



# EFFECT OF TEACHING METHOD (PROBLEM SOLVING) IN TEACHING SOME BASIC BASKETBALL SKILLS TO STUDENTS AGED (10-12) YEARS OLD

Dr. Ruaa Mohammed Abbood

[ruaa.abboo@uobasrah.edu.iq](mailto:ruaa.abboo@uobasrah.edu.iq)

Basrah University / Department of Student Activities

Article history:		Abstract:
Received:	14 <sup>th</sup> March 2023	Significance of the research was manifested in raising the scientific level, especially the basic offensive skills in basketball for young ages 10-12 years, and communicating scientific information to the teacher, coacher and student about the importance of any successful and best method in education, as well as clarifying the role and significance of the teaching method (problem solving) and its role in learning basic skills. The most contributive objective of the research is to identify the effect of the teaching method (problem solving) in teaching some basic skills of basketball to students aged 10-12 years old. The conclusion of the study is the teaching method (problem solving) is considered a successful teaching method for learning the basic skills of basketball students. Accordingly, it is recommended to adopt the teaching method (problem solving) in learning the basic skills of basketball students.
Accepted:	20 <sup>th</sup> March 2023	
Published:	26 <sup>th</sup> March 2023	

**Keywords:** Basketball, Problem solving, Teaching, Education

## 1-INTRODUCTION AND IMPORTANCE OF RESEARCH:

Life becomes vivid when all the requirements in learning and education are provided (Ujaković and Šarabon, 2020). Because it is the basic role for the advancement of a society being integrated into thinking and application. The reason behind this fact is that it contains a store of scientific information, which is the catalyst for building society and from it life is better in various fields (Cengizel, 2020). Physical education is an integral part of general education, and it is one of the branches of education that works to build a mathematically (Coccia, 2017) literate generation and build the right base in sports by feeding the learner with all the scientific requirements in the sports aspect and various sports using appropriate teaching methods and procedures, especially basketball (Hodges et al., 2022) (Xu, 2020). Basketball sport should be learned using methods that require education and mastery using advanced methods in teaching and learning that can deliver the correct information to the student, as well as the student's ability to apply the required skills (Kenioua and Berkat, 2021). problem-solving method is a teaching method that solves significant dilemmas in teaching and makes the learner able to think and apply repeatedly for correct learning for the most difficult skills, whether individual or compound, especially when they are in the early stages of learning the sport of basketball (Quennerstedt, 2019) (Gul, 2016) (Tamayo, 2022).

Hence, the importance of research in raising the scientific level, especially the basic offensive skills of basketball for young ages 10-12 years old, and communicating scientific information to the teacher and student about the significance of any successful and best method in teaching, as well as explaining the role and importance of the teaching method (problem solving) and its role in learning basic basketball skills (Flory, Nieman and Wylie, 2022) (Skučas, Stonkus, Molik and Skučas, 2018) (Khomutova, 2015).

### 1-2 Research Problem:

Individual and compound skill performance is considered difficult skills in basketball sport. It requires a physical aspect mixed with high-level technical performance, which makes it difficult for the learner to perform smoothly without knowing the problems facing them and working to solve them mentally and technically during the application. Therefore, teaching methods to solve problems is one of the ways advanced in solving such a research problem. Through the researcher's modest experience with teaching methods and the sport of basketball, it was found that learning the basic skills of basketball, including the level does not rise to the level of ambition, which the researcher sees as the reason for not applying the appropriate teaching method in education, including the method of solving problems, so the researcher decided to study this problem and experiment with the method of teaching problem-solving in learning the offensive skills under study.

### 1-3 Research Objectives

1. Recognizing the effect of the teaching method (problem solving) in teaching some basic skills of basketball to students aged 10-12 years old.

2. Recognizing the results of the differences between the tribal and remote tests and for the control and experimental groups in teaching some basic skills of basketball to students aged 10-12 years old.

