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Effect of distributed-style exercises to develop agility and its relationship to the technical accuracy of volleyball court defending performance for juniors

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Abstract

This study aims to find out effect of exercises in a distributed style to develop agility and its relationship to technical accuracy of volleyball court defending performance for specialized school in Al-Chaibayish city in Thi-Qar Governorate for juniors. The research problem lies in weakness of defensive side of volleyball players, where sample consisted of (12) players were divided into two groups in a random way (6) players for the experimental group that applied exercises prepared by researcher and control group (6) players, which applied exercises of their coach in traditional approach, the research touched on research methodology that was conducted in experimental way to achieve research objectives, Results were presented, analyzed and discussed for agility and its relationship to court defending skill in volleyball for research sample, The researcher came to conclusion that special exercises used contributed to develop agility and defense accuracy among experimental group members, existence of a significant correlation between agility and court defense skill level among players of experimental sample. In light of conclusions reached, the researcher recommends need to pay attention to develop defense skills with developing tactical performance during educational and training approach. And use of exercises in a distributed style, as training on these skills depends largely on great consistency between performance, repetition and rest.

Keywords: Distributed-style, exercises, agility, volleyball defending, juniors

1. Introduction

Motor Fitness refers to the ability of an athlete to perform successfully at their sport. The components of motor fitness are agility, balance, power, speed, reaction time etc. Motor fitness might be referred as an efficient performance in such basic requirements as running, jumping, dodging, In light of the rapid development that has occurred in our time, which the world is witnessing at all levels and in all respects, "physical education in general and collective games in particular have witnessed their different levels and the multiplicity of their practice and purposes", and in order to achieve the desired goals, it is necessary to find appropriate means and methods for education and training in order to continue to develop, and we need the means and methods that make education reach advanced stages, which is characterized by these means and methods of accuracy and attention to all details of the movement, as the interest Continuous progress and achieving the highest levels of skill performance, Whether by introducing sports and applied sciences or devices, scientific means and modern technologies in order to solve the problems facing the player in achieving the best technical and skill performance, volleyball is one of the collective games that have been widely spread in the world, just like other team games (football, handball, basketball and others). This game has evolved from a game of recreation and leisure time to a game of competitions for higher levels and needs the highest levels of skill performance, and in order to reach a good level of skill performance, the teacher or coach must prepare the learner from all physical, motor, skill, psychological, tactical and educational aspects, that volleyball is one of the games that are built on the basis of achieving the learner's acquisition of basic skills completely and accurately, This is done by investing the time and effort allocated to learning as an investment that qualifies it to interact with the education process, so those concerned with the educational process use different learning methods that are characterized by the effectiveness proven by

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many studies and research in several fields, whether in the field of physical education or in other fields. Hence the importance of research in highlighting the skill and motor performance according to the method of exercise distributed in education to develop the skill side of junior volleyball players.

1.1 Research problem

By watching the local league and observing a lot of educational units for some local teams, which adopt different educational methods, the researcher has noticed the occurrence of many educational errors that do not fit with the nature of learning defensive skills in volleyball, and since volleyball skills are skills that are classified as a combination of complex skills, as learning on these skills depends largely on the great consistency between repetition and comfort, hence the problem of research emerged in the weakness of the defensive side. In most Iraqi teams, so the researcher studied this problem and showed the benefit through the use of the distributed method to develop some motor abilities, including agility and defensive skills, especially the court defending skill to shorten time and effort in the desire of the researcher to achieve a better level of education for junior players.

1.2 Research Objectives

1. Identify the impact of exercises using the distributed method to develop the ability of agility and accuracy of technical performance of court defending skill for juniors.
2. Identify the differences in development between the two research groups for motor abilities (agility) and technical accuracy performance of defensive skills (court defending skill) in junior volleyball.

1.3 Research Hypotheses

The existence of significant differences in the values of pre- and post-tests using the method distributed between the two research groups for some motor abilities (agility) and the accuracy of technical performance of some skills (court defending skill) volleyball for juniors.

