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The effect of the Listening Triangle on improving the learning of serving and reception skills in volleyball among fifth-grade female preparatory students at the Directorate of Education Baghdad Karkh I

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Abstract

The research aims to prepare educational units in physical education lessons using the Listening Triangle strategy for learning the skills of serving and reception in volleyball among fifth-grade preparatory female students. It also aims to identify the impact of the Listening Triangle strategy for improving their learning of the skills of serving and reception in volleyball. The problem of the research lies in that the female students need something that can enhance their abilities to break away from the repeated monotony of performance, despite receiving feedback from external sources. However, the nature of such repetitive performance has limited their thinking in overcoming their weaknesses in learning volleyball skills. The research adopted an experimental method, establishing both experimental and control groups from a selected sample of students, totaling (30). They were intentionally chosen, representing (57.692%) of their original population, consisting of fifth-grade students from Al-Farooq Girls' Preparatory School within the formations of the Directorate of Education Baghdad Karkh I for the academic year 2022/2023. The students in the sample attended regular in-person volleyball lessons. The sample was divided into an experimental group and a control group. The experiment was conducted on the female students in the experimental group for a period of 12 consecutive weeks, with one educational unit per week. After completion, the results were processed using the SPSS software. The conclusions and recommendations indicate that it is possible to apply the components of the Listening Triangle strategy in practical lessons to enhance the skill performance in volleyball among fifth-grade female students. Executing the Listening Triangle strategy during hands-on volleyball lessons helps improve the serving and reception skills among fifth-grade preparatory female students, outperforming the improvements observed in female students who learn without this strategy. and this achieves one of the sustainable development goals of the United Nations in Iraq which is (Quality Education). It is necessary to increase attention to the education of female students based on the principles of active learning and through a cooperative group method. This can be achieved by adopting comprehensive learning strategies that meet their orientations and provide an atmosphere of freedom away from forced learning. It is also important to pay attention to developing the capabilities of volleyball teachers in preparatory schools and improving their knowledge of the applications of the "Listening Triangle" strategy in practical lessons, in accordance with its stages, vocabulary, and effectively utilizing it in these lessons

Keywords

Serving and reception skills

Introduction:

"Most collective learning is done in a uniform manner, leading students to adopt a rigid thinking pattern and making them recipients of orders, instructions, and directives without discussion or scrutiny. Therefore, it is necessary to transition from traditional learning to active

learning, which places the learner at the center of the educational process. This approach relies on diverse activities and effective time management, fostering enjoyment in work and thinking and avoiding boredom and monotony in daily activities. Furthermore, learners should be

encouraged to inquire, investigate, and directly observe material and human phenomena" (8).

Qais Mohammed Waleed affirmed that focusing well on skill development helps learners and enhances their motivation towards learning. Mental focus is " the ability to search for relevant information, ask clear questions, demonstrate excellent evaluative skills, and critically assess reality." (21)

"Volleyball is one of the sports that require high speed in performance and precision during execution, as it involves multiple variables simultaneously, which distinguishes it from other games." (2)

Moreover, stepping out of the ordinary in applying practical applications aimed at improving skills in finding a kind of fruitful and positive difference to change motor behavior for the better is considered a fundamental principle in every modern approach. Often, topics or methods are approached with a different pace and minor differences to achieve the desired outcome of the learning process, which must be consistent with the orientations of the modern school in active learning. Thus, most group ball games are learned through group learning and with different methods and this is what calls for support directions for this kind of learning within educational units. The skills of volleyball, like other skills in various sports, require learners to prioritize accuracy in building motor programs at the beginning of their learning. Learning should be fruitful, meaningful, and purposeful, rather than simply participating in hitting the ball in any direction or with any body movement. Due to the significant role of proper and precise performance in this team sport, as well as the requirement for the mind to be prepared and alert to face the multiple and variable situations inherent in volleyball. Furthermore, this

emphasizes the need to adopt strategies that are more suitable for educational situations, as contemporary learning strategies must be comprehensive and flexible in their utilization of concepts and steps to fully comprehend and address the educational context and all its encompassing factors and influences. Moreover, all that can positively impact the students. The orientations in this regard continue to lean towards active learning of the body and the mind, revealing several updates in the strategies of this active learning, aiming to provide a learning environment that allows female students to play an active and engaged role. Each student relies on their abilities and self-capabilities in comprehending the required motor tasks for each skill, sharing opinions, and engaging in discussions with the teacher or peers from students. One such strategy is the Triangle Listening Strategy, which gives a role and importance to the exchange of knowledge about performance and its reception refinement, which focuses on the cognitive and behavioral side of motor learning, and it is possible to employ its terms in practical applications in educational units.