**1-4 Research Hypotheses:**

- 1 There is a positive effect of the teaching method (problem solving) in teaching some basic skills of basketball to students aged 10-12 years old.
- 2 There are significant differences between the pre-tests and post-tests in favor of the post-tests of the control and experimental groups in teaching some basic skills of basketball to students aged 10-12 years old.
- 3 There are significant differences in the post-tests between the control and experimental groups and in favor of the experimental group in teaching some basic skills of basketball to students aged 10-12 years old.

**1-5 Research Fields:**

- 1-5-1 Human field: pupils of the ( AL Rusul ) primary school at the age of 10-12 years old.
- 1-5-2 Spatial field: The yard of a primary school (AL Rusul ) in the Basra governorate
- 1-5-3 Time field: the period from 15/11/2021 to 12/1/ 2022.

**2-THEORETICAL STUDIES:**

**How to Solve Problems**

Method of teaching requires the teacher to organize the information and experiences that he should provide his students with about problems related to their lives and needs and ask them to work on researching and solving those problems. The problem he faces and feels the need to overcome it because it touches him closely and thus, he is in a positive position on this problem, and therefore the teacher should work to provide opportunities for his students to identify the problem, draw plans and think about solving it. The problem-solving method in the physical education lesson includes the physical education teacher preparing a problem or situation in the steps of teaching a motor skill to be solved by the student who finds himself motivated to solve and think about it through experience during the lesson. The degree of complexity of the problem presented by the physical education teacher to the students varies according to the objectives of the program and the level of maturity and previous experience of the students.

**3-1-METHODOLOGY AND PROCEDURES**

**Methodology :**

nature of the problem is what imposes on the researcher to use the appropriate approach to solve his research problem. Therefore, the researcher used the experimental method by designing (equal groups) (control and experimental) to solve the research problem and achieve its objectives.

**3-2 Research Community and Sample:**

research community was identified with the students of (AL Rusul ) primary school in Basra Governorate. The sample was chosen in a deliberate manner, which numbered (20) students from one classroom, and then they were divided into two groups (control and experimental). Each group contains (10) students and the homogeneity and parity of the two groups were found according to Table 1.

**3-3 Means of collecting information and research tools**

**Data collection methods**

1. Arab and foreign sources.
2. Scientific observation
3. Tests used.

**Tools and devices used**

1. Watch
2. Measurement tape
3. Medical scale
4. Basketballs
5. A basketball court
6. Wall bollard
7. Chalk

**Table (1)**

**Homogeneity and equivalency of both groups (Control & Experimental Groups) in the research variables**

Tests	Control group			Experimental group			T-Value calculate	Significance level
	Pre	post	Difference coefficient	per	post	Difference coefficient		
Weight/KG	24.256	0.745	3.071	24.663	0.684	2.773	1.207	Insignificant
Height/CM	121.12	2.235	1.845	121.56	2.336	1.921	0.408	Insignificant

Chest handling accuracy test after performing dribbling/number	2.125	0.235	13.806	2.232	0.325	14.56	0.804	Insignificant
Lay-up shot test after performing the trumpet/number	2.354	0.325	13.806	2.412	0.356	14.759	0.362	Insignificant
Scoring (lay-up shot) test from behind the free throw line/number	2.475	0.336	13.575	2.447	0.412	16.836	0.158	Insignificant

**T-test value at a freedom degree of (18) and under significance level of (0,05) = 1,724**

### 3-4 Research procedures

#### Determining research variables

research variables were determined according to the first-stage basketball curriculum, which included the following:

1. Accuracy of chest handling after performing the lapping up.
2. Lay-up shoot after performing dribbling.
3. Scoring goals from behind the free-throw ground.

### 3-5 Tests used

#### 1. Testing the accuracy of pectoral handling after performing dribbling.

Tools: Wall bollard, basketball, measurement tape, chalk, a pin for determining a common center for the three circles tied at the end of the rope divided into knots.

The first knot is 22.5 cm from the pin.

The second knot is 49 cm away from the pin.

The third knot is 75 cm away from the pin.