1.4 Research Methodology

The important steps on which the success of the research is based is to choose the appropriate approach to solve the research problem and the research methodology, "it is method followed by researcher to determine steps of research, which enables him to get solution to his problem and goals". (5:190). The researcher used experimental method in two equivalent group's style, as it is considered more suitable for the research problem as the experimental method gives the researcher correct and accurate information. Research sample was chosen in the intended intentional way to achieve the objectives of the research, as the intentional sample is free to choose from the researcher and according to nature of research to achieve study goal.

Research community represented by specialized school players in province of Thi-Qar in district of Al- Chaibayish volleyball (14-16) years, number (18) within that category, the sample was chosen in a deliberate way to achieve the objectives of the research as the intentional choice is free from the researcher and according to the nature of his research to achieve the goal of the study where it was divided into (6) players as an experimental sample and (6) players as a control sample and (6) players as a survey sample and exploratory sample was chosen randomly.

Table 1: Shows the homogeneity of research sample in variables (height, mass, chronological age, training age)

Variables	Measurement unit	Mean	Standard deviation	Coefficient of variation
Height	cm.	178.042	4.150	2.33
Mass	Kg.	51.167	3.135	6.126
Training age	Year	3.61	0.132	3.656

Table 2: Shows equivalence between control and experimental groups in pre-tests

Test	Control Group		Experimental Group		(t) test	Sig.
	M.	St.d	M.	St.d		
9-3-6-3-9 agility	9.011	0.6127	8.675	0.5654	4.881	0.009
Court defense	14.133	0.1924	14.000	0.0987	7.359	0.056

Through Table (2) that all the values of (Sig) (significant significance) and are greater than (0.05), which indicates that there are no statistical differences between all research variables and this is evidence of the equivalence of the members of the experimental and control samples.

1.5 Research Means and devices

The researcher relied on some scientific references, personal interviews, tests and measurement, as well as the Internet. The devices and tools also included a legal volleyball court with its accessories; volleyball balls type adhesive tape width (5 cm), wooden terraces number 2, plastic chairs number 4, colorful cones number 8, whistle number 4, Canon video camera number 2 and a device not with a dell type.

1.6 Tests

1. (9-3-6-3-9) test to Measure agility. (8:193).
2. Technical performance evaluation test for serve receiving skill. (2:18).
3. Blocking skill test. (11:74).
4. Technical performance evaluation modified test of court defending skill. (4:85).

1.7 Exploratory Experiment

To identify obstacles and difficulties that may appear in main experiment, as well as to know validity of devices, means and tools used and to know negatives that researcher will face to avoid them, researcher conducted an exploratory experiment on Al- Chaibayish Sports hall on (2/1/2022) on a sample of 12 players from original community from research sample, and goal of exploratory experiment was to:

- Identify obstacles that will face researcher.
- Know appropriateness of tests on research sample.
- Know time it takes to complete each test.

This experiment resulted in validity of devices and tools used and suitability of tests.

1.8 Tests scientific foundations

1.8.1 Tests validity

The ability of the test to measure what was put for it or the attribute to be measured and to ensure the truthfulness of the test the researcher used the coefficient of self-honesty and measured self-honesty through the square root of the coefficient of stability of the test.

1.8.2 Tests stability

The stability of the test is intended to give the same results if it was reapplied to the same sample twice at two different

times and in similar conditions and the researcher applied test to sample of exploratory experiment and they are (4) players from the junior volleyball players and then re-applied the test to the same sample after (7) days and under the same conditions in which the test was applied for the first time.

1.8.3 Tests Objectivity

For purpose of identifying objectivity of test for study research and to extract objectivity of test results, researcher deliberately extracted correlation coefficient between scores of two arbitrators, because test is objective if he gave in cases same scores, regardless of who corrects it .

