

## **The Effect of (Mental - Physical - Skill) Exercises in Developing Some Motor Abilities and the Skills of Sending and Receiving the Flying Ball in Tennis for the Students**

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### **Abstract**

The importance of the research is manifested in preparing exercises (mental - physical - skill) and knowing their effect on some motor abilities and the skills of tennis transmission and receiving it in volleyball for students. The problem of the research comes through the researcher's field experience and his observations during the learning process. He noticed that there is a lack of interest from teachers or trainers for skill mental exercises and focus on skillful physical learning only, relying on personal experience and without finding a pre-programmed and planned educational method, while mental training is important Great for learning and training. Thus, the researcher decided to delve into this experiment by highlighting the active role of mental, skill and physical exercises to develop some motor abilities, as well as developing the skills of tennis transmission and receiving volleyball for students. As for the research methodology and field procedures, the researcher used the experimental method on a sample of (28). A student of the third stage of the College of Physical Education and Sports Sciences / University of Al-Qadisiyah, and they were divided into two groups, a control and an experimental group. The tribal before implementing the (mental - physical - skill) exercises within the steps of the experimental method, after the tests were determined and measured, and the tests were repeated after the completion of the implementation of the (mental - physical - skill) exercises, and the results were statistically processed using the spss statistical bag to extract the results Consequently, the results were presented and discussed in Chapter Four, and the researcher reached conclusions and recommendations, and the most important conclusions were: The exercises The (mental - physical - skill) clearly contributed to the development of some of the motor abilities of the students of the experimental group, and the use of (mental - physical - skill) exercises greatly helped in developing the skills of tennis transmission and receiving it with volleyball for the students of the experimental group, as the researcher recommended Emphasis on the use of (mental - physical - skill) exercises in developing other motor abilities and learning new skills, as well as conducting similar studies on other activities and age groups.

**Keywords:** *motor abilities, skills ,ball, Tennis, students*

### **Introduction**

Physical education and sports sciences are among the important areas in developing skill performance, preparing learners physically, mentally and professionally, and helping them to communicate with the community and the world. Different educational methods, which are one of the components needed by any educational curriculum in physical education and sports, and the teacher's duty is to be fully conversant in terms of their organization and the rules necessary for their practice. This is because the educational material (motor skill), the specific objectives and characteristics of the

learners are what determine the appropriate and effective methods of motor learning. Mental training is only at higher levels, but it is an extension of the work The educational and training process in reaching the performance mechanism, mastering it and developing it properly. Among the sports that have received more attention and development is volleyball, which is one of the team games that has spread widely in various countries of the world. With all its technical and schematic aspects, and the use of mental, physical and skill exercises that create a state of mixing everything that is new in the kinetic learning process, and encourage the learner to learn through excitement and suspense, and the application of the new thing that differs from the method used in the educational process.

Research importance: Thus, the importance of the research lies in a scientific attempt and striving to achieve its goals, which is the use of (mental - physical - skill) exercises and to identify their impact on some motor abilities and the skills of tennis transmission and receiving it with volleyball for students. So, through the researcher's field experience, he identified the problem of his research, which is: The learning process in the field of physical education and sports depends on the interdependence and consistency between the physical and mental aspect at the same time. This requires great attention to these two aspects, as well as focusing on the mental aspect, especially during learning and developing abilities Motor and technical skills. Through the researcher's field experience and his observations during the learning process, he noticed that there is a lack of interest from teachers or trainers for skill mental exercises and focus on skillful physical learning only, and relying on personal experience and without finding a pre-programmed and planned educational method, while mental training is of great importance in learning And training, and thus the researcher decided to delve into this experiment by highlighting the active role of mental, skill and physical exercises to develop some motor abilities, as well as developing the skills of tennis transmission and receiving it with volleyball for students.

Research aim: to identify the effect of (mental - physical - skill) exercises on some motor abilities and the skills of tennis transmission and receiving it in volleyball for students. As well as suppose that there is an effect of (mental - physical - skill) exercises on some motor abilities and the skills of tennis transmission and receiving it with volleyball for students.

Research areas: It was represented by students of the third stage of the College of Physical Education and Sports Sciences / University of Al-Qadisiyah, and the time of conducting the experiment was from 15/11/2020 to 31/1/2021, as for the place of conducting exercises and field experiments, the researcher chose the private gym College of Physical Education and Sports Sciences / University of Al-Qadisiyah.