"The Triangle Listening Strategy is one of the active learning strategies included in these strategies. It makes the learner an active participant who relies on their skills and self-capacity, cooperating, and engaging in thinking, reviewing, and participating with students in triads groups, all thinking about what they have learned and listening to each other, and taking turns being a speaker, a listener, and an observer summarizing the questions. The Triangle Listening Strategy is a modern strategy characterized by its high ability to attract students' attention due to its element of excitement and interaction with the lesson,

positively engaging students in the learning process." (3)

"The Triangle Listening Strategy is named as such because the three participants (speaker, listener, observer) form a triangle in the group, each having a specific role that encourages speaking and listening. In this strategy, the teacher selects a group consisting of three individuals, each assigned a particular role. The first participant takes on the role of the speaker, explaining the lesson or presenting the concept, while the second participant acts as an attentive listener, asking relevant questions. The third participant's role involves observing the interaction between the first two students, serving as an evaluative reference" (6). This strategy aims to assist female students in learning volleyball skills at different stages of their motor skill development. Physical education teachers can benefit from this strategy to reinforce their knowledge when implementing practical lessons. Furthermore, curriculum developers can utilize it in preparing the study content specifically for teaching volleyball skills. As for the application significance, it can assist the learners in improving, enhancing, and strengthening the cognitive connections to develop motor programs by utilizing the exchange of experiences among the learners within the educational unit during their skill learning in volleyball. The problem lies in the fact that motor learning in volleyball is a purposeful and continuous process aimed at developing and enhancing the learners' experiences and altering their observable motor behavior in performing the skills of this game. This ongoing process necessitates a continual search for what is new or more appropriate in the methods of motor learning. Typically, studies in this field are limited to samples that are within the early stages of learning, which contradicts

learning theories that assert that learning does not stop at a certain level or age. In light of this, preparatory stage students tend to form ideas and information about how to perform volleyball skills, creating a memory cache that serves as prior experience. However, this information requires refinement, allowing them to generate new ideas. It calls for paying attention to communicating with them using methods different from those used at other levels to provide scientific support that contributes to achieving the objectives of motor learning in volleyball. During repeated field visits to secondary schools and discussions with teachers, the researchers noticed that students need assistance to break the repetitive pattern of their performance. Although the provision of feedback from external sources, the nature of repeated performance at this pace has limited their thinking in overcoming the apparent weaknesses in their learning of volleyball skills. Based on this observation, which is considered a scientific research tool, the researchers sought to explore educational strategies that can activate the cognitive structures of learners. These strategies aim to correct the pathways of motor programs for each skill and improve their performance according to the correct model without common errors. In other words, the research focuses on influencing the cognitive structure itself and prior experiences, allowing them to refine their stored knowledge based on the information provided to them. Consequently, the students can then apply this new knowledge in their practical performance. Based on this observation, which is considered a scientific research tool, the researchers sought to explore educational strategies that can activate the cognitive structures of learners. These strategies aim to correct the pathways of motor programs for each skill and improve their performance according to the correct model without common

errors. In other words, the research focuses on influencing the cognitive structure and prior experiences, allowing them to refine their stored knowledge based on the knowledge provided to them. Then, their practical performance by adopting this new knowledge. In an attempt to contribute to enriching scientific efforts aimed at elevating the reality of the game and adopting high objectivity in its motor learning tests, the two researchers sought to investigate the extent and effectiveness of this activation using an academic approach that serves the diagnosis and follow-up of the necessary improvements in the skill factor. The research thus aims to prepare educational units in physical education lessons using the Listening Triangle strategy to learn the performance of serving and reception skills in volleyball for fifth-grade preparatory school students and to recognize the effect of the Listening Triangle strategy in improving the learning of the performance of the serving and reception skills in volleyball for fifth-grade preparatory school students. The researchers assumed that there were no statistically significant differences in the results of pre-test and post-test performance assessments of serving and reception skills in volleyball between the experimental and control groups and no statistically significant differences in the results of post-test performance assessments of the serving and reception skills in volleyball between the experimental and control groups.

