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The effect of using the generative method in learning defensive skills in basketball

Zainab Qahtan ⁽¹⁾✉, Huda Abdul Samie ⁽²⁾✉, Zena Abdul Salam ⁽³⁾✉, Saja Shukur ⁽⁴⁾✉

1,2,3&4 College of Physical Education and Sports Sciences for Woman / University of Baghdad

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Abstract

The importance of the research lies in experimenting with a group of diverse teaching methods in the nature of their application in order to create a suitable teaching atmosphere for students. The research aims to identify the effect of the generative learning method for teaching the basic defensive skills of the game of basketball and to identify which of the two teaching methods is better in teaching the basic defensive skills of the game of basketball. The human field includes students of the first stage in the College of Physical Education and Sports Sciences / University of Baghdad for the academic year (2022/2023). The researchers used the experimental method by designing (equivalent groups) appropriate to the nature of the problem, and the most important conclusions were that the diversity in the use of methods included in the generative method It gives greater motivation to learn and therefore has a positive impact on learning research skills. As for the recommendations, the researchers recommended adopting various teaching methods that work to increase motivation and desire to learn and thus break the stagnation and routine followed in teaching.

Keywords

teaching methods, basketball

Introduction:

The teaching process requires scientific institutions and human capabilities that are managed scientifically and provide scientific information aimed at achieving educational goals with modern trends that work to develop human capabilities through various means. The multiplicity and diversity of teaching methods fulfill these goals, and the generative method is one of the modern methods in the teaching method that the teacher must enjoy it, which works to stimulate the individual or group and aim to learn sports activities and help each other to raise their level and achieve their common educational goals. One of these institutions is the College of Physical Education and Sports Sciences for Girls, which teaches several study subjects that work to provide students with a range of educational experiences. (Theoretical and scientific) in various fields, and among these subjects is basketball, which takes up a wide area

in the weekly lesson schedule, and which requires players to master defensive and offensive skills at the same time so that the team can win the match, as (Raghad Juma) indicated, “The reasons for the development of the technical performance of some skills.” The basic basics of basketball for female students, which is using a method for some selected exercises, treating and correcting errors in a correct scientific and educational manner, and providing students with the opportunity to perform the skills that they used to diagnose the mistakes made by their colleagues. (1). Hence the importance of research lies in experimenting with a group of diverse teaching methods in the nature of their application in order to create a suitable teaching atmosphere for students through building educational units that contain diverse methods that bring enjoyment to students and motivation to learn. The problem of the research lies in the researcher’s modest experience as teachers and access to much of the

previous research and scientific studies have provided, despite the enumeration of modern methods and various educational means, in serving the development of the educational level. However, teaching is still dominated by the teacher's style in most of the course of the practical situation, and they use traditional methods that are not compatible with the requirements and abilities of the learner, which has negatively affected the role of student creativity in the educational process, as far as researchers know, as the generative method is considered one of the most prominent constructivist models used in teaching. It is part of the generative processes carried out by the student to link new information with previous knowledge. Therefore, the researchers seek to study this problem, which is that the methods and techniques used may not be in line with modern teaching methods that are compatible with the needs, desires and inclinations of the students and show their true level when they use defensive skills in teaching the game of basketball, which Through it to show the cognitive aspects of the game and reach the best level, the goal of the research is to prepare an educational program according to the generative learning method to learn some basic and defensive skills for the game of basketball, and to identify the effect of the generative learning method and teach some basic defensive skills for the game of basketball, and to identify which of the two methods is better. In teaching some basic defensive skills for the game of basketball, the research hypothesis: There are statistically significant differences in the results of the pre- and post-tests for the two research groups in learning some basic defensive skills for the game of basketball. In favor of the post-tests, there are statistically significant differences in the

results of the post-tests between the two methods of teaching some basic skills for the game of basketball. For the benefit of the experimental group, the human domain was for first-year students in the College of Physical Education and Sports Sciences/University of Baghdad for the academic year (2022/2023), time domain: from (19/2/2023) to (23/4/2023), Spatial field: Interior hall of the College of Physical Education and Sports Sciences / University of Baghdad.

