

## The effect of using the cognitive conflict strategy on learning the skills of blocking and defending the court in volleyball for students

Assist. Lec. Mustafa Hadi Almayali <sup>(1)</sup>, Assist. Lec. Ali Khamees Al-Saedi <sup>(2)</sup>,  
Assist. Lec. Hazim Faris Neamah <sup>(3)</sup>

<sup>(1)</sup> Faculty of Physical Education and Sports Sciences / University of Kufa, Iraq.

<sup>(2)</sup> Faculty of Physical Education and Sports Sciences / University of Kufa, Iraq.

<sup>(3)</sup> Institute of technical Kufa / Al-furat Al-awsat Technical University, Iraq.

[mustafah.almayali@uokufa.edu.iq](mailto:mustafah.almayali@uokufa.edu.iq), [alik.alsaedi@uoka.edu.iq](mailto:alik.alsaedi@uoka.edu.iq),  
[hazim.faris.iku@atu.edu.iq](mailto:hazim.faris.iku@atu.edu.iq)

### Abstract

The purpose of this paper is to preparing educational units using the cognitive conflict strategy in learning the skills of blocking and defending the court in volleyball for students, and knowing the effect of the cognitive conflict strategy on learning the skills of blocking and defending the court in volleyball for students. The researchers used the experimental method for two equal groups, control and experimental, with a pre- and post-test. The research group consisted of first-year students from the College of Physical Education, University of Kufa, who divided (42) students into two sections (B) and (C). A group has been selected. (B) is an experimental research group represented randomly, (C) represents the control group, and samples are randomly selected from the two groups, and each of them includes 10 students in Group (B) the experimental group and (10) students from Group (C) for the control group, and thus The sample constitutes 47.6% of the original population. One of the most important results reached by the researcher is that: The cognitive conflict strategy prepared by the researcher has proven effective in performing the skills of blocking and defending the court in volleyball (for the experimental group), and there is progress for the control group in learning the skills of blocking and defending the court with volleyball for the students. One of the most important recommendations recommended by the researchers is that: Using the cognitive contrast strategy in learning basic volleyball skills for students, and work to organize the content of the study material with an educational design in accordance with the steps of the cognitive conflict strategy and in a way that is consistent with achieving the educational goals set in other sporting events.

**Keywords:** Cognitive conflict strategy, blocking, defending, volleyball.

### Introduction:

The basic idea of learning depends on the learner's ability, willingness and time required because the learner is the focus of the educational process and developing his abilities, talents and potential is the primary goal of the process. Comprehensive and precise attention is required to the availability of different educational situations that serve the learning process and the availability of performance opportunities. It suits a variety of motor skills and reflects the learner's ability to understand the skill or action and its components.

There are many educational methods and strategies that were and are still used to teach sports skills, and since success rates vary in physical skills and performance, experts and researchers have tried to find useful methods in all sports and events, commensurate with the skills, abilities and potential of the learners.

Volleyball is considered one of the most practiced sports and occupies a good position because it is an exciting game that combines defensive, offensive and tactical skills, as well as interaction with the audience in every game movement that players must learn and master at a high level, and teaching and training students at this age is no different from other games through... Preparing the best modern scientific methods and strategies to develop what needs to be developed and achieve the best results.

The cognitive conflict strategy is one of the most important strategies that rely on constructivist theory, as this strategy is based on the ideas of this theory, as it contributes to restructuring and restructuring information, creating conceptual change, acquiring concepts, and facilitating the process of constructing information. Purposeful learning, dialogue and discussion between the coach and players about the conflicting information available to them. This would bring about the desired cognitive change, and conflict occurs when the learner faces a contradiction between his previous information and that provided to him. The work of this strategy is linked to many types of intelligence that humans possess, including spatial or spatial intelligence, which is one of the many types of intelligence that revolves around a person's perception of the world visually and spatially. It explains the person's adaptation in a tangible mental way, as visual-spatial intelligence is closely linked to visual memory and the individual's ability. To respond to real images of external stimuli, retain them in the form of images, and be able to retrieve them when needed.