#### Method of performance

Each player is given (10 attempts). The player performs the dribbling from a line 25 meters away from the target. When it reaches a line parallel to the wall (the target), which is (9 feet) away, the player performs the handling to the target drawn on the wall without stopping .

#### Points Calculation

The player is awarded three points if the ball touches the inner circle, two points if it touches the middle circle, and one point if the ball touches the outer circle. The highest point a player can get is (30 points).

#### 2. Lay-up shot test after performing dribbling

The purpose of the test is to measure the accuracy of scoring after performing the dribbling skill.

Tools/ Basketball: Basketball stadium, basket goal

#### Method of performance

Each player is awarded (10) attempts. It is required to perform the double and triple accurately. A ball that enters the goal after committing a legal foul from a thud or a hat-trick is not counted among the goals scored in the attempts. Counting Points/ Each successful attempt at scoring counts one point. The highest point obtained by the player is (10) points.

#### 3. Shooting test from behind the free-throw line

The purpose of the test is to measure the accuracy of shooting.

Tools/basketball court, basket goal, basketball.

Method of performance

The player takes a standing position with the ball behind the middle of the free-throw line. Each player performs two sets, each set consisting of (5) consecutive throws. A player has the right to score on the basket in any suitable way. Each player has one attempt only.

Calculation of points

A recorder who calls the names first records the results of the throws, and an arbitrator stands next to the player to give the ball and observe the correctness of the performance after calculating the scores. So the registration counts

one score for each successful throw (i.e. enters the basket), the player does not count any score when the ball does not enter the basket (failed) The player's score is the set of points he gets in his (10) throws.

**3-6 Exploratory Experiment**

The exploratory experiment was conducted on November 15th, 2021 on the original research sample by applying some exercises for the purpose of legalizing it and knowing the suitability of the research sample and finding and knowing the difficulties that the research faces in its application.

**3-7 Field Experience**

- Pre-tests: carried out on 22/11/2021
- Main experience: for the period from Nov. 23<sup>rd</sup> 2021 to Jan. 11<sup>th</sup>, 2022
- Post-tests: carried out on Jan. 12<sup>th</sup>, 2022.

**3-8 Teaching method used**

A set of offensive skill exercises with individual and compound basketball were developed and applied by teaching (problem solving) and the program was applied during a full lesson and in its three sections (see Appendix (1)) for a period of eight weeks for school students.

**3-9 Statistical means**

Program SPSS system was relied upon to find:

- Arithmetic mean
- Standard deviation
- T-test for correlated samples
- T-test for uncorrelated samples
- Percentage

**4- RESULTS ANALYSIS AND DISCUSSION**

**Table( 2)**

**Show Differences in the arithmetic means between the pre and post-tests for the control group in the tests used**

Test	Control group				Significance level
	Arithmetic mean		Standard deviation	T-Value calculated	
	pre	post			
Chest handling accuracy test after performing dribbling/number	2.125	5.056	0.889	3.296	Significant
Lay-up shot test after performing the trumpet/number	2.354	5.123	0.819	3.38	Significant
Scoring (lay-up shot) test from behind the free throw line/number	2.475	5.332	0.993	2.877	Significant

**Table T-Value at the degree of freedom (9) and below the level (0.05) = 1.833**

**Table (3)**

**Show differences in the arithmetic means between the pre-tests and post-tests of the experimental group in the tests used**

Test	Experimenta group				Significance level
	Arithmetic mean		Standard deviation	T-Value calculated	
	pre	post			
Chest handling accuracy test after performing dribbling/number	2.232	6.895	1.224	3.809	Significant
Lay-up shot test after performing the trumpet/number	2.412	6.994	1.441	3.179	Significant
Scoring (lay-up shot) test from behind the free throw line/number	2.447	6.895	1.512	2.941	Significant

**Table T-Value at the degree of freedom (9) and below the level (0.05) = 1.833**

Experimenta group				Significance level
Arithmetic mean		Standard deviation	T-Value calculated	
pre	post			
2.232	6.895	1.224	3.809	Significant
2.412	6.994	1.441	3.179	Significant
2.447	6.895	1.512	2.941	Significant

