester will go towards the new number and pick up the ball to lead a correction from the jump and so on until the ten attempts are completed.

How to register:

1- The time is calculated from the start until the ball comes out of the tester's hand on the tenth attempt.

2- It is given to the laboratory (2 marks) for each successful attempt.

3- The laboratory is given a score of 1 for each attempt that touches the ring and the ball does not enter the basket.

4- No score is given to the tester if the ball does not reach the basket.

5- The final laboratory score is the result of dividing the total accuracy scores by the recorded time.

The peaceful correction test after performing the puck (378; 5):

The purpose of the test: - To measure the ability to change direction, handle the ball with two hands, speed and accuracy in aiming at the basket.

Tools: (2) chairs, (2) basketball, stopwatch, basket goal surrounded by clear and specific borders.

Procedures: Draw two lines on the ground (A - B) of each length (3.60) meters from the middle of the finish line, so that each line with the finish line makes an angle (45).

- A chair is placed next to each line, and one basketball chair is placed on each chair.

- Draws on each of the side lines a line of length (60) cm, this line is called the starting line.

A chair is placed on the side of this line, one foot away from which a basketball is placed.

- The tester stands next to the chair, and when the start signal is given, it picks up the ball from above the chair and then returns to the starting line (B), then patters and runs with it towards the basket, and when it approaches the basket, it shoots on it, then picks up the ball, and immediately passes it to the assistant standing next to The chair is at the starting line (B), who in turn picks it up and places it on the chair.

- After the tester passes the ball towards the starting line (B), he runs towards the chair at (A), then he catches the ball from above the chair and starts to bump and runs with it from the starting line towards the basket where the run ends with a peaceful correction on the basket and then He picks up the ball after the shot and passes it to the assistant at (A), who in turn receives it and places it on the chair, and thus continues to catch the ball, running and shooting from both sides alternately until it completes (5) times on each side and the total of the shots is on the basket (10) shots.

- The run must begin with the ball on each side from behind the starting line (60 cm) line.

- The timer calculates the time from the tester's starting signal until the laboratory catches the ball after shooting it at the basket on the tenth time.

- Each player is given three consecutive attempts between each attempt and the other, a rest period of not less than (2 minutes).

Test Instructions:

- The test should start every time the laboratory tries to run and pat with the ball and shoot at the basket from behind the line (24 inches).

- The ball must be stumped while running legally according to the law of the game.

- Do not jump twice with the ball in one shot.

- The attempt is not considered correct, as the lab did the dab and ran with it, then it stopped and then resumed it again.

- The timer calculates the time and records the faults in which the tester occurs.

- The scorer calculates the points resulting from hitting the target and also saves the number of goals scored by the laboratory and notes the timer when the tester reaches the ninth shot.

The score is calculated by relating the time taken by the laboratory and its accuracy of correction.

- The time is calculated from the time the laboratory gave the start signal until the moment when the ball was caught after shooting it to (1/10) of a second.

Correction accuracy is calculated as follows:

A- The laboratory assigns (2) a score for each ball that enters the basket.

B- The laboratory gives (1) for each ball that hits the ring from the top and does not enter the basket.

C- The tester does not give any score when the ball does not touch the ring.

D- One second is added to the total time recorded by the laboratory, when it commits a violation of the test instructions.

E- The final score of the test is (the sum of the accuracy scores on the sum of seconds, and the tester's best score is calculated for the three attempts).

Exploratory experience:

The two researchers conducted an exploratory experiment on (Tuesday) on 9/29/2020, whose number was (8) students from outside the main sample, in order to ensure the safety of the tools and devices used in the research.

Pre-tests:

The two researchers conducted the pre-tests for the types of basketball scoring (standing by scoring (free throw) and scoring from jumping and peaceful scoring) on the research sample on (Thursday) 10/1/2020 in the Hall of the College of Physical Education and Sports Sciences / Al-Mustansiriya University.