Method and Procedures:

The researchers adopted the experimental research method, which is defined as "the method in which we manipulate an independent variable to observe its effect on a dependent variable while noting the resulting changes and interpreting them, whether the experiment involves one or more independent variables and one dependent variable." (18). The experimental

design with two equivalent experimental and control groups was chosen, ensuring tight control through pre-test and post-test measurements. The sample population for this research consisted of fifth-grade preparatory female students from Al-Farouq School for Girls within the Karkh I Directorate of Education in Baghdad for the academic year (2022/2023). The total number of students attending regular in-person volleyball lessons was (52), distributed over two sections, A and B. A random sample of (30) students was selected from these sections, representing (57.692%) of the original population. From this sample, two matched groups were formed, with each group consisting of (15) students. One group was randomly assigned as the experimental group from section (A), while the other group served as the control group from section (B). Since these procedures were aimed at avoiding bias in the distribution and selection, (10) students were chosen from the remaining number of the two sections as a survey experimental sample, representing (19.231%) of their original population.

Measurement and Procedures:

The researchers adopted performance tests for the two skills under study (15) (Appendix 1). The performance of female students was recorded before and after the implementation and presented to three referees for assessment. The results of each student's performance in the skills of serving and reception with the underhand technique were extracted. The researchers proceeded to prepare educational units using the Listening Triangle Strategy and employing its vocabulary to achieve the desired positive impact, specifically within the main sections of these educational units, at a rate of one unit per week for a duration of 12 consecutive weeks, totaling 12 educational units, six units for each skill. This was done with the

aim of mastering the technical performance of each of the two skills in light of the principles of this basic strategy following:

Implementing a strategy like the Listening Triangle Strategy involves dividing the students into trios by following these steps:

- The teacher divides the students into groups, each consisting of three students, and assigns roles to them.
- The first female student's task is to explain one of the skills or concepts requested by the teacher.
- Completion of the explanation.
- The task of the third female student is to act as an observer for the first and second students. She records what the first student says and what the second student says. Then, she narrates what happened between the two female students, including explanations, questions, and answers.

For example, she might say, "The first female student mentioned the following information, and the second female student asked the following question... and so on."

- After finishing, the roles are exchanged, and each student takes the other's role, and so forth.

In preparing the educational curriculum, the researchers employed the vocabularies of the Listening Triangle strategy in the educational exercises and situations that are implemented in a suitable classroom environment for each of the researched skills. This was done to enhance the students' ability to generate new ideas that support the development of the motor program for each skill.

The experimentation began with the application of pre-tests, as shown in the results of Table (1):

Table (1)
shows the results of the pre-tests between the two research groups.

The test and the measurement unit	The group and its count		Arithmetic mean	Standard deviation	Levene's value	(Sig)	(t)	(Sig)	The significance of the difference
The performance of serving (Score)	Experimental	15	3.53	0.834	3.233	0.083	0.317	0.753	Not-Significant
	control	15	3.67	1.397					
The performance of receiving a serve (Score)	Experimental	15	2.73	1.534	0.841	0.367	0.532	0.599	Not-Significant

It is Not-significant if (Sig) is ≤ 0.05 at a significance level of 0.05 and degrees of freedom $(n1 + n2 - 2) = 28$.

The application, as outlined in the educational unit in each lesson, includes the following:

- Preparatory section: It aims to prepare the body for physical activity. This section involves the educational atmosphere, general preparation, and special preparation, taking around (10) minutes. In this section, the responsibility is left to the

teacher without any intervention from the researchers.

- Main Section: This section includes providing exercises using the Listening Triangle strategy and its practical application by the students of the experimental group. The duration of the main section was 30 minutes, divided into two parts:
 - Educational Part: It lasts for (5) minutes and includes a brief explanation and presentation of the educational exercise models.

- Application Part: It lasts for (25) minutes and includes practical applications of the educational exercises.

