

Effects of Using Direct Play Exercise on Learning Techniques of the Overhand Serve and the Receive

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ABSTRACT

The researchers dealt with the importance of learning using direct play exercises since it is a new and modern scientific foundation through which the process of linking the technique of the skillful performance of the tennis overhand serve and the receive to the direct play exercises. This could create an environment close to the actual play in learning motor skills in volleyball. The research aims to set direct play exercises within a learning program imitating the reality of actual play, and detect the effects of direct playing exercises on learning the technical performance of the overhand serve and the receive in volleyball.

The researchers used the experimental method because it is convenient to the nature of the research. The research community consists of 64 female students from second-year students in the College of Physical Education and Sports Sciences at the University of Mosul for the academic year 2021-2022. The sample included 26 female students, divided at random by lot into two groups, the experimental group, with 13 subjects, and the control group with 13 subjects. The researchers had set a combination of direct play exercises and linked them to the skills in question. The sample is subjected to a learning program of the skills in question.

Keywords : direct play exercise, modern scientific foundation, skillful performance.

اثر استخدام تمارينات اللعب المباشر في تعلم الاداء الفني لمهاتري الارسال من الاعلى

{التنسي} و استقبال الارسال بالكرة الطائرة

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الملخص

تناول الباحثون اهمية التعلم باستخدام تمارينات اللعب المباشر. اذا يعد اسلوب اللعب المباشر من الاسس العلمية الجديدة و الحديثة والتي يتم من خلالها عملية الربط بين فن الاداء المهاري لمهارتي الارسال التنسي و استقبال الارسال و تمارينات اللعب المباشر والذي يخلق جو مقارب الى جو اللعب الفعلي في تعلم المهارات الحركية في الكرة الطائرة ويهدف البحث الى:

- ١- اعداد تمارينات اللعب المباشر ضمن منهج تعلم يشابه واقع اللعب الفعلي
 - ٢- الكشف عن اثر تمارينات اللعب المباشر في تعلم الاداء الفني لمهارتي الارسال من الاعلى {التنسي} و استقبال الارسال بالكرة الطائرة.
- و استخدم الباحثون المنهج التجريبي لملائمته وطبيعة البحث.
- وتكون مجتمع البحث من طالبات السنة الدراسية الثانية في كلية التربية البدنية وعلوم الرياضة-جامعة الموصل للعام ٢٠٢١-٢٠٢٢
- و البالغ عددهم (٦٤) طالبة موزعين على مجموعتين (شعبتين)، بينما اشتملت عينة البحث على (٢٦) طالبة موزعين على مجموعتين تجريبية (١٣) طالبة ومجموعة ضابطة (١٣) طالبة وتم توزيعهم بصورة عشوائية عن طريق القرعة وقام الباحثون باعداد مجموعة من التمارينات للعب المباشر وربطها بالمهارات الخاصة بالدراسة وخضعت العينة الى برنامج تعليمي للمهارات التي تناولها البحث
- الكلمات المفتاحية :** تمارين اللعب المباشر ، الأساس العلمي الحديث ، الأداء المهاري.

Introduction

Volleyball is a team game that is characterized by the rapid rhythm of its motor skills. This requires learning its skills in the right scientific ways and creating a suitable atmosphere similar to the actual performance of the game. This comes through the learning process and exercises associated with the motor skills learning process. New gameplay exercises and methods serve to teach to perform skills in a way that makes their performance more consistent. Among various skills, Tennis serve and reception are the first skills to start volleyball. The process of learning these skills requires proper exercise and whenever these exercises are close to the actual playing atmosphere, it helps to perform well. The serve is the skill under which the ball is placed in the game and the play does not start without this skill, through which the direct point is achieved or the process of receiving it is difficult and retaining the right to send and reduces the effectiveness of the attack for the opposing team. [1]

The good reception also makes the process of delivering the ball to the setter easy way, which leads to a good attack. Mastering the skill of reception enhances the strength of

the team and gives it a good opportunity to apply offensive plans. The reception skill is utilized in receiving the opposite attack and receiving rebound balls from the net. The importance of research lies in preparing exercises for the second-year students in the College of Physical Education and Sports Sciences at the University of Mosul based on the style of direct play that helps in learning the technique of the two skills, Tennis serve and receiving the serve and their harmony with the philosophy of actual performance as the exercise of play may have an effect in learning the motor skills of the volleyball game and mastering them through play [2].

The problem of study is as academics in the education and training of volleyball and teachers of this credit, noted that there is a weakness in the performance of these skills among the second-year students in the College of Physical Education and Sports Sciences at Mosul University and that the exercises used in practical lessons for these skills are traditional exercises and require more time and effort to master its performance as well as the educational methods used in the learning process. So, the researchers considered putting play exercises close to the atmosphere of actual play. The problem of research lies in answering the question that states “is direct play exercise positively affected by learning the technique of the tennis serve and receiving the serve of volleyball for the female students of the second year in the College of Physical Education and Sports Sciences at University of Mosul?” To answer this question, the researchers considered applying this study.