## **Methodology**

Research Methodology: The method is one of the important factors that the researcher follows to solve his problem, and it is chosen according to the nature of the problem to be studied, since the nature of the problem necessitated the researcher to use the experimental method because it is compatible with the nature of the research problem, and by designing the method of the two equal groups (experimental and control) with two tests, pre and post.

Research community and sample: The research community was determined by students of the third stage of the College of Physical Education and Sports Sciences / University of Al-Qadisiyah by (28) students, and they were divided into two equally control and experimental groups, as the experimental group used the (mental - physical - skill) exercises, while the group The control used the usual curriculum by the subject teacher.

Devices, tools and means used in the research:

Data collection methods:

- 1- Arabic and foreign sources and references.
- 2- Personal interviews.
- 3- Tests and measurements.

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4- Special forms for recording the results of the tests for the players.

2-3-2 Tools and devices used:

- 1- Number 5 pillars, 30 cm high
- 2- Whistle type (Fox) number (2).
- 4- Legal volleyballs.
- 6- Manual (Casio) stopwatch.
- 7- A Chinese-made Sony camera.
- 8- Colored adhesive tape.
- 9- The volleyball court is legal.

Field Research Procedures:

Motor abilities tests:

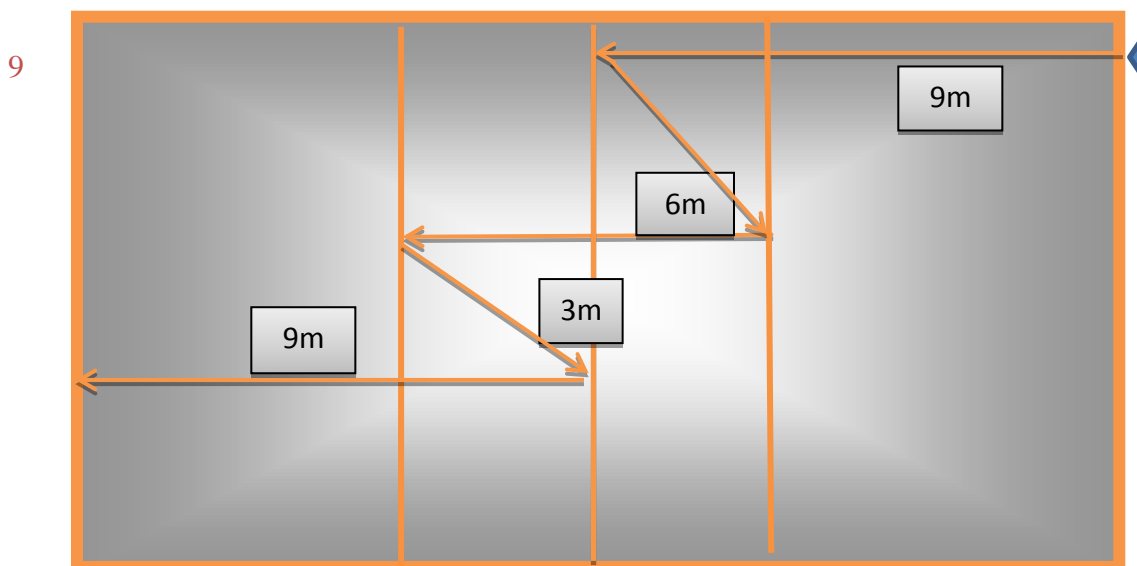
First: The shuttle run test of different dimensions (9-3-6-3-9 meters): (Mohammed, 1987)

The purpose of the test: to measure agility.

- Tools: volleyball court, stopwatch, cones, registration form.

- Description of performance:- The tester stands behind the starting line of the stadium and when he hears the start signal, he runs in a straight direction to touch the center line 9 m with his right hand and then turns to run towards the 3 m line located in the middle of the playing field from which he started running, touches it with the right hand 3 m and then turns towards the L 3 m line The one in the second half of the field 6 m to go to the center line 3 m to touch it with the right hand. Then turn to run towards the finish line 9 m to cross it with both feet.

