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THE IMPACT OF THE COOPERATIVE METHOD ON LEARNING THE SPIKE SERVE IN VOLLEYBALL FOR PHYSICAL EDUCATION AND SPORTS SCIENCE STUDENTS – AHLULBAYT UNIVERSITY

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ABSTRACT

The research aims to determine the impact of the cooperative learning method on developing motor skills and the key aspects of attention required for the volleyball spike.

The research scope is as follows:

Subject: Second-year students at the College of Physical Education, Ahlulbayt University, for the academic year 2025-2026. Timeframe: From November 10, 2007, to January 20, 2026. Spatial Context: The volleyball court of the College of Physical Education, Ahlulbayt University. The researcher used the experimental method with two equivalent groups, as it was suitable for the nature of the research. The research was conducted on a randomly selected sample of second-year students at the College of Physical Education, Ahlulbayt University, for the academic year 2025-2026. The sample consisted of thirty students, divided into two groups: an experimental group and a control group, with fifteen students in each. The traditional learning method was applied to the first group, while the cooperative learning method was applied to the second experimental group. This was done to develop the performance of the motor program and the most important aspects of attention for the volleyball spike skill. Homogeneity was achieved in the variables of height, weight, and age. Equivalence in skill was also ensured for both groups in tests of technical performance, accuracy, and the most important aspects of attention. The study also covered the use of data collection methods, research procedures, and the selection of tests. Pre-tests were administered, consisting of six initial educational units covering the curriculum for this stage. Subsequently, a special curriculum was developed to develop the performance of the motor program and the most important aspects of attention for the volleyball spike skill, according to... The two methods (self-learning and cooperative learning) were used. The curriculum for each method lasted four weeks, with two units per week, each unit lasting 90 minutes. After completion, post-tests were administered, and appropriate statistical analyses were used to obtain the results. The results were then presented, analyzed, and discussed. The researcher reached the following conclusions:

1. *The cooperative learning method contributed positively to developing the motor skills program for the spike and the associated attentional aspects.*
2. *The cooperative learning method was more effective in developing the motor skills program for the spike and the associated attentional aspects.*

KEYWORDS: *Cooperative, Learning, Spike Serve, Volleyball.*

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INTRODUCTION

Motor learning is a crucial and distinctive science, forming the foundation of the educational process in physical education. Its importance lies in enabling learners and athletes to acquire, develop, and master new motor skills with minimal effort and time. Motor learning is an integral part of movement science, employing diverse methods that result in faster and more precise development of athletic activities and games.

The educational process has made significant strides in modern times, relying on the use of various learning methods. These methods have had a clear impact on this progress and a prominent role in helping learners reach their optimal skill levels. Their importance has grown to the point where they have become a fundamental basis for planning motor learning. The advancement and development of the educational process plays a vital role in providing educators with numerous methods that facilitate the delivery of information to learners. The self-directed and collaborative approaches are among the modern motor learning methods. They are considered functionally interactive teaching methods that work together to achieve the desired objectives and help learners reach their full potential in acquiring various athletic skills. The spik is one of the most fundamental skills in volleyball.[1] It represents the culmination of skillful performance and a decisive factor in determining match results. Teams whose members excel at this skill are often victorious. Learning and developing this skill, according to programming theory, involves a set of instructions or stored information originating from the central nervous system. The central nervous system programs this information and issues commands to the body's systems involved in performing the skill as required. This program can develop and progress through practice and training, resulting in a comprehensive motor program for the learner to achieve this skill or motor task. Furthermore, the learner's attention span is the foundation upon which all other mental processes affecting this skill are based, due to the numerous variables that can negatively impact their attention during its execution.

In order to develop the motor skills program and its key aspects, it is necessary to find teaching methods that suit the nature of its technical performance. Therefore, the importance of this research lies in using modern methods and verifying their results, which will serve as a means to develop the motor skills program and the key aspects of attention involved in the volleyball spike skill.