• Concluding Section: This section includes relaxation exercises and general calming, as well as a small game for excitement and recreation, with a duration of (5) minutes. In this section, the responsibility is left to the teacher without the interference of the researcher.

The experiment continued with pre and post-tests and the application of the researched strategy from (17/10/2022) to (15/1/2022) on the volleyball court at Al-Farouk Preparatory School for Girls, Al-Khadraa Quarter, Al-Karkh,

Baghdad province, Iraq. After completing the experiment and applying the post-tests, the researchers analyzed the results using the Statistical Package for the Social Sciences (SPSS) (Version 26). They automatically calculated the following values: percentage, mean, standard deviation, Levene's test for homogeneity of variance, and t-test for independent samples and the t-test for correlated samples.

Results:

Table (2)

shows the results of the pre-test and post-tests for both the experimental and control groups

The test and the measurement unit	The group	Comparison	Arithmetic mean	Standard deviation	The mean of difference	Deviation of differences	(t)	(Sig)	The significance of the difference
The performance of serving (Score)	Experimental	Pre-test	3.53	0.834	5.333	1.175	7.577	0.000	Significant
		Post-test	8.87	0.64					
	Control	Pre-test	3.67	1.397	2.267	1.751	5.013	0.000	Significant
		Post-test	5.93	1.438					
The performance of receiving a serve (Score)	Experimental	Pre-test	2.73	1.534	5.4	1.92	0.894	0.000	Significant
		Post-test	8.13	0.64					
	Control	Pre-test	2.47	1.187	2.533	1.407	6.971	0.000	Significant
		Post-test	5	0.845					

(15) for each group, significant: (Sig) \geq (0.05) at a significance level of (0.05) and degrees of freedom (n)-(1).

Table (3)

shows the results of the post-tests between the two research groups.

The test and the measurement unit	The group and its count		Arithmetic mean	Standard deviation	(t)	(Sig)	The significance of the difference
The performance of serving (Score)	Experimental	15	8.87	0.64	7.22	0.000	Significant
	Control	15	5.93	1.438			
The performance of receiving a serve (Score)	Experimental	15	8.13	0.64	11.447	0.000	Significant
	Control	15	5	0.845			

It is not significant if (Sig) \leq 0.05 at a significance level of 0.05 and degrees of freedom (n1 + n2 - 2) = 28.

Discussion:

Referring to the results of Table (2), it becomes evident that all students in both the experimental and control groups showed improvement in their pre-test scores. Looking at the results of Table (4), it is apparent that the students in the experimental group outperformed the students in the control group in terms of skill improvement. The researchers attribute these improvements to the suitability of the Listening Triangle strategy for this category of students, their level, age, and gender. Additionally, increasing the number of units for each skill to six lessons and effectively utilizing the strategy's vocabulary contributed to expanding or enhancing the cognitive structure in designing the motor programs for both skills. The role of repetition was significant in the educational exercises, as it helped reduce common errors or extraneous movements outside the technical performance. Moreover, the role of monitoring in the strategy and the exchange of triadic knowledge among students in various educational situations for each section of the skill before performing the skillful educational exercise was noteworthy. The school provides an atmosphere of freedom, allowing each student to express her opinion while respecting her peers' viewpoints during speaking, listening, and observation. The teacher monitors the groups equally in the listening triangle strategy, identifies common errors, and provides feedback on each student's performance in each group. These factors contributed to the improvements observed in the results, with the experimental group outperforming the control group in their performance levels. The researchers attribute this to the role of practice, application, and

continuous learning without interruption in the lessons. However, the control group did not achieve the same level as the experimental group, who had been learning with the researched strategy.

Furthermore, "the most precise movements are crucial for humans, and mastering their execution is a significant step that relies on proper repetition. Therefore, a considerable difference is observed between beginners and experts when performing any visible behavior. Beginners require the organization of appropriate and suitable neural commands, and it is essential to understand that repetition alone (the number of performance instances) is insufficient to achieve the desired learning process. Learning relies on observation, performance monitoring and sensory feedback, as well as practicing with the optimal form and suitable angle. Some complex movements require mastery, such as transitioning smoothly between body parts, distributing body weight, and controlling speed and accuracy harmoniously and gracefully. So that the performance process after completing the learning process is automatic or what is called completely mastering the skill. An example of this is the performance of the underhand serve in volleyball competition, Organizational performance did not reach the desired level, despite what the results showed of the importance of creativity in improving organizational performance, Whenever the organization brings about changes and developments from within, this is better reflected in the performance of individuals and the organization as a whole. (7).

