

## The Effect of the Cooperative Learning Method in Developing Some Physical Abilities and Learning the Skill of Volleyball Smash Serve

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### Abstract

The research aims to find joint and equal opportunities for learning among students in order to develop self-confidence and increase the opportunity to achieve educational and practical goals. The problem of the research is that most of the lessons do not give opportunities for students to learn equally by distinguishing between one student and another, so there are differences in the levels of students, and accordingly the researcher turned to such a method of learning in order to create equal opportunities for learning for all students.

The researcher has reached The learning stage requires the development of skill and motor qualities through Cooperative work among students ,and the teaching skill requires focusing on the aspects of motor performance more than the physical aspects, as they have a role in increasing the fluidity of movement.

**Keywords:** Cooperative , learning , method and volleyball.

### Introduction

The Cooperative learning method is one of the important strategies that is based on a basic premise that assumes that learners achieve the greatest possible benefit in their achievement so that they are not only receptive learners but also productive learners in their Cooperative groups by urging them to participate actively in learning to interact with their colleagues and explain to them what they have learned and encourage each other Some of this common behavior makes the educational material interesting and interesting, so they become productive learners in their Cooperative groups through active participation and collective challenge to achieve the best results.

The method of Cooperative learning includes several methods, including the method of learning together, the interest in this method is due to the benefits that students gain by speaking on different topics, and the learning takes place in a comfortable atmosphere free of stress and anxiety in which students' motivation increases significantly.

Volleyball is one of the team games and one of the most team games that achieve opportunities for practice and promotion. Therefore, the success of the volleyball team depends on the ability of its players to perform basic skills such as the skill of the aces, and with the least amount of mistakes possible by performing the skill accurately, quickly, smoothly and at an equal level. Volleyball has reached To a level of development and progress and witnessed a remarkable development in all its various aspects, and this led to the search for and even innovating the best methods, teaching aids and auxiliary tools in order to raise the level of team performance and reach very good levels.<sup>1</sup>

In order to be able to reach these skills to the level of quality and mastery, it is necessary to use educational aids that play an important and influential role in the process of preparing good technical performance for learners, as their importance lies in finding motives and desire in the educational process as it works to deliver the knowledge required to be achieved. The role of educational aids and their relationship to the level of the curriculum does not stop at the level of assistance in providing the learner with knowledge and information only, but also goes beyond that to a more important role, which is to help him acquire the required skills. In order to reach a good level of skill performance, the teacher must prepare the learner in all aspects, such as physical, kinesthetic, and others. Therefore, attention must be paid to its development and development. Through the foregoing, the importance of the research comes in identifying the effect of the Cooperative learning method by using educational aids to help develop some physical and motor abilities and to learn the skill of smash serve for students in volleyball.<sup>2</sup>

Which prompted the researcher to use educational aids to facilitate the process of teaching the skill as well as to develop some of the physical abilities needed by that process in order to achieve the required goals and raise the educational and skill level of the student, and take them into consideration when teaching the vocabulary of the educational curriculum.

### **Research objectives**

1. Recognizing the effect of the Cooperative learning method using educational means in developing some physical abilities and learning the skill of smashing serve in volleyball.

### **Research Methodology**

The researcher used the experimental method by designing two equal groups with a pre and posttest to suit the nature of the problem to be solved.

### **Research community and sample**

The research sample was chosen randomly from the original research community represented by the fourth stage students (300) students and the number of (40) students, as the researcher chose two groups from six groups, to form the proportion of the research sample (13.33).

### **Tools, devices, and means of data collection**

- Arab and foreign references and sources.
- Note .
- Tests and measurements.
- Two forms for evaluating the technical performance and accuracy of the volleyball smash serve skill.
- Forms for unloading the results of the physical abilities tests in question.
- Volley ball's number (6).
- Number (A) whistles.
- One (1) Canon camera.
- The volleyball court is legal.
- Colored duct tape.

### **Tests used in research**

**1. The explosive power of the aiming arm muscles:** Test throwing a medical ball weighing (3 kg) from the shoulder with one hand from a standing position over the head.