RESEARCH PROBLEM

Volleyball is one of the components of the second-year curriculum in faculties of physical education and sports sciences. It includes the following skills: serving, receiving the serve, setting, spike, blocking, and finally, court defense. These are essential requirements for practicing the sport. Therefore, it is necessary for students to perform these skills at least at a good level.

Through his review of several studies and research papers, as well as his observation of the educational process at this stage, the researcher noted that the methods used in learning these skills and developing their motor programs are the traditional methods that rely on a single source of knowledge: explanation and demonstration by the teacher. This is followed by a live demonstration without any active participation from the students in the learning situation. This is incompatible with the development in motor learning, which utilizes some modern educational methods to enhance the educational process today. Furthermore, the increasing number of students and the resulting increase in individual differences among them add to the burden on the teacher. Since educational methods have permeated a number of subjects, volleyball should also benefit from them, especially in developing motor programs related to these skills and their associated aspects. Each skill has an aspect that affects it differently from other skills, and the higher the players' or learners' ability and efficiency in paying attention, the more they can perform accurately and cope with all changing circumstances. Learning in this approach shifts from passive methods reliant on both the learner and the teacher to modern, advanced methods where the educational process moves from the teacher to the learner, with the teacher's role being one of guidance and direction. This facilitates the learning process while saving time and effort for both the teacher and the learners, leading to increased learning efficiency.

In light of the above, the researcher has defined the subject of this study as an attempt to utilize the cooperative approach, given its impact on clarifying the stages of motor performance in the volleyball spike skill under investigation. To the best of the researcher's knowledge, no study or research has addressed this approach in developing motor skills and the key aspects of attention required for this skill and other volleyball skills in university education.

RESEARCH OBJECTIVES

- Determine the effect of the cooperative learning method on developing the performance of the motor program and the most important aspects of attention for the volleyball spike skill.

RESEARCH HYPOTHESES

1. There are statistically significant differences in the effect of the cooperative learning method on developing the performance of the motor program and the most important aspects of attention for the volleyball spike skill.
2. The cooperative learning method is the best method for developing the performance of the motor program and the most important aspects of attention for the volleyball spike skill.

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RESEARCH SCOPE

- Human Scope: Second-year students at the College of Physical Education, Ahlulbayt University, for the academic year 2025-2026.
- Time Scope: From November 10, 2025, to January 20, 2026. 1-5-3 Spatial Scope: Volleyball Court, College of Physical Education, Ahlulbayt University

RESEARCH METHODOLOGY

The researcher used the experimental method with equivalent groups, as it was suitable for the nature of the problem to be solved, because "the most important characteristic of rigorous scientific activity is the use of the experimental method."

RESEARCH POPULATION AND SAMPLE

1. RESEARCH POPULATION

The research population was defined as the second-year students of the College of Physical Education, Ahlulbayt University, for the academic year (2025-2026), totaling (183) students.

2. RESEARCH SAMPLE

The research sample was randomly selected from the original research population using a lottery system. The sample consisted of (30) students, divided into two equal groups of (15) students each. This results in a sample percentage of (28.30%), which is a suitable percentage for accurately and truthfully representing the research population.

The researcher excluded several individuals from the sample to ensure homogeneity. These excluded individuals are:

1. Participants in the pilot study.
2. Individuals whose average age exceeds (22) years.
3. Students who failed or deferred their studies.
4. Volleyball players.
5. Female students, as the research is limited to male students only.

Table 1. shows the research population, the selected sample, and the percentage

Variables	Number	Total number of the research community	Number of individuals in the sample	Original sample size	Percentage
Participants in the pilot study:	10	183	30	106	28.30%
Individuals over the age of (22)	31				
Those who failed or postponed	8				
Players of the game	3				
Female students	25				

HOMOGENEITY AND EQUIVALENCE OF THE TWO GROUPS:

1. HOMOGENEITY OF THE SAMPLE

Before starting to implement the educational method, and in order to control the variables that affect the accuracy of the research results, the researcher resorted to verifying the homogeneity of the research sample in the variables related to morphological measurements, which are (height, weight, and age), as shown in Table (2).