The main experiment:

The curriculum was implemented according to the method of generative learning strategy according to the cognitive method (contemplative - impulsive) on 10/4/2020, it included (7) weeks and by (3) educational units per week, and the total number of units is (21) educational units, and the sections were used The whole unit is (90) minutes, and the educational curriculum ended on (Monday) 11/19/2020.

Where in the main section (70) minutes a skill or exercise was presented and explained, and the two experimental groups practiced learning the skill according to the educational curriculum prepared by the researchers with the generative learning strategy according to the cognitive method (contemplative - impulsive) .As for the control group, it practiced the approach followed by the subject teachers.

Post- tests:

After completing the application of the educational curriculum on the experimental groups, the researcher conducted the post tests on the research sample on (Sunday) 11/22/2020. Itself and the auxiliary working group that conducted the same pre-tests.

Statistical means:

The researcher used the statistical bag (SPSS) to complete his research and determine the difference between the initial and post tests, as well as the difference between the post tests of the three experimental groups and the control group to find the following:

- 1- The arithmetic mean.
- 2- Standard deviation.
- 3-Test (T).
- 4- Coefficient of torsion
- 5- Analysis of variance.
- 6-LSD.

4. FINDINGS, DISCUSSION AND ANALYSIS:

Presentation and analysis of the arithmetic mean and standard deviations in the results of the two tests (pre and post) and their analysis.

This chapter includes presenting the results of the tests that were used in the research and which the sample was subjected to in the pre and post tests according to tables and illustrations to find out the differences and compare the results of statistical operations to reach the final results.

Table (3) Arithmetic meanings and standard deviations in the research variables for the two experimental research groups (reflective - impulsive) and the control group in the pretest.							
Variables	measuring unit	Contemplative group		Impulsive group		Control group	
Free throw		4.410	1.858	5.150	1.225	5.226	1.095
Shooting from jumping		0.157	0.055	0.132	0.040	0.110	0.045
Peaceful aiming		0.140	0.030	0.131	0.046	0.117	0.044

Table (4) the arithmetic mean and standard deviations in the search variables for the two experimental research groups (reflective - impulsive) and the control group in the post test.

Variables	Contemplative group		Impulsive group		Control group	
Free throw	12.825	1.229	10.650	1.456	9.200	1.475
Shooting from jumping	0.350	0.019	0.151	0.075	0.173	0.029
Peaceful aiming	0.279	0.032	0.270	0.029	0.215	0.085

Table (5) shows the difference of the arithmetic mean, its standard deviation, the calculated (t) value, and the significance of the differences between the results of the two tests (pre and post) for the experimental research groups (reflective - impulsive) and the control group in a free throw variable

Groups	measuring unit	Differences A	STD Differences A	The value of (t) calculated	The level of significance	significance of differences
Contemplative group	Degree	8.415	0.629	10.912	0.000	Sign
Impulsive group	Degree	5.500	0.231	6.128	0.000	Sign
Control group	Degree	3.974	0.38	7.660	0.000	Sign

* Significance at the adopted level of significance (0.05) if the level of significance is less than (0.05) at the degree of freedom (10 - 1 = 9).

Table (6) shows the difference of the arithmetic mean, its standard deviation, the calculated (t) value, and the significance of the differences between the results of the two tests (pre and post) for the experimental research groups (reflective - impulsive) and the control group in the correction variable from the jump

Groups	measuring unit	Differences A	STD Differences A	The value of (t) calculated	The level of significance	significance of differences
Contemplative group	Degree	0.193	0.036	11.522	0.000	Sign
Impulsive group	Degree	0.019	0.035	5.938	0.000	Sign

Control group	Degree	0.105	0.016	6.100	0.000	Sign
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* Significance at the adopted level of significance (0.05) if the level of significance is less than (0.05) at the degree of freedom (10 - 1 = 9).