**-Recording: records the time from start to finish line, as shown in Figure (1)**



**Figure (1)**

**The shuttle running test shows the different dimensions (9-3-6- 3-9) meters to measure agility**

Second: The test of bending the trunk behind from the prone: (Ali, 1999)

- Purpose of the test: To measure the back flexibility of the spine.
- Tools: tape measure, apron, registration form assistant.

- Performance description: From the prone position. The arms behind the back with the lower limb fixed by a colleague. The laboratory slowly returns the torso back to the maximum extent possible and is stable for two seconds. The distance is measured from the bottom of the chin to the ground level with a tape measure so that the tape is perpendicular to the ground and in front of the laboratory head during the measurement, provided that the zero is touching the ground.

**Registration: Each laboratory has two attempts, the best of which is recorded, as shown in Figure (2)**



**Figure (2)The torso flexion test demonstrates the measurement of the posterior flexibility of the spine**

Third: The test of moving above the marks: (Mohamed, 2003)

Purpose of the test: To measure kinetic balance.

Tools: stopwatch, tape measure, (11) registration form markers.

Description of performance: The tester stands on the starting line with the right foot, then stands from standing on the mark (1) with the left instep (note that the mark is covered with the foot) and tries to remain in this position, then jumps to the mark (2) to stand on the right instep and so on until He reaches the last mark with the same technique on each dart.

-Registration: The laboratory records (1) degrees for each jump and dart attempt, as shown in Figure (3).

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**Figure (3) demonstrates the jump over marks test to measure kinematic balance**

Tests of my tennis sending and receiving skills in volleyball.

First: The accuracy assessment test for the skill of serving from the top (tennis): (Nahida, 2015)

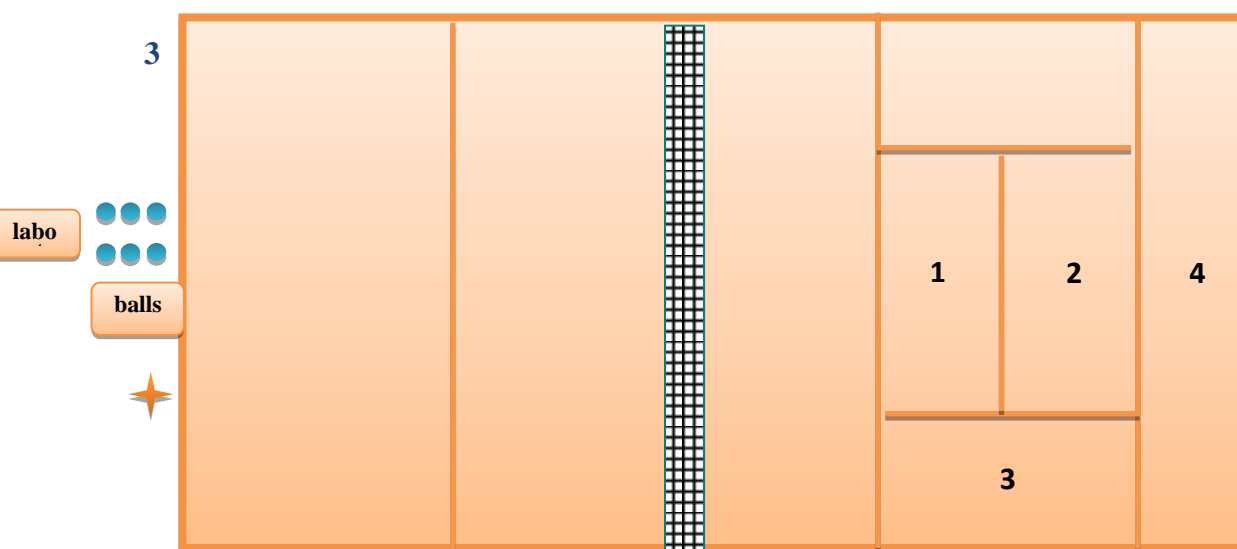
The objective of the test: to measure the accuracy of the tennis serve skill.

Tools used: a legal volleyball court, (5) legal volleyballs, and a colored tape to divide the areas of the opposite court.

Performance specifications: The test student stands in the middle of the final line of the playing field, at a distance of (9) meters from the net.

Performance conditions: In the event the ball touches the net and crosses into the planned half of the court or goes outside the playing field, an attempt is counted for the tested student (out of the five attempts).