**2. Explosive ability test for the legs:** The long jump test of stability (meters).

**3. Accuracy measurement of the ace skill in volleyball<sup>3</sup>**

- The objective of the test: to measure the accuracy of the skill of the smash serve.
- Tools used: a legal volleyball court, (5) legal balls, a colored tape to divide the field into areas, as shown in the figure.
- Performance specifications: The player stands in the middle of the final line of the playing court, holding the ball, ready to serve, to cross the ball to the half planned, as shown in the figure.
- Performance conditions: Transmission is performed within the limits of the entire law.
- Scoring: The player is given (5) attempts and takes in each attempt the score of the area in which the ball falls on him. The maximum score for the test is (25) degrees with marks. When the ball falls on the line separating two areas, the player is given the score of the higher zone.

### **Pilot study**

The researcher conducted the pilot study on (03/02/2021) in the closed sports hall at the College of Physical Education and Sports Sciences at the University of Baghdad at ten o'clock in the morning on a sample of (10) students from the fourth stage in a random manner and by lottery method, as they were photographed from In order to get to know:

1. The most important obstacles and difficulties that the researcher faces when conducting tests in order to overcome them in the main experiment.
2. The extent to which students understand the vocabulary of the tests and their abilities to take them.
3. The suitability of the tools used for the method of work and implementation.
4. The time taken to take the tests.
5. How to organize the auxiliary work team.

### **Pretests:**

The Pretests for evaluating the technical performance and accuracy of the skill of smashing serve in volleyball and physical abilities tests were conducted on (10/2/2021) at ten in the morning in the closed sports hall in the College of Physical Education and Sports Sciences at the University of Baghdad, under the direct supervision of the researcher and in the presence of the assistant work team For both experimental and control groups.

### **Implementation of the vocabulary of the Cooperative learning method**

By informing the researcher of the available resources in the field of teaching methods, kinetic learning, and volleyball, the researcher developed the vocabulary of the Cooperative learning method (learning together), as the researcher applied the Cooperative learning method to the first group (experimental), which includes (20) learners by four learners for each group, while the second group (control) applied the adopted curriculum, which includes (20) learners.

### **Posttests**

After completing the application of the educational units using educational means on the research sample to develop some physical abilities and learn the skill of volleyball, which lasted (8) weeks, with two educational units per week, the researcher conducted post-tests, which included the technical performance and accuracy tests for the skill of smashing and physical abilities tests under Research and in similar circumstances to the Pre tests on (15/4/2021) at ten o'clock in the morning and inside the closed sports hall of the Faculty of Physical Education and Sports Sciences at the University of Baghdad.

### **Statistical methods**

The researcher used the statistical package (SPSS) to extract the search results.

## Results and discussions

**Table 1.** Shows the statistical characterization of the variables under study for the experimental group

Variables		Mean	N	Std. Deviation	Std. Error Mean
Smash serve	Pretest	12,95	20	1,224	0,281
	Posttest	20,053	20	0,911	0,21
Explosive ability of the legs	Pretest	1,42	20	0,51	0,116
	Posttest	2,474	20	0,51299	0,118
Explosive ability of the arms	Pretest	2,42	20	0,51	0,116
	Posttest	4,53	20	1,264	0,29

**Table 2.** Shows the differences between the variables under study, the value of (t) for the experimental group

Variables	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig.
				Lower	Upper			
				Paired Differences				
Pair 1 Smash serve	-7,11	1,66	0,382	-7,91	-6,304	-18,622	18	0,000
Pair 2 Explosive ability of the legs	-1,053	0,705	0,162	-1,39	-0,713	-6,51	18	0,000
Pair 3 Explosive ability of the arms	-2,105	1,524	0,35	-2,84	-1,371	-6,023	18	0,000

Through what was presented in the table (2), it is clear that there are differences between the variables under study in the pre and posttests, and this is due to the method used by the learner, which led to an increase in learning opportunities for the members of the experimental group, which indicates that Cooperative learning combines the experiences of students and creates opportunities to compare individuals and get rid of individual differences between them. Cooperative learning is an educational approach which aims to organize classroom activities into academic and social learning experiences. There is much more to cooperative learning than merely arranging students into groups, and it has been described as "structuring positive interdependence."<sup>4</sup> Students must work in groups to complete tasks collectively toward academic goals. Unlike individual learning, which can be competitive in nature, students learning cooperatively can capitalize on one another's resources and skills (asking one another for information, evaluating one another's ideas, monitoring one another's work, etc.). Furthermore, the teacher's role changes from giving information to facilitating students' learning.<sup>5</sup>