Table (7) shows the difference of the arithmetic mean, its standard deviation, the calculated (t) value, and the significance of the differences between the results of the two tests (pre and post) for the experimental research groups (reflective - impulsive) and the control group in the peaceful correction variable

Groups	measuring unit	Differences A	STD Differences A	The value of (t) calculated	The level of significance	significance of differences
Contemplative group	Degree	0.139	0.002	11.396	0.000	Sign
Impulsive group	Degree	0.139	0.017	8.077	0.000	Sign
Control group	Degree	0.078	0.041	2.608	0.000	Sign

* Significance at the adopted level of significance (0.05) if the level of significance is less than (0.05) at the degree of freedom (10 - 1 = 9).

Presentation and analysis of the results of the analysis of variance test (F test) for the three experimental research groups and the control group in the results of the post test in the variables under investigation.

Table (8) shows the analysis of variance in the variables under investigation for the experimental research groups and the control group in the post-test.

Skills	The source of the contrast	Sum of squares	Degrees of freedom	Average of squares	(F) value Calculated	The level of significance	significance of differences
Free throw	between	84.100	2	28.033	15.818	0.000	Sign
	In	63.800	27	1.772			
Shooting from jumping	between	0.036	2	0.012	17.328	0.000	Sign
	In	0.025	27	0.001			
Peaceful aiming	between	0.027	2	0.009	3.700	0.020	Sign
	In	84.100	2	28.033			

Significant at the approved level of significance (0.05) if the level of significance is less than (0.05).

- Presentation and analysis of LSD results between the three experimental research groups (Tamil group - impulsive - Tamil group - control - impulsive group - control) and the control group in the results of the post test in the variables under investigation.

- Presentation and analysis of (LSD) results between the three experimental research groups (Tamil group - impulsive - Tamil group - control - impulsive group - control) and the control group in the results of the post test of the free throw variable.

Table (9) shows the arithmetic mean difference between the three experimental research groups (Tamil group - impulsive - Tamil group - control - impulsive group) and the value of (LSD) and the significance of the differences in the free throw variable

Groups	Differences Of circles	The difference	(LSD) value	
Contemplative - impulsive	10.650 – 12.825	*2.175	1.209	Sign
Contemplative - Control-Control	9.200 – 12.825	*3.625		Sign
Impulsive - Control	9.200 – 10.650	*1.45		Sign

The significance level is at (0.05) if the significance level is less (0.05).

Presentation and analysis of (LSD) test results between the three experimental research groups (Tamil group - Impulsive - Tamil group - Control - Impulsive group - Control) in the results of the post test for the jump shot variable.

Table (10) shows the difference of arithmetic mean between the three experimental research groups (Tamil - impulsive group - Tamil group - control - impulsive - control group) and the value of (LSD) and the significance of the differences in the jump shot variable

Groups	Differences Of circles	The difference	(LSD) value	
Contemplative - impulsive	0.151 - 0.350	*0.199	0.028	Sign
Contemplative - Control-Control	0.173 – 0.350	*0.177		Sign
Impulsive - Control	0.173 – 0.151	*0.022		Sign

The significance level is at (0.05) if the significance level is less (0.05).

Presentation and analysis of LSD results between the three experimental research groups (meditative group - impulsive - contemplative group - control - impulsive group - control) in the results of the post-test results of the variable accuracy of peaceful correction.

Table (11) shows the difference of the arithmetic mean between the three experimental research groups (meditative - impulsive group - contemplative control group - impulsive control group) and the value of (LSD) and the significance of the differences in the variable accuracy of peaceful correction

Groups	Differences Of circles	The difference	(LSD) value	
Contemplative -	0.270 – 0.279	0.009		Random

impulsive			0.040	
Contemplative - Control-Control	0.215 – 0.279	*0.064		Random
Impulsive - Control	0.215 – 0.270	*0.055		Random

The significance level is at (0.05) if the significance level is less (0.05).