The importance of the research lies in a scientific attempt to benefit from the cognitive conflict strategy as a teaching method in the field of physical education and how to take into account individual differences in learning the movements of the skills of blocking and defending the court with volleyball for first-stage students by measuring and comparing with another method (imperative method), in addition to identifying the advantages of The objectives and implications of using both methods in the process of learning the studied skills.

**Research problem:**

Through the researcher's actual experience and observation of the first stage of the educational lectures, which was a volleyball practice stage, the researcher noticed that the basic skills of this sport, especially the skills of blocking and defending the court, did not develop in one stage. In line with the rapid development of games at the global level. This may be due to the incompatibility of the (traditional) methods or methods used in learning skills with modern methods of improving skill levels.

Therefore, the researcher decided to delve into the experience of introducing and using a modern cognitive strategy in the sports field that exploits the learners' abilities to the greatest possible extent. Therefore, the researcher decided to use the cognitive conflict strategy as a step by the researcher to develop the performance of the skills of

blocking and defending the court among first-year students in the College of Physical Education.

**Research objective:**

- Preparing educational units using the cognitive conflict strategy in learning the skills of blocking and defending the court in volleyball for students.
- Knowing the effect of the cognitive conflict strategy on learning the skills of blocking and defending the court in volleyball for students

**Research hypotheses:**

- The cognitive conflict strategy has a positive effect on learning the skills of blocking and defending the court for students.

**Research fields:**

- Human field: First year students - College of Physical Education
- Time field: (5/9/2023) to (15/10/2023)
- Spatial field: College of Physical Education/University of Kufa

**Research methodology and field procedures:**

**Research Methodology:**

The researcher used the experimental method for two equal groups, control and experimental, with a pre- and post-test, because it suits the objectives and nature of the research and the problem to be solved, which is considered one of the most successful and best methods used because the results are extracted through experimentation.

**Community and sample research:**

The research group consisted of first-year students from the College of Physical Education, University of Kufa, who divided (42) students into two sections (B) and (C). A group has been selected. (B) is an experimental research group represented randomly, (C) represents the control group, and samples are randomly selected from the two groups, and each of them includes 10 students in Group (B) the experimental group and (10) students from Group (C) for the control group, and thus The sample constitutes 47.6% of the original population.

**Homogeneity of the sample:**

Before the educational unit began applying the cognitive conflict strategy, with the aim of controlling the variables that affect the accuracy of the research results, the researcher conducted a homogeneity check on the variables related to morphological measurements in the research sample, which are (height - age - mass). As shown in Table (1).

Table (1) Shows homogeneity for research sample

Variables	Measuring unit	Mean	Std. Deviations	Median	Skewness
Length	Cm	169.8	0.93	169	0.83
Age	Year	18.4	0.79	18	0.91
Mass	Kg	66.5	0.97	65.2	0.88

## **Field procedures for research**

### **First: Testing the technical performance of the blocking skill in volleyball (Ahmed Youssef, 2003)**

- Test objective: To measure the technical performance of the blocking skill in volleyball
- Tools: a legal volleyball court, 10 legal volleyballs, a camera, a whistle, colored numbered sticky paper, and a 30cm high bench.
- Performance conditions: Each student is given (3) consecutive attempts.
- Performance specifications: The teacher stands in the second square in front of the net on a bench holding the ball above the net at a height of (30 cm), and the student stands in center (3) and after hearing the whistle, begins to move towards the net by touching the ball with both hands and then returning to center (3) and so on. Performing the same skill consecutively.
- Registration method: The three attempts for each laboratory are photographed and presented to three arbitrators (evaluators). Each evaluator gives three marks for each laboratory, noting that the final score for each attempt is (10) marks distributed among the three skill sections, which are (3) marks for the preparatory section and (4) grades for the main section and (3) grades for the final section, after which the best grade for each component is chosen, through which the arithmetic mean of the best (3) grades for each component is extracted, and then the final grade for each laboratory is calculated.