**Table 3.** Shows the statistical characterization of the variables under study for the control group

Variables		Mean	N	Std. Deviation	Std. Error Mean
Smash serve	Pretest	13,65	20	1,137	0,25
	Posttest	13,65	20	1,268	0,284
Explosive ability of the legs	Pretest	1,6	20	0,503	0,11239
	Posttest	1,95	20	0,36	0,08
Explosive ability of	Pretest	2,65	20	0,49	0,109

the arms	Posttest	4	20	0,73	0,16
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**Table 4.** Shows the differences between the variables under study, the value of (t) for the control group

Variables	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig.
				Paired Differences				
				Lower	Upper			
Pair 1 Smash serve	1,01	1,556	0,35	-0,728	0,728	0,000	19	1
Pair 2 Explosive ability of the legs	-0,35	-0,52	0,1153	-0,59	-0,109	-3,04	19	0,007
Pair 3 Explosive ability of the arms	-1,35	0,875	0,196	-1,76	-0,94	-6,899	19	0,000

**Table 5.** Shows statistics between the experimental and control groups in the post tests

Variables	Groups	Group Statistics			
		N	Mean	Std. Deviation	Std. Error Mean
Smash serve	Experimental group	20	20	0,918	0,21
	Control group	20	13,65	1,27	0,284
Explosive ability of the legs	Experimental group	20	2,5	0,513	0,115
	Control group	20	1,95	0,36	0,08
Explosive ability of the arms	Experimental group	20	4,45	1,276	0,28
	Control group	20	4	0,72	0,16

**Table 6.** Shows the value of (t) in the post-tests between the control and experimental groups

Variables	t-test for Equality of Means						
	t	df	Sig.	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
						Lower	Upper
Smash serve	18,14	38	0,000	6,35	0,35	5,64	7,06
Explosive ability of the legs	3,93	38	0,000	0,55	0,14	0,267	0,833
Explosive ability of the arms	1,37	38	0,178	0,45	0,3283	-0,215	1,115

Through the table (6) it is clear that the explosive power variable of the arm had few changes in the experimental group as well as the control group, which was reflected in the values of (t) as there were no differences, the learning reflected significantly on the sub-physical skill level. The development of physical abilities has a great role in learning the performance of the skill of smash serve,<sup>6</sup> as the development of the abdominal muscles, back and muscles of the lower limbs is a basis for learning skills in volleyball because volleyball learners need a good level in developing those muscles to succeed in performing the mentioned skill and without it the learner cannot Performing the skill of the strong aces and jumping high to maintain the balance of his body and change directions at high speed.<sup>7</sup>The development of the explosive ability and speed characteristic of the two legs contributed to learning to perform the skill with high efficiency, as "the importance of the speed characteristic of volleyball is due to it being the decisive factor in moving from one place to another and sudden and rapid movement during play."<sup>8</sup>

The gradation in learning the skill from ease to difficulty and through the use of screen display technology that helped in building the motor perception and its development in the learner, which leads to improving the performance process as well as the speed of learning. Correcting performance and this creates a state of positivity towards learning. The amount of information obtained by the experimental group members according to this technique represented by the large display screen and with serious follow-up from the subject teacher was useful in correcting, modifying and enhancing the motor responses of the skill, as "the learner benefits from the educational process." <sup>9</sup>If he receives special information about the extent of his success in the activities or the skills he performs that help him to reach his goal, the learner who performs an activity, whether kinetic or intellectual, will have difficulty improving his skills in that event if he does not have a way to know the extent of his success in the activity that did it".<sup>10</sup>

## Conclusions

1. Significant differences emerged between the pre and posttests of the experimental research group in the variables under study.
2. Significant differences appeared between the pre and posttests of the control group in the physical variables, while the skill variable of smash beating did not show clear differences..
3. Significant differences appeared between the post tests of the experimental and control groups in the variables under study, except for the explosive power variable of the arm, which did not show clear differences.
4. The learning stage requires the development of skill and motor qualities through Cooperative work among students.
5. Teaching the skill requires focusing on the aspects of motor performance more than the physical aspects, as they have a role in increasing the fluidity of movement.

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