- Recording: The student takes the score of the area in which the ball is located for each correct serve, and since each student has a laboratory (5) attempts, and because the scores are distributed over the areas from (1-4) degrees, the maximum score for this test is (20) degrees, noting that in the case of The fall of the ball on a line separating two areas is calculated for the test student, the degree of the highest area, as shown in Figure (4).



**Figure (4) the accuracy assessment shows the skill of the serve from above (tennis)**

Second: The accuracy evaluation test for the skill of receiving the transmission from below in volleyball: (Ahmed, 1999)

The objective of the test: measuring the accuracy of receiving the transmission from below in the volleyball.

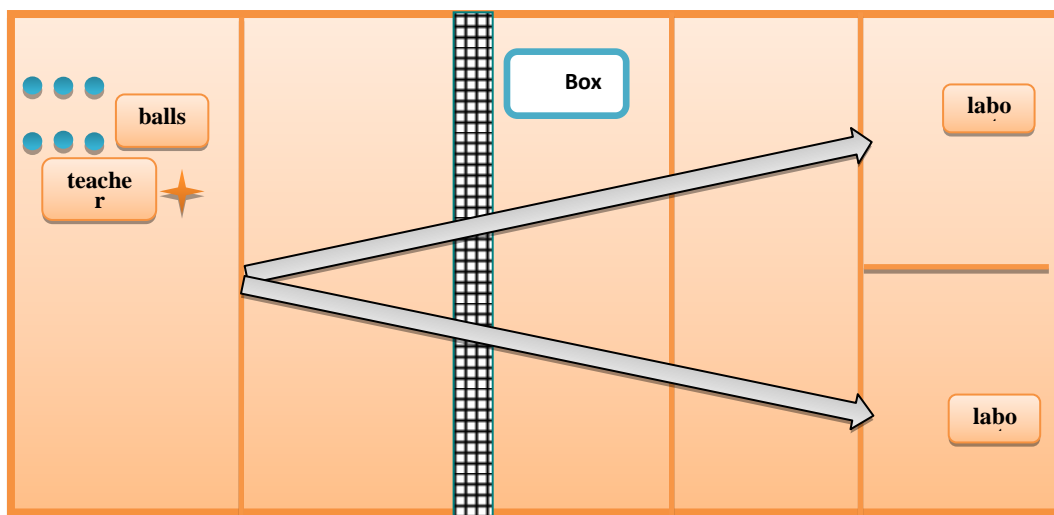
Tools used: a legal volleyball court, 10 legal volleyballs, a metal measuring tape, a colored adhesive tape to divide the court, as shown in Figure (5)

- Method of performance: the tested student performs (5) attempts from area (A) to center (2), as well as performing (5) attempts from area (B) to center (2). The test student must be committed to performing the handling from below from the designated area and directing the ball to the goal as shown in Figure (5)

Scoring: The test student takes the score of the center in which the ball is located, as follows:

- The correct ball that is directed to the target of the table takes the tester (3) degrees.
  - The correct ball that touches the ends of the target table, the tester takes (2) two degrees.
  - The correct ball far from the goal and inside the attacking area takes the tester (1) score.
- If the ball falls far from the goal and outside the attacking area, the tester takes a zero.

The maximum score for the test is (30)



**Shape (5) the accuracy assessment test demonstrates the skill of receiving the serve from below in volleyball**

The main experience:

Tribal tests:

The tribal exams were conducted on Sunday, December 13, 2020 at ten in the morning in the closed gymnasium in the College of Physical Education and Sports Sciences / University of Al-Qadisiyah.

Prepare a mental training program:

- 1- Sequential relaxation to clarify the difference between tension and relaxation for members of the group that trains mentally (self-relaxation, then mental relaxation).
- 2- Preparing to visualize, feel and perceive relaxation and visualization, and it may take a minute or a little more
- 3- The mental perception of the basic movements of sending and receiving it about the teacher's words (visualizing the volleyball court and preparing mentally through what was presented from the external perception of a number of volleyball players).
- 4- Training on the manifestations of attention and focus on the technical aspects of the skills in the research and the issuance of verbal stimuli.

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5- Confirmation of the same skill performance observations and their use in mental training within the procedures of visualization and mental recovery.

Samples of mental training units were presented to the specialized experts and some paragraphs were added through the Internet and it was organized as follows:

An example of a module of the mental training program using mental visualization.