**Table (4)**

**Show differences in the T-Values of the dimensional means between the control and experimental groups in the tests used**

Tests	Control group		Experimental group		T-Value calculate	Significance level
	Pre	Standard deviation	per	Standard deviation		
Chest handling accuracy test after performing dribbling/number	<b>5.056</b>	<b>0.687</b>	<b>6.895</b>	<b>0.884</b>	<b>4.93</b>	<b>Insignificant</b>
Lay-up shot test after performing the trumpet/number	<b>5.123</b>	<b>0.874</b>	<b>6.994</b>	<b>0.879</b>	<b>4.53</b>	<b>Insignificant</b>
Scoring (lay-up shot) test from behind the free throw line/number	<b>5.332</b>	<b>0.698</b>	<b>6.895</b>	<b>0.813</b>	<b>4.378</b>	<b>Insignificant</b>

**Table T-Value at the degree of freedom (18) and below the level (0.05) = 1.724**

From tables 3 and 4, it was found that there are significant differences between the pre-tests and post-tests and for the control and experimental groups in the tests used and in favor of the post-tests. researcher attributes this learning and improvement in the performance of the experimental or control group in the complex skills of basketball as a result of the commitment to organizing the work of the lesson, as well as due to the regularity and continuity of the educational units in which the students practiced the method of self-learning. This definitely was behind the increase in the learner's ability in the skillful performance, as indicated by Ahmed (1998) good organization of the lesson contributed to the student's acquisition of the ability to experience and understand the lesson and to modify their behavior so that they acquire desirable behavioral standards(Coccia, M., :2017 ). Mohsin in a study conducted in 1996 asserts that "the educational program inevitably leads to the development of achievement if it is built on a scientific basis in organizing the education process and its programming and the use of appropriate and gradual methods of difficulty and observing individual differences as well as the use of effective educational aids under the supervision of specialized trainers under good educational conditions in terms of location and the time and the tools used" ( Ujaković, F. and Šarabon, N., 2020 ). From table 5, it was found that there were significant differences in the offensive skill performance tests in basketball between the control and experimental groups and in favor of the experimental group. development and differences are due to the method of teaching (problem solving) in education, especially for teaching basic offensive skills in basketball through small groups. The methods appear in the first stage of learning the skill when the learner needs to identify important points after each performance to help him correct his technical performance" ( Hodges, M., Phelps, A., Knipe, R., Doherty, B., Colburn, J. and Hamilton, X., 2022 ). In her study, Abdulkareem (1990) considers, "The benefit of this type of methods appears in the first stage of learning the skill, when the learner needs to identify important points after each performance to help him correct his technical performance" ( Hodges, M., Phelps, A., Knipe, R., Doherty, B., Colburn, J. and Hamilton, X., 2022 ). While (Schmidt) asserts, "for every skill we learn, there is a motor program that has a stored in the brain, and the more it is used, the more accurate and purity the stored motor program is."(Tamayo, Y., 2022 ). learning and improvement of the experimental group is also due to the teaching method used, which increases the students' desire and motivation to apply the exercises, and this helps to increase accuracy in skill education, and this was confirmed by Abed Zaid (2011) "several methods to stimulate the learner's motives towards the activity or the game to learn its skills and practice them." Among these methods is facilitating the opportunities for motor learning and the clarity of the appropriate goal for learning and developing the skill, as well as balancing the satisfaction of the learner's needs." (

Gul, E., 2016 ). In addition to the diversity of exercises and skills, they have a role in the teaching method followed, which is problem solving in the success of learning, and this is what Abdulkareem (1990) points out: "The trainer must provide a variety of practices for open skills, as diversity or complexity in models is necessary in order to meet the changing needs of skills." (Hodges, M., Phelps, A., Knipe, R., Doherty, B., Colburn, J. and Hamilton, X., 2022 ). In a study conducted by Ismail in 2002, it was concluded success of this teaching method in learning: "One of the natural phenomena of the learning process is that there must be developed in learning as long as the teacher follows the basic, peaceful steps of learning, teaching, practicing the correct performance, and focusing on continuous attempts and repetition until solidification and stability of performance." (Cengizel, E., 2020 ).