Table 2. shows the variables (height, weight, and age) and the skewness coefficient

Variables	Units	Mean	Std	Mode	Skewness
Height	Cm	177	1.26	176	0.79
Weight	Kg	74.86	2.90	73	0.64
Age	Year	21.54	0.75	21	0.72

Table (2) shows that the values of the skewness coefficient are within (±1), indicating the homogeneity of the research sample in these variables, i.e., the normality of their distribution.

2. EQUIVALENCE OF THE TWO RESEARCH GROUPS:

Before implementing the educational program, the researcher verified the equivalence of the two research groups in the variables related to the skill tests, namely, technical performance and accuracy in the skill under investigation, and the most important aspects of attention, as shown in Table (3).

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Table (3). shows the equivalence of the two research groups in technical performance and accuracy tests, and the most important aspects of attention to the volleyball spike skill

Variables	Group One		Group Two		Calculated t value	Type of indication
	Mean	Std	Mean	Std		
Technical performance	3.04	0.53	3.86	0.56	1.40	Non sig.
Accuracy	11.4	1.29	12.06	1.03	1.49	Non sig.
Focus	2.86	1.67	3.31	1.94	0.66	Non sig.
Attention distribution	29.32	2.81	30.11	2.99	0.72	Non sig.
Attention stability	0.74	0.31	0.76	0.30	0.18	Non sig.
The tabulated score = (2.14) at a significance level of (0.05) and degrees of freedom of (14)						

Table (3) shows that the differences in technical performance, accuracy, and key aspects of attention tests between the two research groups were not statistically significant. The calculated t-values were less than the critical value of (2.14) at a significance level of (0.05) and with (14) degrees of freedom. This indicates the equivalence of the two research groups in these tests.

METHODS, TOOLS, AND EQUIPMENT USED

1. RESEARCH METHODS

The researcher used the following research methods:

- Arabic and foreign sources and references.
- Observation and experimentation.
- Personal interviews.
- A survey form for experts and specialists.
- A form for evaluating technical performance and accuracy in the volleyball spike skill.
- The internet. Tests and Measurement

2. THE COMPUTER PROGRAM USED FOR SELF-LEARNING

The researcher recorded Italian volleyball league matches. This recording was transferred to a modern external USB2 SNAZZI (Type III) card. The video was then cut using VCD Cutter software and converted to MPG playback using Ulead Video Studio 7. This software presented the technical performance of the volleyball spike. The skill was shown comprehensively from all technical perspectives. The converted video was then transferred to a computer in collaboration with Al-Dhiyaa Technical Office using 3ds Max software. This software displays two windows: one showing the video model and the other showing a slow-motion replay of the player performing the spike from multiple angles. The player's performance is then shown in full and quickly from various angles. This replay is displayed to the learners so they can observe the ideal performance of this player, who is from one of the Italian league teams. The learners can then compare this performance with their own and identify any errors.

3. TOOLS AND EQUIPMENT USED

The tools and equipment used by the researcher are:

- A regulation volleyball court with its accessories.
- Thirty regulation volleyballs.
- A measuring tape (cm).
- Two manual stopwatches.
- Various stationery items (paper, pens, etc.).
- One manual electronic calculator (Casio).
- Colored adhesive tape.
- Paint and chalk.
- A medical scale (kg) for measuring weight.
- Fifteen electronic calculators (IIII) (ESCORT PENTIUM).

SELECTING TESTS

Tests are essential in any scientific research, as they are "an important tool for evaluation in all aspects of life, especially given the advancements in this field in recent years" [2]. To select the most important tests relevant to the research topic,

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the researcher did the following:

1. SELECTING THE TECHNICAL PERFORMANCE TEST FOR THE VOLLEYBALL SPIKE

The researcher selected tests specific to the technical performance of the volleyball spike. The evaluation process relied on the apparent structure of the skill, dividing it into three sections as follows:

- Preparatory Section (3) marks
- Main Section (5) marks
- Final Section (2) marks This is a standardized test used by other researchers and is applied to the same research sample specifications. The total score for the test is (10) points, as detailed below:[3]

Test Name: Technical Performance

Test Objective: To evaluate the technical performance of the spike skill through its three sections (preparatory, main, and concluding).