5. DISCUSSING THE RESULTS:

By presenting the results of the research there is an evolution in the groups, and the researchers believe that the two experimental groups greatly outperform the skills mechanism because the correct timing and accuracy in delivering the ball to the goal (the basket) do not need to be done, and this is consistent with the specifications of the integral dimension characterized by accuracy and speed of movement, and also needs to be The change in the direction of the ball in correction in general to the speed in the performance of the course of the game and this is one of the characteristics of the impulsive dimension, which is characterized by its speed in actions in making various decisions, and this is confirmed by (Ahmed Awad). Responding to reach solutions in the shortest possible way. (19: 1)

And the use of this educational method appropriate to the cognitive style that the learner possesses has a great effect on cognitive-impulsive learning because the students do not differ among themselves in particular in the ability to learn, but rather they differ in the tendency to choose materials that match their cognitive styles (94: 2), where The skills in the basketball game need tan, hope, not haste and enough time because the Tamil pattern that results from it is better, and then remembering and retaining more, and this is what Al-Rubaie indicated to him that the learners who relied on themselves in performing the tasks and entering the information to memory in sufficient time and according to the method followed by (The learner's dependence on himself in research, correct thinking, correcting his mistakes, and not being satisfied with the effort and clarification made by the teacher increased the learner's ability to memorize and remember what he learned. (161: 3)

Whereas the use of modern strategies for compatibility with students helps them acquire skills and develop them in a modern way and to develop preparations and capabilities and train on them. Through modernity and linking new and prior information to build more complete and more dedicated cognitive structures (10: 131), and also aims to help learners in terms of generating previous experience and their subsequent experiences, (and as generating relationships between parts of knowledge or subsequent experiences that are intended to be acquired and using modern concepts in interpretation Different educational situations to ensure that they understand these concepts (89: 9).

The difference between the learners, to varying degrees, between them in terms of the methods they deal with and their awareness of the skills, the use of the Tamil-impulsive method that took into account the individual differences between them and prepared them in the attitudes and skills that suit the learners according to their cognitive style (15: 211)

By looking at tables (9), (10) and (11) regarding the variables of the accuracy of the free throw and the accuracy of scoring from the jump and the accuracy of the peaceful scoring, we find the significant differences between the contemplative method group and the rest of the groups (the impulsive method) and (the control group), where the highest difference was Both the impulsive method group and the control group in the research variables and the researchers attribute the progress of the contemplative method group over the rest of the groups to the teaching of scoring skills such as jumping, free throwing and peaceful scoring according to the generative learning strategy had the greatest impact, as this method is one of the modern methods that help students to Acquiring knowledge and generating new ideas, which led to the acquisition of skills, performance and learning optimally.

The researchers also attribute the superiority of the experimental groups over the control group to the modern approach that the researcher followed with the members of the experimental group. The researcher also attributes that the control group has learned in the traditional method that lacks interaction and excitement with the educational material. In this regard, Doaa Muhammad indicates, "It does not provide an opportunity for the learner to interact socially and to provide experiences that help him learn and face his problems" (4: 100).

6. CONCLUSIONS:

- The results of the pre- and post-tests showed an improvement in all research variables and for all groups.
- The first and second groups that used the educational curriculum with a generative learning strategy according to the method (contemplative - impulsive) showed a positive effect on the development of basketball scoring skills.
- The traditional method used with the control group has an effect on the development of the research variables, but with lesser rates than the experimental groups.

7. RECOMMENDATIONS:

- Conducting studies with a generative learning strategy according to the method (contemplative - impulsive) in learning defensive skills with basketball.
- The necessity of having trainers for multiple cognitive methods to take into account individual differences between students and taking this method into account when choosing exercises and educational aids to make the learning process more effective.
- Conducting studies on the role of generative learning in learning various other sports for all levels of education 4- Conducting a study of comparing brain patterns between male and female students with basketball and other materials.

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