Indeed, "the method of active learning allows students to make a genuine contribution to activities so that this contribution takes them beyond the passive receiver role" (4).

Moreover, "the more these strategies are closely aligned with the nature of the learning process, as well as the cognitive, emotional, and social factors that influence it, the more successful and effective they become in generating new meanings and ideas that can be applied in new educational situations or problem-solving" (22).

"In the absence of the necessary fundamental knowledge, a skill cannot be effective. However, it is essential not to exaggerate the role of knowledge as a component of the skill. The performance aspect of the skill is crucial, and one of the conditions for skillful performance is to execute it quickly, proficiently, effectively, with minimal effort, and at a low cost" (12).

"The teacher strives and puts most of their attention towards guiding each individual in the team towards reaching the suitable and optimal state, which is the ultimate goal of psychological skill training, including what is between the teacher and the learners" (17).

Also, "learning works to solidify new information within the learner's cognitive structure, which facilitates remembering and retrieving it in the future to use it in learning, understanding, and comprehending new information they encounter" (9).

"Effective knowledge acquisition occurs through reconstructing it from the inside, not by receiving it from the outside" (1).

"Good teaching involves teaching students how to learn, remember, teaching, think, and stimulate their own motivation" (11).

The researchers also attribute this improvement in skill performance to the role of mutual feedback between learners in each triangle of groups, "feedback affects correcting the errors that students make when applying the skill. All of this played a clear role in enhancing the performance of the students and learning some fundamental skills in volleyball" (13).

"This calls for the necessity of paying attention to cognitive motivation that serves the educational process, especially in the skill of receiving serves in volleyball" (5).

Also, "to ensure that students achieve proper learning, it is essential to pay attention and focus on the teaching style used by the teacher in delivering the scientific material" (16).

So, "performing volleyball skills require high level of precision and performance. Therefore, players are expected to adapt and be prepared for such situations, including possessing physical, technical, and mental abilities such as retrieval and application in play" (19). "Volleyball contributes to enhancing the efficiency of its practitioners through quickly dealing with unexpected situations, working to raise morale, and feeling confident and courage. The initial stages of learning are linked to the physical and motor characteristics of the game" (20).

Furthermore, the strategy helped stimulate and engage thinking, as "studies in this field indicated a strong relationship between thinking and muscular activities in a person. The more a person is engrossed in thought, the more their muscles contract, and vice versa, relaxation occurs when a person is not thinking about something specific" (14).

Moreover, "Learning strategies are the behaviors and thoughts that learners employ during the

learning process, which aim to impact the performance carried out by the learner" (10).

These results also came to support the learning of the skill of receiving the serve and overcoming weaknesses in the receiver. "If the serving player can identify the defensive weaknesses in the opposing team's reception, they can directly score points for their team" (23).

Conclusions:

1. It is possible to apply the Listening Triangle strategy in practical lessons for learning the skill performance in volleyball for fifth-grade female preparatory students.
2. Implementing the Listening Triangle strategy in practical volleyball lessons helps improve the serving and reception skills in volleyball among fifth-grade preparatory students, surpassing the improvement achieved by students who learn without using this strategy.

Recommendations:

1. It is essential to increase interest in educating female students based on the determinants of active learning and in a cooperative group manner by adopting comprehensive learning strategies that meet their orientations and provide them with an atmosphere of freedom, moving away from forced education.
2. It is necessary to focus on developing the abilities of female volleyball teachers in preparatory schools and improving their knowledge of implementing strategies such as the listening triangle in practical lessons according to its stages, components, and proper utilization in these lessons.

Author's declaration:

Conflicts of interest: None

We confirm that all tables and figures in this article are ours and written by the researchers themselves.