Equipment Used: A regulation volleyball court, (3) volleyballs, and a pre-prepared evaluation form.

Performance Procedure: The subject performs the spike skill from the designated performance area, i.e., from position (4). The instructor or a member of the support team sets the ball correctly for the subject to perform three attempts. The subject then attempts the spike, trying to drop the ball into the opposite court.

REGISTRATION

Three assessors evaluate the three attempts for each player being tested, awarding three points for each attempt. The final evaluation score for each attempt is out of (10) points, divided into the three skill sections: (3) points for the preparatory section, (5) points for the main section, and (2) points for the final section. The best score from each assessor is then selected, and the mean of the three best scores is calculated to determine the final score for each player being tested.

2. DETERMINING PERFORMANCE ACCURACY TESTS FOR THE SPIKE SKILL IN VOLLEYBALL

In selecting performance accuracy tests for the volleyball spike skill, the researcher relied on relevant sources, references, and previous studies, considering their use of objective evaluation in assessing skill performance accuracy, their appearance in scientific sources, and their alignment with the study's objectives. After reviewing these sources, the researcher compiled a questionnaire to select the most important test. This questionnaire was then presented to a group of experts and specialists in the field of volleyball, testing, and measurement. The test was:[4]

- Accuracy Test for Diagonal Spike
- Purpose of the test: To measure the accuracy of the spike in specific areas.
- Equipment used: A regulation volleyball court, marked as shown in Figure (5), five volleyballs, and colored tape to divide the court in front of the player being tested into two equal triangles. The inner triangle is then divided into three areas, each measuring three meters.
- Performance specifications: After performing the test, the player performs a straight spike towards the inner triangle near the net.
- Performance conditions:
- Each player has five attempts.
- The number of attempts must be accurate.
- Scores are calculated according to where the ball lands:

a. Area 1: 3 points
b. Area 2: 1 point
c. Area 3: 5 points D. Outside these areas, the test-taker receives (zero).

Recording: The test-taker's scores from the five attempts are recorded, meaning the final score for this test is (25) points.

PILOT STUDY

The researcher conducted a pilot study on Wednesday, November 12, 2025, with a sample of (10) students from the original research population who did not participate in the main study. The objectives of this pilot study were:

1. To determine the extent of learners' understanding and comprehension of the skills test components.
2. To identify factors and obstacles that may arise during the administration of the tests and to work on finding solutions to them.
3. To organize the work of the support team and clarify the instructions and guidelines related to conducting the tests.
4. To determine the time required to conduct the skills tests.

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5. To determine the suitability of the tools used.

SCIENTIFIC FOUNDATIONS OF THE TESTS

TEST RELIABILITY

To determine the reliability of the tests under investigation, the researcher used the testing method and tools. Attentional reliability is defined as "the test gives the same results if it is repeated under the same conditions." Based on this, the researcher administered the tests on November 13, 2026, to a sample of 10 students, separate from the experimental research samples (first and second). Five days later, on Sunday, November 18, 2025, the tests were re-administered to determine the correlation coefficient between the tests, given that the interval between the two tests was between 1 and 7 days. The statistical intervals of the results were calculated using Pearson's simple correlation coefficient, which indicates that all tests possessed a high degree of reliability, as shown in Table 4. Test Validity:

Test validity means that the test provides the validity limits (range) that serve its intended purpose in evaluating motor ability and mathematical performance, thus fulfilling its intended purpose. Therefore, the researcher used self-validity, which is measured by the square root of the reliability coefficient, as shown in Table 4.

TEST OBJECTIVITY

A test is considered objective if it gives the same scores in all cases, regardless of who corrects it. Objectivity was found for the technical performance test only, which requires judges, while other tests do not require judges. After statistical processing of the technical performance results, the correlation coefficient was highly significant, indicating that the objectivity coefficient for the technical performance was high, as shown in Table (4).