The study aims to acquaint with the: Preparing direct play exercises within a learning approach similar to the actual reality of play. Revealing the effects of direct play exercises in learning the technique of the Tennis serve and the reception in volleyball.

The researchers assumed statistically significant differences using the direct play exercises in learning the skills of the Tennis serve and reception in volleyball between the two study groups (experimental and control) for the sake of the experimental group.

Direct playing exercise style

It is the case of guiding skilled learning in a similar way to play situations, and its purpose is to teach the learner to play the game, which requires combining awareness, comprehension, and perception of planning knowledge and skill performance. [3] Direct play approach is one of the most modern methods that urge to achieve development and raise the level of technique in the learner since this is a method that benefits the learner by performing skills within a realistic performance in play and identifying the variety and forms of performance skills in a changing educational environment which increases the control and mastering of the performance. [4]

Previous studies

Miyazawa et al., 2017

The study worked to find the influence of league ranking which is one of opponent quality on the percentage of goals scored by direct attack of all goals based on the analysis of the Japanese professional soccer league (J-League) in 2016. We also validated the effect of opponent quality on the characteristics of direct attack. goals scored against inferior position teams (IN-goals) and superior position teams (SU-goals) that's by dividing both goals into two attacking styles: direct and elaborate attack to compare the properties of direct attack, further analysis was conducted on three variables toward goals scored by direct attack: passes per possession, possession duration and possession starting zone. The number and percentage of goals scored by direct attack in IN-goals was 130 goals and 37.6% significantly lower than those in SU-goals (89 goals and 46.8%). Our findings suggest that the effectiveness of direct attack for goal scoring becomes higher against superior opponent quality. In contrast, the characteristics of direct attack were not affected by opponent quality. Direct attack with two passes, a duration of 10 seconds or less, and starting at the offensive half is thought to be common among the goal scoring against superior and inferior opponents in order to improve goal-scoring ability. [5]

Kempe et al., 2014

The study tries to measure and evaluate tactical behavior as a main goal in the performance of soccer. Especially in the highest level of competition, A specific tactical approach may present the difference between winning and losing. that combines different variables of offensive actions to evaluate tactical behavior. To evaluate the indexes data of 676 official games (German Bundesliga 2009/10, & 2010/11, FIFA World Cup 2010) . the study shows that successful teams prefer possession play and that game control (measured via Index of Game Control, IOC) is the most important variable of success irrespective of the tactical approach.[6]

The importance of the study did lie in investigating the speed of motor response and the passing skill for Futsal female students and their development by using exercises with various playing spaces different from the traditional ones in order to make the training conditions similar to the conditions of play as much as possible. The study aimed at setting exercises of play in various spaces as well as to be acquainted with the effect of the exercises of play in various spaces on development of the speed of motor response and the passing skill for Futsal female students.

Material and Methods

The Population of the study was chosen intentionally from the Second Year, Female Students in the College of Physical Education and Sports Sciences at University of Mosul for the academic year (2021-2022). The Population was 64 female students distributed

on two classes. After excluding a number of students, the sample of the study included (26) female students distributed as the experimental and control groups with (13) students each. The experimental and control group were determined at random as shown in table (1)

Table 1. Shows the number of study Population, sample, excluded students and percentage

Variables	Number	Percentage
Study Population	(64) Female student	100%
Main study sample	A number (26) female students	40.6%
Excluded female students	(24) Female student	37.5%
Students of the pilot experiment	(14) Student a	21.8%

Thus, the sample ratio is (40.6%) of the original Population

Homogeneity and equality in the variables of height, age, weight, and certain elements of physical and mobility fitness. table (2) shows this.

Table 2. Shows the mathematical means, standard deviations and calculated t value of the two study groups

Variables	Unit of measurement	Experimental Group		control Group		calculated t value
		M	±SD	M	±SD	
Height	centimeter	164	0.42	162	0.47	1.16
Weight	Kg	62	4.8	61	2.54	0.38
Age	year	21	0.45	20.8	2.41	0.49
Explosive strength	meter	4.8	2.14	4.5	1.9	1.17
Flexibility/shoulders	centimeter	120	1.16	106	1.02	1.8

*Table t value at ($P \leq 0.05$, $n-2=24$) is 2.06

Table 2 shows that the calculated (t) value for all variables was between 0.38 and 1.8 and all of these values are less than the table t value of 2.6 at ($P \leq 0.05$, $n-2=24$). This indicates that there are no statistically significant differences between the two study groups in the variables of height, weight, age, and certain elements of physical and mobility fitness. The tools and devices used Scientific literature and the Internet, a laptop from Dell®, measuring tape, a 2 kg medical ball, 10 official volleyballs from Molten® number, electronic body weight scale.