Ethical-Clearance: this manuscript approved by local ethical committee of physical education and sport sciences college for women on (March /2023)

Author's contributions:

All contributions of this study were done by the researchers (Sh.A. and H.A.) who get the main idea and work on writing and concluding also with number of experts, Shaimaa Ali in Statistics, Abeer Dakhil in revision, Inaam Ghalib in translating, Ming-Kai Chin in proofreading

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Appendix (1)

Firstly: The technical performance test for the skill of setting in volleyball: (12: 173)

- Test name: Technical performance of the setting skill to position (2) and (4).
- Purpose of the test: To measure the level of technical skill performance of the setting skill in volleyball.
- Equipment and tools: Official volleyball court, volleyball balls, measuring tape. The backcourt is divided into two rectangles (A-B) each with an area of (3x4.5) meters, designated for the teacher to stand in to pass the ball to the performer.
- Performance Description: Performance Description: The performer takes position at a point (3) while the teacher, located in area (A), passes the ball to her. Her role in this position is to set the ball for a pass to position (2), and then she is given three more attempts to put the ball to an area (4) after receiving the ball from the teacher standing in the area (B), as shown in Figure (1).
- Evaluation: The performance of the performer in the six attempts is evaluated by experts, and the scoring is distributed as follows:
 - Preparatory Section: Score (3).
 - Main Section: Score (5).
 - Concluding Section: Score (2).
 - Measurement Unit: The score.

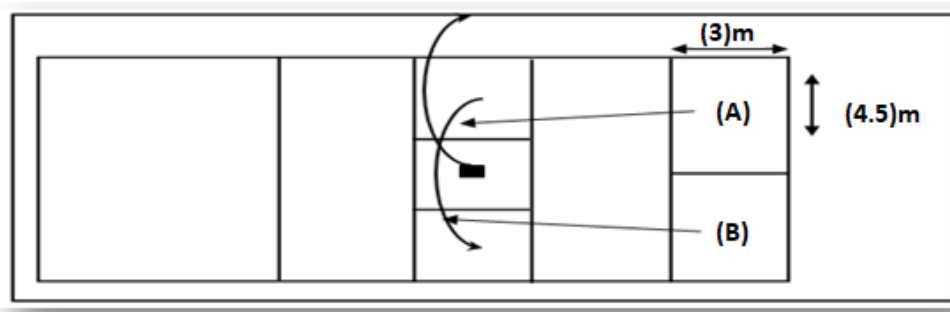


Figure (1) illustrates the technical performance test diagram for the skill of setting in volleyball.

Secondly: The technical performance test for the skill of underhand reception in volleyball is as follows: (15:116)

- Test name: Technical performance of underhand reception.
- Purpose of the test: To measure the level of technical skill in underhand reception of the volleyball serve, as evaluated by experts.
- Equipment: It includes an official volleyball court, three volleyball balls, a measuring tape, and a circle at the centre of the back zone. The distances from the circle's centre to the sideline, attack line, and end line are (4.5) meters, (3) meters, and (3) meters, respectively. The circle's diameter is (3) meters, and its circumference is (1.5) meters, as shown in Figure (2).
- Performance Description: The performer stands inside the circle, facing the net, and the teacher sends the ball to her. She is in this position to receive the ball and serve it to the front zone. Each performer is given three attempts.
- Evaluation: The performer's performance in the three attempts is evaluated by the experts, and the score distribution is as follows:
 - Preparatory section: Score (3).
 - Main section: Score (5).
 - Concluding section: Score (2).
 - Measurement Unit: The score

Appendix (2)

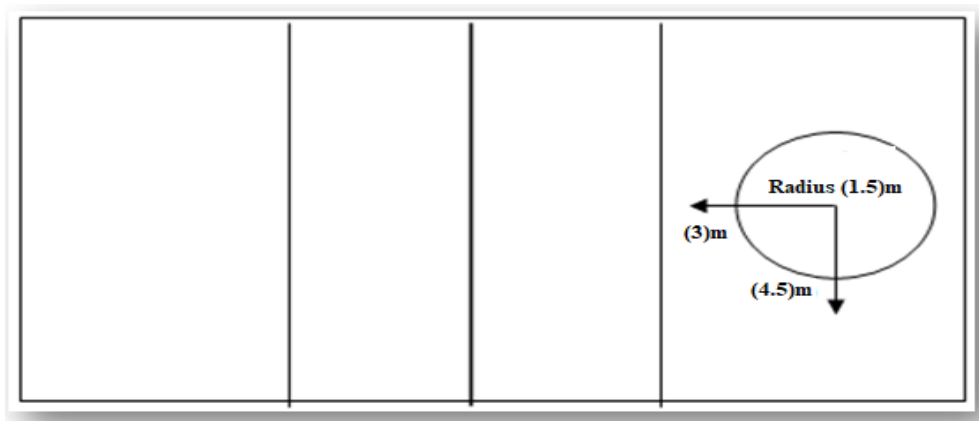


Figure (2) illustrates the diagram of the technical performance test for the skill of receiving the ball with the forearms from below in volleyball.