Table 4. shows the scientific basis of the tests (validity, reliability, objectivity)

Tests	Stability coefficient	Self-validity coefficient	Objectivity
Technical performance	0.87%	93%	92%
Accuracy	0.94%	97%	-
Focus	0.89%	94%	-
Attention distribution	0.86%	92%	-
Attention stability	90%	94%	-

FIELD RESEARCH PROCEDURES

1. PRE-TESTS

Pre-tests were conducted for the research sample on November 20, 2025, after the completion of (6) educational units within the curriculum. These units included explanations of the skill, live demonstrations by the teacher, and performance by second-year students. Pre-tests were administered to assess technical performance, accuracy, and key aspects of attention related to the spiking skill for both groups.

2. EDUCATIONAL METHODOLOGY

The researcher aims to utilize two different learning methods: cooperative learning using computers to develop the motor skills and key aspects of attention related to the spiking skill in volleyball, through the educational methodology employed by the researcher. The curriculum components were as follows:

After completing (6) educational units for second-year students within the curriculum, the researcher prepared a computer-assisted curriculum for the first group (the cooperative approach) to develop the motor skills and key aspects of attention related to the volleyball spike. The curriculum lasted (4) weeks, with two educational units per week, resulting in a total of (8) units for the first group.

- The researcher implemented the curriculum on November 21, 2025. The curriculum for the first group (the cooperative method) was implemented by presenting the technical performance of the smash skill on a computer. The learners were shown a model performed by a professional player from an Italian league team. Each member of the group sat in front of the computer and watched the detailed image of the performance stages of this skill from all angles, once in slow motion and once in fast motion, observing where the player directed the ball on the opposite field for (15) minutes. After this presentation, the group members were taken to the outdoor area of the Faculty of Physical Education to implement the remaining components of the curriculum and practice the exercises according to the curriculum prepared by the researcher and as shown in the educational unit.
- The educational approach for both groups was completed on Sunday, January 20, 2026. 2-8-3 Post-Tests:

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After completing (8) learning units over a period of (4) weeks to develop the motor skills and key aspects of attention for the volleyball spike skill in the first experimental group, post-tests were conducted for technical performance and accuracy in the volleyball spike skill, under the same conditions as the pre-tests for this skill. The post-tests were conducted on Thursday, January 20, 2026, and the attention tests were also conducted on the same date.

STATISTICAL METHODS

The researcher used the SPSS statistical package.

RESULTS

PRESENTATION, ANALYSIS, AND DISCUSSION OF RESULTS FOR THE VOLLEYBALL SPIKE SKILL

1. Presentation and Analysis of Results for the Technical Performance and Accuracy Tests of the Spike Skill for the First Experimental Group (Individual Method):

Table 5. Shows the means, standard deviations, and calculated and tabulated t-values between the pre- and post-tests for the technical performance and accuracy tests of the spike skill for the first research group (cooperative method)

Test	Pretest		Posttest		Calculated T value	Type of indication
	Mean	Std	Mean	Std		
Technical performance testing	3.04	0.53	7.71	0.58	6.17	Sig.
Accuracy testing	11.4	1.29	19.73	1.03	8.73	Sig.
The tabulated value of (T) = (2.14) at a significance level of (0.05) and at a degree of freedom of (14)						

Table (5) shows the means, standard deviations, and calculated t-values for the pre- and post-tests of technical performance and accuracy in the smashing skill for the first experimental group (self-administered technique). The results showed that the mean in the pre-test of technical performance was (3.04) with a standard deviation of (0.53). The mean in the post-test was (7.71) with a standard deviation of (0.58). The calculated t-value was (6.17), which is greater than its critical value of (2.14) under degrees of freedom (14) and at a significance level of (0.05). This indicates a statistically significant difference between the two tests, favoring the post-test.