Method and procedures:

The nature of the problem is what imposes on the researchers to use the appropriate approach to solve the problem. Therefore, the researchers used the experimental approach by designing (equal groups) appropriate to the nature of the problem. The research community and sample: The research population was chosen as first-year students at the College of Physical Education and Sports Sciences/University of Baghdad for the academic year. (2022/2023), numbering (144) students distributed among (6) sections. As for the research sample, which means (a group of individuals taken from the original community as an alternative to it in the data collection process, by studying the characteristics and characteristics of the sample, we can describe the properties and characteristics of the community). The research sample was chosen randomly and by lottery, where Division (A) was chosen, which is in number. (23) students from the experimental group, while the (23) group (B) represented the control group. (3) from the (A) group and (3) from the (B) group were excluded due to their proficiency in playing, and thus the percentage of the research sample reached (27.27% of the indigenous community, and Table (1) shows this.

Table .1 shows the distribution of the experimental and control groups

Research community	Research sample		Excluded students		Percentage
	Control	Experimental	Control	Experimental	
144	23	23	3	3	27,27

For the purpose of ensuring the homogeneity of the sample members and the validity of the normal distribution among its members, the researchers used the coefficient of variation in the variables (height - weight - age). The closer the values of the coefficient of variation are to (1), the greater the homogeneity among the sample members, and the more the values are more than (30). This means that the sample is not homogeneous. As for the equality of the sample

before the start of the experiment, the researchers used the t-test between the control and experimental groups in the variables related to the research. The sum of the calculated (t) values was smaller than its experimental value of (2.03) at a significance level of (0.05) and a degree of freedom (38). This indicates the equality of the two groups, and Table (2) shows this. The researchers adopted these results as their pre-tests.

Table .2 shows the equivalence of the two research groups for all variables investigated

Variables	Measuring unit	Experimental		Control		T value calculated	
		Mean	Std. Deviations	Mean	Std. Deviations		
Growth rates	Length	Cm	173,43	4,61	174,38	4,28	0,538
	Mass	Kg	68,83	1,83	69,21	1,94	0,262
	Age	Year	20,15	0,90	21,03	0,86	1,421
Skills	Defense against dribbling	second	15,11	1,01	15,21	1,14	1,02
	Defense against passing	second	16,14	1,12	16,43	1,18	0,98

Tabular T value below significance level (0.05) and degree of freedom (38) - (2.03)

Means of collecting information, tools and devices used in research:

Means of collecting information:

The researchers relied on collecting data through the following means: (Arab and foreign sources - personal interviews - questionnaire form - the Internet - videotaping)

Devices and tools used in the research:

(basketball court - video camera (1) - basketballs (15) - signs (10) - laptop calculator (1) - whistle - stopwatch - measuring ruler to measure height - medical scale to measure Weight - library tools - laser discs - ball bearing at (2)

Tests used (1)

1- Test defense against dribbling (Ali Kamal Hussein) (4)

- Test name: Defense against dribbling.
- Purpose of the test: - Measure the speed of defense performance against dribbling

- Tools used: - Adhesive tape, leather measuring tape (20 m), markers at (4), electronic stopwatch, whistle, papers and pens for recording.
- Test procedures: According to the marks distributed as follows: The first and fifth marks are at the middle of the free throw line and at a distance of (5.80 m) from the finish line on both sides, and the two marks (4.2) are far from the finish line (9.90 m) from both sides on one side and are far from the side line. (90 cm), and the third mark is at the midline of the center of the circle, as shown in the figure.
- Description of performance: The defending player stands on the first mark and facing the second mark, and upon hearing the start signal through the whistle, the player runs quickly to defend against dribbling towards the front of the second mark (signs 1) and stops, and then a quarter turn inward with his right leg to change direction and perform the movement of the defending player. Towards the front of

the third mark (signs 2) and stop, then make a quarter turn with the left leg and perform the movement of the defending player towards the front of the fourth mark (signs 3) and stop, and then a quarter turn with the right leg inward and quickly run and block the dribbling towards the fifth mark (signs 4) And stop, with the four steps of defense.

- Test conditions

- Execute test steps quickly.
- The knees are bent when performing the defensive player's movement against dribbling, with the arms spread to the side down
- Just one try

- Test administration:

- Timer: Giving the start and end signal via the whistle with the timing
- A recorder calls the names and notes the performance while recording the test time

- Calculating the score: The player records the time it takes to perform the test in steps (276) using a whistle. The beginning and the end.