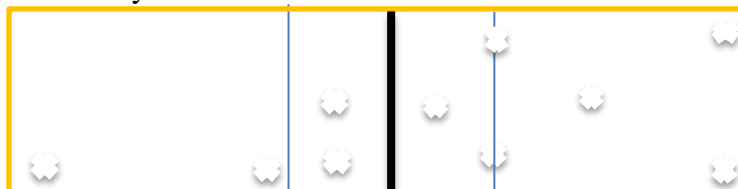
Analyzing the scientific literature was used to identify the elements of physical and motor Fitness that have effects on learning the skills in question. Researchers have extracted a set of physical and motor fitness elements and then placed them in the form of a questionnaire and presented them to several experts and specialists in the field of volleyball. after identifying the influential elements, the tests were identified by the experts themselves. The tests are as follows:

- 1- The explosive power of the upper limbs. It was measured by throwing a medical ball weighing 2 kg from a stable sitting on the chair to the far possible distance [7]
- 2- flexibility of the shoulders. It was measured by holding a Graded stick. The student moves the two arms from front to back

Proposed play exercises by familiarizing researchers with available practical literature and being experts and academics in teaching and training of volleyball, they developed a set of direct play exercises (figure 1) special for the skills in question. They were presented to a group of experts to express their opinion and they approved their validity by 95%.

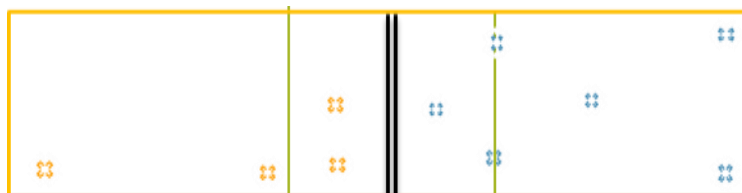
Play Exercises

The 1st exercise: The student performs the tennis serve from behind the position (1) to fall the ball in the opponent's court when hearing the teacher's whistle. The student on which the ball was dropped catches the ball and gives it to the student in the position (2) to perform the tennis serve. Thus, playing continues alternatively. a point is scored for the team for every mistake made in the serve.



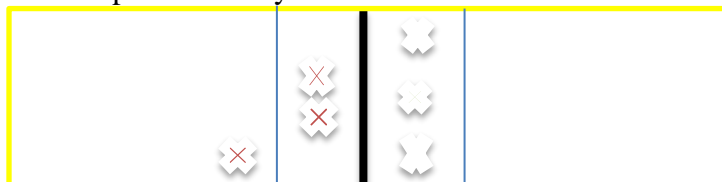
The 2^{ed} exercise: The student performs the tennis serve from behind the position (6) to fall the ball in the opponent's court when hearing the whistle of the teacher. The student on which the ball was dropped catches the ball and gives it to the student in the position (2) to send the tennis serve. Thus, playing continues alternatively. A point is scored for

the team for every mistake made in the serve.

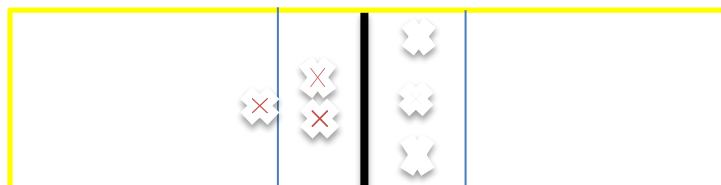


The 3^{ed} exercise: The student performs the tennis serve from behind the position (5) to fall the ball in the opponent's court when hearing the whistle of the teacher. The student on which the ball was dropped catches the ball and gives it to the student in the position (2) to send the tennis serve. Thus, playing continues alternatively. A point is scored for the team for every mistake made in the serve.

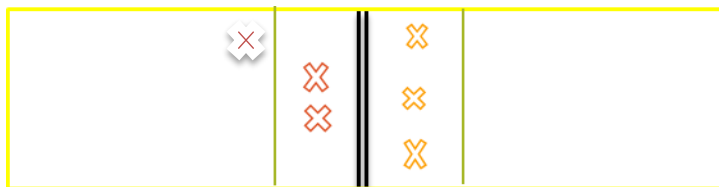
The 4th exercise: the play is in the front area with three students for each team. The student performs the tennis serve from behind the front line to fall the ball in the opponent's court. The student on which the ball was dropped receives the ball by forearm and passes it to the setter which in turn sets it by forearm to her teammate to performs forearm pass to the opponent. Thus, playing continues alternatively. A point is scored for the team for every mistake made in the serve and pass. The game is five points and the losing team is replaced by three students and so on.



The 5th Exercise: This exercise is the same as the exercise above, but the serve is performed from behind the middle of the front line.