### **Second: Testing the technical performance of the skill of defending the court in volleyball:**

- Test objective: To measure the technical performance of the skill of defending the court in volleyball
- Tools: a legal volleyball court, 10 legal volleyballs, a camera, a whistle, and colored numbered sticky paper.
- Performance conditions: Each student is given (3) consecutive attempts.
- Performance specifications: The teacher stands in position (3) and the student stands in position (6). After hearing the starting whistle, he begins to move by defending the ball (spiking) by the teacher, and then returns to position (6), and so on, performing the same skill in succession.
- Registration method: The three attempts for each laboratory are photographed and presented to three arbitrators (evaluators). Each evaluator gives three marks for each laboratory, noting that the final score for each attempt is (10) marks distributed among the three skill sections, which are (3) marks for the preparatory section. (4) grades for the main section and (3) grades for the final section, after which the best grade for each component is chosen, through which the arithmetic mean of the best (3) grades for each component is extracted, and then the final grade is calculated for each laboratory.

### **Exploratory experiment**

The researcher conducting the experiment is to see the ability and validity of what helps him in conducting his experiment, such as an auxiliary work team, devices and tools, and his tests that he will use in the study, and it is a mini-experiment or test in preparation for a larger test.

The researcher conducted his exploratory experiment on a group of (4) first-year students on Thursday, 7/9/2023. The researcher was keen to have everything necessary for the success of the experiment, as the researcher explained the test instructions to his assistant work team and the performance steps. .

### **Pre-test**

“The pre-test is one of the means of evaluation, measurement, diagnosis and teaching in curricula and programs for all levels and age stages. They play the role of a clear indicator of progress and success in achieving objective goals.” (Fouad Soliman, 1989). Pre-test measurements were conducted for the study samples of the control group and the experimental group on the volleyball court. At the university on 10/9/2023, after setting the conditions related to the test in terms of time, place, tools used, implementation methods, and the supporting work team.

### **Preparing and implementing a cognitive conflict strategy**

The researcher applied the educational units according to the cognitive conflict strategy to the students of the experimental group on Tuesday, corresponding to 12/9 2023, and the time for implementing the educational units ended on Saturday, corresponding to 20/10 2023, while the control group used the mechanism used by the subject teacher, and it came Details of the educational units are as follows:

- The duration of implementing the (cognitive conflict) strategy is (6) weeks.
- The number of educational units per week: two educational units on each day (Sunday, Tuesday).
- The total number of educational units is (12) units.
- The time of the educational unit is (45) minutes.
- The time of the main section of the educational unit is (30) minutes.

### **Post-test**

After completing the educational unit prepared according to the cognitive conflict strategy, the researcher conducted the post-test on the students of Phase 1 of the experimental and control research group, which included testing the skills of blocking and defending the court with volleyball, under the same conditions, specifications, and conditions for the pre-test, on Sunday 22/10/2023, to obtain more accurate results, under the direct supervision of the researcher.

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

**Results and discussion:**

Presentation and discussion of the results of the pre- and post-tests for the control group:

Table (2) shows the results of the tests for the control research group

Variables	Measuring unit	Pre-test		Post-test		T value calculated	Level Sig	Type Sig
		Mean	standard deviation	Mean	standard deviation			
Blocking	Degree	4.43	0.971	6.12	0.721	5.124	0.003	sig
Defending the court	Degree	4.51	0.833	6.45	0.834	4.221	0.002	sig

**Presentation and discussion of the results of the pre- and post-tests for the control group:**

Table (3) shows the test results for the experimental research group

Variables	Measuring unit	Pre-test		Post-test		T value calculated	Level Sig	Type Sig
		Mean	standard deviation	Mean	standard deviation			
Blocking	Degree	4.82	0.811	7.32	0.834	6.034	0.000	sig
Defending the court	Degree	5.02	0.766	7.58	0.722	7.161	0.000	sig

**Presentation and discussion of the results of the post-tests for the control and experimental groups:**

Table (4) shows the results of the post-tests for the control and experimental research groups.