Test defense against passing. (Qasim Hassan)

(5)

- Test name: Defense passing test
- Purpose of the test: to measure the speed of defense performance against passing.
- Tools used: adhesive tape, leather-measuring tape (20 m), number (4) signs, electronic stopwatch, whistle, papers and pens for recording.
- Test procedures: Four marks are distributed as follows: The first and third marks at the end of the free throw zone from both sides are (5.80 m) away from the final line, and the two marks (4.2) are the extension of the top of the far shooting arc from both sides outside the strong, and each of them is (1.50 m) away from the two side lines.
- Description of the performance: The defending player stands facing the first mark (signs 1), and upon hearing the start signal from the whistle, the player runs towards the second mark (signs 2) to defend against passing to display the touch and return with the movement of a defensive player behind (cone 1), and then perform a player movement

defender towards behind the third mark (signs 3), and then running towards the fourth mark (signs 4) to defend against passing to display the touch and return with a movement of a defending player behind (signs 3), and then performing a movement of a defensive player towards behind the first mark (signs 1) and as Shown in the figure with the six steps.

- Test conditions:

- Execute test steps quickly
- Bend the knees when performing the defensive player's movement, while raising the arms no less than (90 degrees) between the upper arm and the torso.
- When the player arrives before the second mark, the left arm is taken out and extended to interrupt the passing
- When the player arrives before the fourth mark, the right shield is taken out and extended to interrupt the passing
- Repeat the performance twice, and the defense actually blocked passing four times with only one attempt.

- Test management:

- Timer: Giving start and end signals via the whistle with timing
- Recorder: He calls the names and notes the performance while recording the test time
- Calculating the score: The player records the time it takes to perform the test in steps (6 x 2), based on the start and end whistle.

Exploratory experiments:

The exploratory experiment (a preliminary experimental study carried out by the researchers on a small sample before carrying out his research with the aim of choosing research methods and tools) (1). Therefore, the researchers conducted the exploratory experiment for the proposed tests in Division (C) for the first stage, College of Physical Education and Sports Sciences for Girls, University of Baghdad, and it was completed. The experiment on the basketball court at the College of Physical Education and Sports Sciences, University of Baghdad, on Sunday, February 19, 2023.

Pretests:

The researchers relied on the results of the equivalence and homogeneity test as pre-tests on Wednesday (22/2/2023).

Educational curriculum used:

The researchers prepared a learning curriculum according to the group learning method. The curriculum was presented to a group of experts and specialists in the field of teaching methods and basketball. The learning curriculum, Appendix (1), consists of (6) learning units. Each skill is repeated twice a week, where a type of skill is applied in each unit. The four types of group learning method, according to the exercises that the skill asks for. The curriculum lasted for (3) weeks and at a rate of (90) minutes per unit, as it began implementing the curriculum on (Sunday 2/26/2023). It was completed on Wednesday (4/19). /2023) The nature of the work during the educational unit was as follows:

- Learning circles: Learners share ideas by working in a group to arrive at common solutions
- Integrated cooperative learning: cooperative groups are formed and the subject is led into a procedure so that each member of the group

learns a part and then returns to the group so that we have an integrated group to collect the skill procedure and the role of the trainer is to supervise and direct.

- Peer method: The group is divided into pair groups in which there is a teacher and a learner. The teacher's role is supervision and guidance.
- Competitive method: in which students compete with each other to achieve a specific goal

Post-tests:

The post-tests for the research sample were conducted on the basketball court in the College of Physical Education and Sports Sciences, University of Baghdad, after the completion of the application of the educational curriculum, and with the direct supervision of the researchers, who were keen to create the same conditions in which the pre-tests were conducted, with regard to place, time, equipment, tools, and Assistant work team staff on Sunday (23/4/2023).

Statistical methods: The search data was processed through the Statistical Package for the Social Sciences (spss ver14).