Week/fifth	Court/Al-Farouq Preparatory School for Girls.	Today and date: Thursday 11/24/2022
The educational unit/Fifth unit.	Number of students (15)	Educational Objective: The female students should learn how to perform the skill of overhead setting using their fingers.
Setting from above using fingers. Total unit duration: 45 minutes.		
		Equipment: Official volleyball balls, educational flip chart

أثر استراتيجية مثلث الاستماع في تحسين تعلم أداء مهارتي الاعداد والاستقبال بالكرة الطائرة لدى طالبات الصف الخامس الإعدادي تربية بغداد الأولى

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هدف البحث إلى إعداد وحدات تعليمية في دروس التربية الرياضية باستراتيجية مثلث الاستماع لتعلم أداء مهارتي الاعداد والاستقبال بالكرة الطائرة لطالبات الصف الخامس الإعدادي، التعرف على أثر استراتيجية مثلث الاستماع في تحسين تعلم أداء مهارتي الاعداد والاستقبال بالكرة الطائرة لديهن، وتكمن مشكلة البحث في أن الطالبات بحاجة إلى ما يمكنهن من رفع قابليتهن في الخروج عن الرتابة المتكررة بالأداء نفسه على الرغم من تقديم التغذية الراجعة من مصادر خارجية إلا أن طبيعة الأداء المتكرر بهذه الوتيرة عمل على تحجيم تفكيرهن في تخطي نقاط الضعف التي ظهرت واضحة بضعف تعلمهن للمهارات بالكرة الطائرة، وأعدمت المنهج التجريبي بتصميم المجموعتين التجريبية والضابطة على عينة من الطالبات بلغت (30) طالبة اختيرت عمدياً بنسبة (57.692 %) من مجتمعهن الاصل المتمثل بطالبات الصف الخامس الإعدادي من إعدادية الفاروق للبنات ضمن تشكيلات مديرية تربية بغداد الكرخ الأولى للعام الدراسي (2023/2022) المستمرات بالدوام المنتظم الحضوري لدروس الكرة الطائرة، إذ قسمت إلى مجموعتين تجريبية وضابطة، وتم التجريب على طالبات المجموعة التجريبية لمدة (12) اسبوع متتالي بواقع وحدة تعليمية واحدة في الاسبوع، وبعد الانتهاء تمت معالجة النتائج بنظام (SPSS) لتكون الاستنتاجات والتوصيات بأنه من الممكن تطبيق مفردات استراتيجية مثلث الاستماع في الدروس العملية لتعلم الأداء المهاري بالكرة الطائرة لطالبات الصف الخامس الإعدادي، ويساعد تطبيق استراتيجية مثلث الاستماع في الدروس العملية بالكرة الطائرة في تحسين وأداء مهارتي الاعداد والاستقبال بالكرة الطائرة لدى طالبات الصف الخامس الإعدادي، ويتفوقن على تحسينها لدى الطالبات اللواتي يتعلمن بدونها، وهذا ما يحقق احد اهداف التنمية المستدامة للامم المتحدة في العراق (التعليم الجيد). ومن الضروري زيادة الاهتمام بتعليم الطالبات على وفق محددات التعلم النشط وبأسلوب جماعي تعاوني من خلال اعتماد استراتيجيات تعلم شامل تلبي توجهاتهن وتوفر لهن أجواء من الحرية بالابتعاد عن التعلم القسري، ومن الضروري الاهتمام بتطوير إمكانات مدرسات الكرة الطائرة في المدارس الإعدادية وتحسين معارفهن بتطبيقات استراتيجية مثلث الاستماع في الدروس العملية على وفق مراحلها ومفردتها وحسن توظيفها في هذه الدروس