**5-CONCLUSIONS AND RECOMMENDATIONS**

**5-1 Conclusions**

1. Teaching method (problem solving) is one of the successful teaching methods in learning the basic skills of basketball for students.
2. Compound skills in basketball and young age groups face problems in applying the skill and this requires a teaching method such as problem solving in solving the technical problem and correct learning.

**5-2 Recommendations**

1. Adopting the teaching method (problem solving) in learning the basic skills of basketball for students because it is one of the successful teaching methods.
2. Focusing on educational units while learning the complex skills of basketball, especially for young age groups, in applying the skill in a way of teaching problem solving because it is successful in solving technical problems and correct learning.

**REFERENCES :**

1. Ujaković, F. and Šarabon, N., 2020. Change of Direction Performance Is Influenced by Asymmetries in Jumping Ability and Hip and Trunk Strength in Elite Basketball Players. *Applied Sciences*, 10(19), p. 98.
2. Cengizel, E., 2020. Effects of 4-month basketball training on speed, agility and jumping in youth basketball players. *African Educational Research Journal*, 8(2), pp102.
3. Coccia, M., 2017. Which Research Fields Get Better Faster? Measuring the Evolution of International Research Collaboration. *SSRN Electronic Journal*, p 92 .
4. Hodges, M., Phelps, A., Knipe, R., Doherty, B., Colburn, J. and Hamilton, X., 2022. Secondary physical education teaching methods course: through the lens of the preservice teachers. *Curriculum Studies in Health and Physical Education*, pp.79.
5. Xu, Q., 2020. Analysis of the Application of Basketball Games in College Basketball Teaching. *Lifelong Education*, 9(4), p.244.
6. Kenioua, M. and Berkat, H., 2021. The Effect of Using Electronic Educational Technology «Video Technology» on Learning Dribblings in Basketball. *Physical education, sport and health culture in modern society*, (2(54), pp.133-138.
7. Quennerstedt, M., 2019. Physical education and the art of teaching: transformative learning and teaching in physical education and sports pedagogy. *Sport, Education and Society*, 24(6), pp.611-623.
8. Gul, E., 2016. Effectiveness of Modern Teaching Methods; Evidence from Digital Learning Model of Modern Teaching Methods. *Journal of Education and Vocational Research*, 7(3), pp.29..
9. Tamayo, Y., 2022. The new basketball body: an analysis of corporeity in modern NBA basketball. *Semiotica*, 2022(248), pp.281.
10. Flory, S., Nieman, C. and Wylie, R., 2022. Challenges to Culturally Responsive Teaching in Physical Education Teacher Education Alumni: A Mixed-Methods Analysis. *Journal of Teaching in Physical Education*, pp.1-9.
11. Skučas, K., Stonkus, S., Molik, B. and Skučas, V., 2018. Evaluation of Wheelchair Basketball Skill Performance of Wheelchair Basketball Players in Different Game Positions. *Baltic Journal of Sport and Health Sciences*, 4(75).
12. Khomutova, A., 2015. Basketball coaches' experience in working with multicultural teams: Central and Northern European perspectives. *Sport in Society*, 19(7), pp.861-876.

**Appendix (1) model of Educational Units**

**first week: The educational unit's goal: Learn the basic skills of the compound basketball**

**Teaching unit: 1**

Unit Sections	Time	Details and exercises	Repetitions	Remarks
introductory section				
Main section: 1-	85 minutes	- Performing a	4x5	Downtime and

Learning 2-Applied	50 minutes	manipulation with the wall and then the clapping and peaceful scoring. - Handling of the fellow and the plump and hard scoring. - Plump back and forth along the playing field. - Play between (2 x 2) inside a quarter of the court.	4x3  3x4  52 x2	technical bug fixes.  - Treatment the problems facing the student in implementation
Final section				