Time: 10 minutes.

Objective: Relaxation - focus - focus attention - visualization (mental recovery), verbal stimuli.

Measures:

- 1- A general explanation and clarification of the importance of mental training for relaxation and mental visualization.
- 2- Sit on the benches completely relaxed.
- 3- Start training to organize the correct breathing process.
- 4- After adjusting the breathing process, students' attention is directed to a specific point.
- 5- Begin with sequential relaxation exercises, emphasizing and paying attention to:
  - Sit comfortably
  - The directions are slow and quiet.
  - Monitor students to determine performance and rest times.
  - Appropriate repetitions associated with areas of the body.
  - Deep breathing between exercises.
  - Taking into account individual differences .
- 6- Attempting to focus the students' attention to perform the required skills in sequence (tennis transmission, receiving serve) in volleyball.

Standby mode visualization.

A state of readiness and readiness for skill performance.

Try to visualize the entire movement slowly and similar to the model presented to them.

- 7- Visualize the potentials for accurate performance in the stadium that pertain to the required skills, the location of their evaluation and the degree of evaluation.
- 8- Mental recovery and its repetition several times until it is completed correctly.
- 9- Explanatory questions for students and inquiries about accuracy.
- 10- This model is repeated over the length of the units, which are (18) units, and with a variety of exercises.

Posttests:

After completing the (mental - physical - skill) exercises, the post tests were conducted on Wednesday (28/1/2021), taking into account the same organization and conditions for implementing the tests and under the same conditions and capabilities used in the tribal tests.

Statistical methods used:

The researchers used the statistical bag (spss) to analyze the research results, including:

- Arithmetic mean.
- Standard deviation.
- Test (t) for interconnected samples.
- Test (t) for independent samples.

### Results

1. Presentation of the results of the pre and post tests for the control and experimental groups for the variables under study:

**Table (1)**

It shows the arithmetic means and standard deviation in the results of the pre and post tests of the experimental group for the variables investigated.

Statistical parameters The variables investigated	measuring unit	tribal		dimensional		value (t) calculated	Sig	Type indication
		s	p	s	p			
agility	a second	11.82	0.62	10.67	0.45	5.91	0.000	moral
Flexibility	poison	57.62	3.20	62.37	1.20	5.38	0.001	moral
kinetic balance	Degree	5.37	0.95	7.68	0.87	6.38	0.000	moral
Top transmission accuracy (tennis)	Degree	7.93	1.34	13.12	1.31	10.51	0.000	moral
Transmission receiving accuracy	Degree	12.43	1.31	19.18	1.10	13.17	0.000	moral

**Table (2)**

It shows the arithmetic means and standard deviation in the results of the two tests, pre and post tests for the control group for the variables investigated.

Statistical parameters The variables investigated	measuring unit	tribal		dimensional		value (t) calculated	Sig	Type indication
		s	p	s	p			
agility	a second	11.86	0.73	11.06	0.58	3.85	0.002	moral
Flexibility	poison	57.68	2.65	60.50	2.16	4.92	0.000	moral
kinetic balance	Degree	5.31	0.94	6.62	0.80	4.39	0.001	moral
Top transmission accuracy (tennis)	Degree	7.75	1.06	10.18	1.60	5.24	0.000	moral
Transmission receiving accuracy	Degree	12.12	1.50	17.18	1.22	12.90	0.000	moral



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**Table (3)**

**It shows the arithmetic means and the standard deviation in the results of the post-tests of the control and experimental groups of the variables under study.**

e	measuring unit	Experimental		the officer		value (t) calculated	Sig	Type indication
		s	p	s	p			
agility	a second	11.06	0.58	10.67	0.45	2.11	0.043	moral
Flexibility	poison	60.50	2.16	62.37	1.20	3.03	0.005	moral
kinetic balance	Degree	6.62	0.80	7.68	0.87	3.57	0.001	moral
Top transmission accuracy (tennis)	Degree	10.18	1.60	13.12	1.31	5.68	0.000	moral
Transmission receiving accuracy	Degree	17.18	1.22	19.18	1.10	4.84	0.000	moral

**Discuss the results**

Through what was presented in Table (1 and 2), we notice that there are significant differences in the tribal and remote tests in favor of the members of the control and experimental groups, and in favor of the post tests in the variables under research. As these exercises included kinetic performance