Table .4 It shows the arithmetic means, standard deviations, and T-values for the pre- and post-tests of the experimental group

No.	Skills	Measuring unit	Pre-test		Post-test		T value Calculated	Type sig
			Arithmetic means	Standard deviations	Arithmetic means	Standard deviations		
1	Defense against dribbling	Second	15.11	1.01	11.21	1.21	23.13	Sig
2	Defense against passing	Second	16.14	1.21	13.31	1.14	21.68	Sig

Tabular T value at significance level (0.05) and degree of freedom (19) = (2)

Table .4 shows the arithmetic means, standard deviations, and T-values for the pre- and post-tests for the control group.

No.	Skills	Measuring unit	Pre-test		Post-test		T value Calculated	Type sig
			Arithmetic means	Standard deviations	Arithmetic means	Standard deviations		
1	Defense against dribbling	Second	15.21	1.14	13.32	1.11	18.91	Sig
2	Defense against passing	Second	16.43	1.18	15.51	1.18	3.16	Sig

Tabular T value at significance level (0.05) and degree of freedom (19) = (2)

Table .5 shows the arithmetic means, standard deviations, and T-values for the post-tests for the experimental and control groups.

No.	Skills	Measuring unit	experimental group (Post-test)		Control group (Post-test)		T value Calculated	Type sig
			Arithmetic means	Standard deviations	Arithmetic means	Standard deviations		
1	Defense against dribbling	Second	11.21	1.21	13.32	1.11	4.38	Sig
2	Defense against passing	Second	13.31	1.14	15.51	1.18	3.88	Sig

Tabular T value at significance level (0.05) and degree of freedom (38) = (2.03)

Discussion:

Through Tables (3) and (4), we see that there is progress for both groups in learning the two research skills. The researchers believe that the reason for this progress is due to the effect of the two programs prepared by the researchers for the experimental and the experimental (empirical) programs for the control, since the research sample are raw students, and therefore the curriculum must affect their learning capabilities. (Dhafer Hashim) pointed out, "The teacher's following sequential educational steps work to achieve the goals of the educational unit, by following methods of presentation and explanation, and by emphasizing correct performance, which increases learning" (3). The researchers also believe that the game of basketball is one of the favorite games for most students. Thus, it gives motivation and desire to learn skills, which are dominated by competitive activity to highlight students' abilities and potentials. This prompts them to acquire new experiences through educational units, in addition to impulsiveness and desire to complete the assignment, as (Najah and Akram) pointed out (in order to give greater motivation for learning, there must be renewal in the nature of the skill and the nature of its performance and practice, while giving the largest number of repetitions, and all of this is under the supervision and guidance of the teacher through feedback, creating an atmosphere of interaction with the skills and linking their parts) (7). As for the reason for the experimental group's progress over the control group in

research skill, as shown in the table, the researchers believe that the reason for this progress is due to the philosophy on which the group method is based, as it gives a greater opportunity for group work, and this joint work gives a greater opportunity for exchanging ideas and performance, thus increasing the learning experience and correcting errors. Whether by the individual or through the group, Hussein, the reason for the moral relationships between the generative method and the performance of defensive skills in basketball, is that they seek to learn and develop their skill and cognitive abilities, as (Zeina and Maha) indicated (this helps them raise their level of success and move in a positive and correct direction, as it pushes the student To raise the level of skill performance and look positively (2). As (Nasser Ahmed Al-Khawaldeh) pointed out (generative learning gives better results than learning that takes place individually and is based on subjectivity, in addition to establishing a type of positive relationship between learners and the self-esteem of individuals within the group, which gives motivation to master the skill and increases performance development) (6). In addition to the nature of the game of basketball and team play to achieve victory, therefore, there must be some kind of cooperation in different ways due to the nature of the skill. It may be cooperation between two or more players, and this is what is emphasized by the nature of the competitive style. Working within a group gives a state of love for work and collective thinking and generates a kind

of impulsiveness and joint cooperation by presenting the largest number of ideas and thus correcting errors. As pointed out by (Mohammed, & Kzar) “The use of modern educational technologies in terms of educational means, tools and devices, taking into account the environment Learning and how to organize it in a way that serves the educational situation and addresses educational problems in a systematic manner that takes organized and integrated steps to contribute to creating scientific additions for learners to keep pace with developments in all fields and achieve specific positive behavioral and educational goals” (8).