The 6th Exercise: This exercise is the same as the fourth exercise, but the serve is performed from behind the position (4).



The 7th Exercise: the play is in the front area with three students for each team. The student performs the tennis serve from behind the front line (position 2) to fall the ball in the opponent's court. The student on which the ball was dropped receives the ball by forearm and pass it to the setter which in turn sets it by forearm to her teammate to performs technique of "down ball" attack. A point is scored for the team for every mistake made. The game is five points and the losing team is replaced by three students and so on.

The 7th Exercise: The volleyball court is divided into two sections from the middle of the field to become four sections. Each section includes three students. The student in the position (1) performs the tennis serve to the competitor that receives and sets it by forearms to her teammate which in turn performs pass the ball to the opponent section. A point is scored for the team for every mistake made in the serve and reception.

The 9th Exercise: This exercise is the same as the eighth one, but the tennis serve is performed from the middle of the serve line.

The 10th Exercise: The two teams are divided into (6) players for each distributed to the six positions. The student in position (1) performs the tennis serve to the competitor who receives by forearm and passes it to the setter who in turn sets it by forearms to her teammate to perform a forearm pass to the opponent's court. A point is scored for the team for every mistake made in the serve and reception.

A pilot experiment before the main experiment began on March 15, 2022, on a sample of 14 second-year students who did not participate in the main experiment. The pilot study was to check the validity of the tools used in applying the main experiment and checking the exercises of direct play. Thus, the pilot experiment achieved its objectives. The learning program was implemented on March 16 2022, in the Volleyball Room at the Team Games branch. The program included 6 learning sessions for each group in the amount of 12 for the groups, experimental and control and with two sessions a week. The session duration was (90) minutes. The level of ease and difficulty of exercises and graduality in their application within the logical sequence of the stages of skill technique were all taken into account.

The exercises simulating the actual performance of the two skills were also taken into account by: maintaining the principle of variation in performing exercises in learning sessions so that students do not get bored, following the principle of graduality from easy

to difficult, focusing exercises in the main part of the learning session and maintaining the principle of the enhanced repetition within the repetitions.

The researchers prepared an Assessment form of the technique (Appendix 3) for skills in question. The form was presented to volleyball experts to show it was valid and they accepted it with the 100% percentage. The Assessment of the skillful technique was conducted by three volleyball experts using the form* submitted for the assessment.

The SPSS statistics package was used. The data was processed statistically by using arithmetic mean, standard deviation, (t) test, and the percentage. [8]

Result and Discussion

After collecting and statistically analyzing data, it was found out the following:

Table 3 Shows the mathematical means, standard deviations and the calculated t value for the technique of the study skills

Statistical parameters of tests	Experimental Group		Control Group		T-value
	M	±SD	M	±SD	
Tennis serve	7.10	0.821	5.61	0.851	3.40**
Receiving the serve with two arms from below	7.36	0.575	5.51	0.379	3.49**

The value of the t table t at a probability of $\leq (0.05)$ and a degree of freedom for $N-2=24$ is 2.6%. According on the results above, there is a significant difference between the experimental and control groups in the skills of the tennis serve and the reception of the serve with arms from below for the sake of the experimental group, which its sample had arithmetic means (7.10-7.36) higher than the control group whose sample had (5.61-5.51) for the technique of the two study skills. From Table (3), The calculated t value of 3.40-3.49 is greater than the table value at a probability of $\leq (0.05)$ and a degree of freedom for $N-2=24$ is 2.6%.

This excellence of the experimental group is attributed to direct play exercises that have had a positive impact on learning the technique of the two skills. In addition, the repetition of the exercises within the learning session added to the activity of the learners an additional experience made them perform the skill with a correct technique and better performance than the control group. Furthermore, the exercises of direct play added a character of competition among the learners, which motivated them to perform the skill as the competition requires a good performance output to outperform the opposing team

or excel in a certain motor task since the competition is a real test of the preparation of the learner enabling him to measure the level of progress in performance and how to distribute his effort.

The researchers believe that good planning that develop a good style in the process of learning, the method of direct play exercises led to the development of the technique situation of the students in the experimental group. The researchers pointed out, that training in team games needs to be planned and to have continuous working for specific and regular times on scientific bases to ensure a positive effect on player level and the continuation of his progress in various aspects such as the principle of graduality in increasing of physical skill condition.

In addition, the researchers attribute these differences in the study skills for the sake of the experimental group to that the repetition of exercise and performance through exercises leads to the stabilization of skill in the learnt student and purifies them from mistakes.

Conclusions

Direct play exercises have had a positive effect on learning the technique of Tennis serve and Receiving the serve from below for the second-year volleyball female students. And it suggests that is necessary to adopt direct play exercises for second-year female students since they have shown a development in the level of technique of the study skills

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