In the accuracy test, the results showed that the mean for the same group in the pre-test was (11.4) with a standard deviation of (1.29). The mean in the post-test was (19.73) with a standard deviation of (1.03). The calculated (t) value was (8.73), which is greater than its critical value of (2.14) under degrees of freedom (14) and at a significance level of (0.05). This indicates a statistically significant difference between the two tests, favoring the post-test.

2. Presentation and Analysis of the Results of Measurement of Development and Percentages for Technical Performance and Accuracy Tests of the Volleyball Spike Skill for the First Experimental Group (Individual Method):

Table 6. shows the means, development, and percentages for the technical performance and accuracy tests of the volleyball spike skill for the first experimental group (cooperative method)

Tests	Pretest	Posttest	Amount of development	Percentage of the amount of development
	Mean	Mean		
Technical performance	3.04	7.71	4.67	60.57%
Performance accuracy	11.4	19.73	8.33	42.22%

Table (6) shows the means, amount of improvement, and percentages in the technical performance and accuracy tests for the volleyball spike skill, for the first experimental research group. The results showed that the mean of the pre-test in the technical performance test was (3.04), and the mean of the post-test was (7.71), achieving an amount of improvement of (4.67), while the percentage value of this test was (60.57%). As for the performance accuracy test, the results showed that the mean of the pre-test was (11.4), and the mean of the post-test was (19.73), and thus this group also achieved an amount of improvement of (8.33), with a percentage value of (42.22%).

3. Presentation and Analysis of Differences in Post-Test Technical Performance and Accuracy Tests for Volleyball Spike between the Two Groups:

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Table 7. Shows the means, standard deviations, and calculated and tabulated t-values in the post-tests between the two groups for technical performance and accuracy tests of the volleyball spike

Test	Pretest		Posttest		Calculated T value	Type of indication
	Mean	Std	Mean	Std		
Technical performance	7.71	0.58	6.87	0.77	3.27	Sig.
Performance accuracy	19.73	1.03	17.33	1.04	6.12	Sig.
The tabulated value of (T) = (2.05) at a significance level of (0.05) and at a degree of freedom of (28)						

Table (7) shows the means, standard deviations, and calculated and tabulated t-value in the post-test between the two groups in the technical performance and accuracy tests for the smashing skill. The results showed that the mean for the first experimental group (cooperative method) in the post-test for the technical performance test of the smashing skill was (7.71) with a standard deviation of (0.58). The mean for the same test and for the second group (cooperative method) was (6.87) with a standard deviation of (0.77). The calculated t-value was (3.27), which is greater than its tabulated value of (2.05) with (28) degrees of freedom at a significance level of (0.05). This indicates a statistically significant difference between the first and second groups, in favor of the first experimental group (cooperative method). In the post-test for accuracy in the smashing skill, the results showed that the mean score for the first group (cooperative method) was 19.73, with a standard deviation of 1.03. The mean score for the second group (cooperative method) was 17.33, with a standard deviation of 1.04.

The calculated t-value was 6.12, which is greater than the critical t-value of 2.05, with 28 degrees of freedom and a significance level of 0.05. This indicates a statistically significant difference between the first and second groups, favoring the first experimental group (cooperative method).

4. Presentation of the results of measuring the degree of development and the percentage of tests for the most important aspects of attention to the smashing skill for the first research group (cooperative method)

Table 8. Shows the means, degree of development, and percentage of pre- and post-tests for the most important aspects of attention to the smashing skill for the first group (cooperative method)

Tests	Pretest	Posttest	Amount of development	Percentage of the amount of development
	Mean	Mean		
Focus of attention	2.086	1.42	-1.44	50.35%
Distribution of attention	29.32	16.84	-12.48	42.56%
Stable attention	0.74	0.39	-0.35	47.97%

Table (8) shows the means, amount of improvement, and percentages in the attention focus, attention distribution, and attention stability tests for the first group (cooperative method). The results showed that the mean of the pre-test in the attention focus test was (2.86) and the mean of the post-test was (1.42). Therefore, this group achieved an improvement of (-1.44), representing a percentage of (50.35%).