For more than one part of the body at the same time, it also includes exercises that are directed towards the skills of tennis transmission and receiving transmission in volleyball. The education process includes:

- Take advantage of the overlap between physical and mental exercises in acquiring the development of motor abilities, as well as the development of skill performance represented in tennis transmission and reception, and this helped to accelerate the learning process, mastering skills and investing time and effort.
- Following the correct method of learning based on correct steps and steps and providing the learner with feedback. All of these have increased the learner's motivation and encouragement to perform the correct act, desire and rush to do so.
- Mental and skill training processes helped in the correct prediction of developing the accuracy of the tennis and receiving service skills.
- It is self-evident and when the teacher follows the correct scientific method in education and increases repetitive attempts and feedback that there will be a development in the learning process, and this principle was supported by what was stated (schmidt2000) “that feedback increases individuals’ energy and motivation, enhances correct performance and avoids them wrong performance (Shmidet, 1992). And the use of the principle of gradation in learning from easy to difficult in learning helped in the process of delivering the idea to the learner as quickly as possible, and this principle was supported by Osama (1997) and (Schmidt 1991) and others in favor of dividing the skill into parts for the purpose of facilitating the learning process Especially in difficult and complex skills, the use of mental training in various forms (verbal and non-verbal stimuli) has played a role in influencing the acquisition of learning, its speed and accuracy. movement and accuracy. (Schmidt, 1991) (Osama, 1997) that the process of linking motor abilities (agility,

flexibility, balance) and the skills of tennis transmission and reception is one of the requirements for the success of performing these skills quickly and precisely, and the processes of attention, concentration and training in many changing situations It has increased the high level of concentration of attention in order to choose the correct responses in the shortest possible time and adds (Nydefor 1990) "that the state of concentration of the player's attention must be completely complete in order to reach the state of mental and physical interdependence in order to agree in one direction." (Robera, 1990) The goal of all these educational steps is to try to connect the learner to a situation similar to the case of real play as much as possible, Executing the movement accurately and quickly. This was confirmed by Magill 1998 when he said that diversifying and organizing exercise experiences and diversity in movement will increase the educational experience and increase the learner's ability to perform the skill better. (Magill, 1998)

The researcher was keen that the exercises he prepared include complex movements and aim directly at developing agility and balance, which directly participates in learning and mastering the skills of tennis and receiving it in volleyball. And through what was also presented in Table (3), we find that there are significant differences in the post tests between the two groups (control and experimental) in the tests of the variables investigated and in favor of the experimental group, and this in the opinion of the researcher is due to the exercises (mental - physical - skill) that It was prepared that took into account the individual differences between students in learning by presenting the educational material in different ways to make it easy and clear to all students, and its reflection on the change of students' behavior in the scientific material and its applications, as it was prepared in a way that contributes to the success of the learning process and the students' arrival to a stage of mastery in The technical performance of the skills of tennis transmission and receiving it in volleyball, as well as the surrounding environment and the correct scientific basis for the exercises prepared by the researcher, as it worked to satisfy the needs of the learners, whether individual, collective or competitive. Agility, flexibility and motor balance, which is in line with learning and mastering motor skills, as well as the researcher believes that the development of motor abilities under study enables students He wanted to perform the motor performance of the two skills of tennis transmission and reception in the best possible way, and without it, the learner would not be able to perform these two skills.

### **Conclusions**

Based on the research results that were reached within the limits of the research community, the following conclusions were reached:

- 1- The (mental - physical - skill) exercises clearly contributed to the development of the motor abilities of the students of the experimental group.
- 2- Also, the use of (mental - physical - skill) exercises greatly helped in developing the skills of tennis transmission and receiving it with volleyball for the students of the experimental group.
- 3- The development of the motor abilities represented by (agility, flexibility, balance) was positively reflected on the development of the accuracy of the tennis transmission skills and its reception in volleyball.

### **Recommendations**

- 1- Emphasis on the use of (mental - physical - skill) exercises in developing other motor abilities.
- 2- The necessity of using (mental - physical - skill) exercises in teaching applied study subjects because of their role in developing effective learning and teaching, and creating a favorable atmosphere for students and creating their motivation for the learning process.
- 3- As well as conducting similar studies on new skills, age groups and other activities.

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