Conclusions:

- The diversity in the use of methods included in the generative method (learning circles - integrative cooperative learning - competitive method - peer method) gives greater motivation for learning and therefore has a positive impact on learning research skills.
- Working within groups gives the student a greater opportunity to manage, control, and exchange ideas away from shyness and hesitation.
- Working through this method gives an opportunity to shorten time and thus increase the number of repetitions in groups while saving effort and time for the teacher.

Recommendations:

- Adopting various teaching methods that increase motivation and desire to learn and thus break the stagnation and routine followed in teaching.
- Choosing a method that is consistent with the capabilities and abilities of students on the one hand, and on the other hand, this method is compatible with the nature of learning and performing the skill.
- Conduct comparative studies of a number of methods for learning different skills and activities to identify the most appropriate method for the type of activity.

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Appendix (1)

Shows the educational unit

Sections of the educational unit	time	Physical activity	Directing and organizing	Devices and tools	Notes
Preparatory section	15 minute				- Emphasizing the provision of the educational unit's requirements, commitment, discipline and calm
1- Introduction 2- Warm up and physical exercises	5 minute 10 minute	- Preparing all the tools and greeting the students. - Walking in an organized manner, then walking at a jog, exercises to stretch the body's muscles and joints, especially (ankle, hip, foot).	XXXXXX		- The warm-up must be in service of the main section
Main section	65 minute	- A detailed explanation of the generative method for learning some defensive skills in basketball - A detailed explanation of the tools used and organization for students. - A detailed explanation of defensive skills in basketball	XXXXXX X X X	Basketballs	Attention should be paid to clarifying the generative method for learning some defensive skills in basketball for female students, facilitating and explaining them
Educational section	15 minute	Dribbling skill: The students gather in the shape of a square with a minus side. The school gives an introduction to the skill and then asks questions about the previous skill. Through the students' answers, we are able to determine the true level. Then examples of the skill are presented using various means.	XXXXXX X X X		The students are prepared and divided into groups for the purpose of performing the skill (mistakes).
Applied section	50 minute	-The first group (to describe the court): The student performs dribbling up to half of the court -The second group (between the markers): The student performs dribbling between the markers and emphasizes the defensive movement of the ball. -The third group (with a colleague): Performing dribbling with a colleague and linking it to the attempt		Basketball court, basketball signs	Emphasizing the need for students to pay attention to distracted performance
Concluding section	10minute	A little game for recreation. Jog lightly and stretch all parts of the body to return to a normal body condition.	X XXX XXXXXX		Maintaining activity and calm at the end of the unit

تأثير استخدام الأسلوب التوليدي في تعلم المهارات الدفاعية بكرة السلة

زينب قحطان 1 ، هدى عبد السميع 2 ، زينة عبد السلام 3 ، سجي شكر 4

1, 2, 3 & 4 جامعة بغداد / كلية التربية البدنية و علوم الرياضة للبنات

مستخلص البحث

تكمن أهمية البحث من تجريب مجموعة من الأساليب التدريسية المتنوعة في طبيعة تطبيقها من أجل خلق أجواء تدريسية مناسبة للطلاب ويهدف البحث إلى التعرف على تأثير أسلوب التعلم التوليدي لتعليم المهارات الأساسية الدفاعية للعبة كرة السلة والتعرف على أي الأسلوبين التدريسيين أفضل في تعليم المهارات الأساسية الدفاعية للعبة كرة السلة والمجال البشر يتضمن طلاب المرحلة الأولى في كلية التربية البدنية وعلوم الرياضة / لجامعة بغداد للعام الدراسي (2023/2022)، فقد استخدمت الباحثات المنهج التجريبي بتصميم (المجموعات المتكافئة) الملائمة لطبيعة المشكلة، وكانت اهم الاستنتاجات ان التنوع في استعمال الاساليب التي يشتمل عليها الاسلوب التوليدي يعطي دافعية أكبر للتعلم بالتالي له تأثير ايجابي في تعلم مهارات البحث، اما التوصيات فقد أوصيت الباحثات على اعتماد اساليب تدريس متنوعة تعمل على زيادة الدافعية والرغبة في التعلم وبالتالي كسر الجمود والروتين المتبع في التدريس.

طرائق تدريس ، كرة سلة.

الكلمات المفتاحية