Variables	Measuring unit	Post-test (control)		Post-test (experimental)		T value calculated	Level Sig	Type Sig
		Mean	standard deviation	Mean	standard deviation			
Blocking	Degree	6.12	0.721	7.32	0.834	6.034	0.000	sig
Defending the court	Degree	6.45	0.834	7.58	0.722	7.161	0.000	sig

## Discussion the results

By observing Tables (2-3), it is clear that the experimental and control groups have achieved progress in relation to the level of students in learning the two skills under study because learning any skill is done by any method used, but learning rates remain different depending on the method and its efficiency in delivering the material to the student. Therefore, we find that the control group achieved a percentage of learning as a result of the method used by the teacher, which is the imperative method, as well as the experimental group. The primary goal of each educational unit in any game is to teach the material that the student is required to learn. If the learning method is correct, the repetitions are sufficient, and the educational period is complete and comprehensive. In exercises, explanation, presentation, and applied exercises for learning and the use of feedback, in addition to the consistency of the educational curriculum followed by the teacher so that it suits beginner students and their ability to lead to a clear improvement in learning and performance. This is what the sources emphasized: “The clarity of goals and their definition in specific behavioral forms or performance levels will be meaningful and effective” (Fouad, 1989, 177).

The results presented in Table (3) for testing the skills of “blocking and defending the court in volleyball” showed that there were significant differences between the pre- and post-measurements, in favor of the post-test for the experimental group. The researcher attributes the use of the cognitive conflict strategy, which had a major role in developing the level of performance. For the experimental group, therefore, the researcher believes that the cognitive conflict strategy through the exercises prepared and applied in the main section has enabled the students to build and expand their intelligence and has given them fruitful experiences through the assignments assigned to them at the end of each educational unit, as it has helped the students to gain scientific expertise about the work to be done. The way to answer them was helped by clarity of objectives.

The researcher also attributes the reason for the significant differences of the experimental group in the post-tests to the influence of the strategy and its positive role through the procedural steps in its stages, through discussion and dialogue and giving freedom to the students to know the correct and correct skillful behavior for themselves, as the diverse discussions and multiple viewpoints help the student. To activate and increase their knowledge area and help solve problems in an intelligent and creative way, as (Azzo Ismail and Youssef Ibrahim , 2009) indicate, “Help the players through the previous information they possess that agrees with the current information, and through the conflicting ideas of the strategy, learning and development with the intended meaning occur.” (Azzo Ismail and Youssef Ibrahim, 2009, 174), and that the stages of the strategy worked to tighten the minds of the students, that is, when they encounter a specific problem, they use their mental processes and thus will bring out the intelligence within them in order to solve the contradiction that they noticed, and find possible solutions (Iqbal, 2015, 181). The exercises helped the player draw a mental picture to express the events that may occur, or when he draws a specific area and creates a picture by drawing a map when he wants to go from one place to another (Iman, 2011, 90).

## **Conclusions and Recommendations:**

### **Conclusions**

- The cognitive conflict strategy prepared by the researcher has proven effective in performing the skills of blocking and defending the court in volleyball (for the experimental group)
- There is progress for the control group in learning the skills of blocking and defending the court with volleyball for the students.
- The members of the experimental group that used the cognitive conflict strategy in learning the skills of blocking and defending the court with volleyball outperformed the control group in the post-measurements.

### **Recommendations:**

- Using the cognitive contrast strategy in learning basic volleyball skills for students.
- Work to organize the content of the study material with an educational design in accordance with the steps of the cognitive conflict strategy and in a way that is consistent with achieving the educational goals set in other sporting events.
- Conduct similar research and studies to compare the cognitive conflict strategy with other strategies or with various teaching methods to determine its impact on learning basic skills in volleyball and other sports.

### **References:**

- 1- Ahmed Youssef Miteb. (2003). The effect of a training curriculum using a proposed field in developing the special endurance of young people in the game of handball, doctoral thesis, University of Baghdad, College of Physical Education.
- 2- Azzo Ismail and Youssef Ibrahim. (2009). Teaching and learning for the brain for both sides, 1st edition: (Amman, House of Culture, Publishing and Distribution).
- 3- Fouad Soliman. (1989). Necklace of Educational Objectives and Curriculum Teaching, Alexandria, New Printing House .
- 4- Iman Abbas Al-Khafaf . (2011). Multiple Intelligences, an applied program, 1st edition, Dar Al-Manahj for Publishing and Distribution, Amman, Jordan.
- 5- Iqbal Mutashar Abd. (2015). The effect of the learning course and concept maps in correcting the misconceptions of female fourth-year middle school students in geography, (Doctoral dissertation) , University of Baghdad, College of Education, Ibn Rushd.