As for the attention distribution test, the results showed that the mean of the pre-test was (29.32) and the mean of the post-test was (16.84). Thus, this group achieved an improvement of (-12.48), representing a percentage of (42.56%).

In the attention span test, the results showed that the pre-test mean was 0.74 and the post-test mean was 0.39. This group also achieved a development level of -0.35, representing 47.97%.

DISCUSSION OF RESULTS

Based on the results presented in Tables (5, 6, 7, 8), statistically significant differences were found between the pre- and post-tests for technical performance, accuracy, and attentional aspects in developing the motor performance program for the volleyball spike. Both groups used the cooperative approach, with the post-tests showing greater improvement. The researcher attributes these differences, which pertain to the first experimental group, to their adoption of the cooperative approach. This approach fostered an atmosphere of interest and attention among the learners, leading to a positive and active attitude towards the learning process. Furthermore, the computer-assisted self-directed approach instilled in the learners a sense of their value and role in self-awareness and self-reliance in grasping the detailed aspects of the spike skill without teacher assistance.[5] This is because, in the self-directed approach, "the learner independently navigates the various and specific learning situations to discover information and skills, thus shifting the focus of attention from the teacher to the learner or student."[6] The cooperative approach adopted by the first group also allowed the learners to increase their chances of success and active and positive participation in performing the smashing skill better, which led to the development of their motor program by giving each learner the opportunity to proceed according to their readiness, skill abilities, and mental processes, including attention, which is “one of the basic mental processes for a volleyball player due to the specific nature of this game, as a mistake costs the team a point directly and cannot be rectified as in other team

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sports, since 90% of the players' information comes from the tangible vision of what is happening and the movements inside the court, through focusing, maintaining, and quickly distributing attention to the different parts of the court" [7]. The development of the motor program for the smashing skill and its associated attentional aspects resulted from the use of a computer by the first experimental group (the cooperative approach). This computer aided in understanding and comprehending the detailed components of the smash by employing a gradual approach to presenting the skill's technical performance in its various stages: approximate running, jumping, flying (hitting the ball), and landing. The group members were given the freedom to use and diversify their performance by presenting these alternatives on the computer at speeds appropriate to each individual. The more information the learner receives and the more diverse its sources, the more effective the skill performance becomes and the more their motor program develops. This is because the computer-assisted cooperative approach "aims to enhance and develop the learning process and facilitate interaction between the learner and the learning material by offering diverse and varied programs that suit the learner's needs and abilities, as well as taking into account individual differences among learners" [8]. Furthermore, the results in Table (8) showed statistically significant differences between the pre- and post-tests for developing the motor program for the smash and its associated attentional aspects. The researcher attributes the reason for these differences to the fact that the use of the cooperative method with the strategy of small groups (2-6) learners led to the interaction between these small, varying groups, which would give the observer of learners with high levels of skill performance to enhance their performance and generate opportunities for them to practice leadership, and to identify learners who need recommendation or encouragement, and to know the strengths in skill performance to develop them and the weaknesses to address and avoid them.

CONCLUSIONS

1. The use of the cooperative learning method with small group strategies (2-6 individuals) effectively contributed to developing the motor skills program for the spike and key aspects of attention.
2. The experimental group (cooperative method) outperformed the control group in developing the motor skills program for the spike and key aspects of attention.
3. The use of the cooperative method significantly reduced the effort required to correct errors and provide feedback to learners on the type of error.
4. Using the principle of cooperation in developing the motor skills program and aspects of attention (under investigation) related to the spike skill helped increase interaction, discussion, comparison, and differentiation among members of the same group.

RECOMMENDATIONS

In light of the conclusions reached, the researcher recommends the following:

1. Focusing on the cooperative learning method in developing the motor skills program and key aspects of attention for the volleyball spike.
2. Utilizing the cooperative method to optimize time and effort in the educational process.
3. Using computer-assisted instructional programs to develop motor skills and focus on key aspects of the spiking technique in volleyball.
4. The need for further research utilizing various modern teaching methods to learn and improve volleyball skills.

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