1.8.4 Field Procedures

Pre-tests: The pre-tests of the experimental and control research samples were conducted on Monday, 3/1/2022 at the Al- Chaibayish Sports Forum Hall.

1.8.4.1 Main experience

After conducting exploratory experiment and ensuring safety of procedures followed, tests, and method of applying exercises, main experiment was started to be applied to experimental sample on 5/1/2022 until 17/2/2022 for a period of 6 weeks, two units per week, with (12) sessions, and with a time of (90) minutes for training session, taking into account application of exercises specified by the researcher.

1.8.4.2 Post-tests

After completing main experiment, researcher conducted post-tests for experimental and control groups on Friday, 18/2/2022 at Al- Chaibayish Sports Hall.

2. Statistical processes

Data were processed statistically through use of statistical bag program (SPSS ver. 20).

3. Results Presentation, analysis and discussion

Researcher presented results reached, analyzed and discussed according to data obtained after completing application of special exercises according to method distributed to develop some motor abilities, especially agility and accuracy of technical performance of volleyball court defending skill for juniors, and after collecting and processing results of research through pre- and post-tests of research variables for two samples in light of statistical laws used in research, which suit nature of research and were converted to tables being, An illustrative tool for research because it reduces likelihood of error in next stages of research and enhances scientific evidence and gives it strength. (3:35).

These results were discussed based on specialized scientific references in order to verify research hypotheses.

Results Presenting of pre- and post-tests for agility and court defending skill for control and experimental groups.

Table 3: Shows pre- and post-tests of agility and court defending skill for control and experimental groups

Test	Group	Pre-test		Post-test		(t) test	Sig
		M.	St.d	M.	St.d		
Agility	Control	9.011	0.6127	8.223	0.3318	3.643	0.015
	Experimental	8.675	0.5654	7.895	0.1965	4.881	0.005
Court defense	Control I	14.133	0.1924	15.367	0.0981	3.066	0.028
	Experimental	14.000	0.0987	15.817	0.0673	7.359	0.001

Through Table (3), all values appear significant and are below

level of significance (0.05).

4. Results and Discussion

One of natural manifestations of learning process is that there must be development in learning as long as trainer follows steps and sound foundations of learning process and practice correct performance and focus on it until performance is established and stable. (1:273).

Researcher believes that exercises that have been prepared are highly proportionate and consistent with players' mental, physical and skill abilities. preparation of special exercises and prepared regularly for purpose of enhancing movement and through which learner absorbs internal perception and this perception leads learner to distinguish between what has been done and what must be done and more learner absorbs this will increase his sense of performance and will organize harmonic process to obtain a development in motor abilities, as repetition of the performance of exercises for a period of time increases the interdependence between components and sections of motor skills and size of practice that player takes to learn and develop a particular skill Thus, it leads to development of skill performance, "as organized practical exercise for a period of time has a significant impact on results of the tests". (10:25).

Where learning methods are one of basic components of educational approach, so that educational objectives and content chosen by specialists in educational curricula can only be evaluated by teacher and methods he follows in educational process because learning is a link between learner and components of approach and educational method, and in this way ensures educational situations that take place within educational session and organized by teacher so that these positions are effective and fruitful at same time, "one of natural phenomena of learning process is a must There should be development in learning as long as teacher follows steps of sound foundations of learning and teaching". (7:102).

Teacher also has to make his educational session interesting and desirable for learners through educational method that he follows, through which their effectiveness and activity are provoked, and learning methods are defined as a set of relationships that arise between teacher and the learner, and these relationships help learner to acquire motor skills and retain them in games and sports activities, as regular training or learning can lead to positive results and latest changes in educational process, and this means that exercises are what led To a significant development among members of experimental sample, unlike control sample, which got a development, but at a lower rate, and this is what researcher sought during preparation of exercises in a distributed manner, which gave preference in terms of result over the exercises used for control group, as preparation of special exercises and prepared regularly for the purpose of enhancing movement and through which learner absorbs internal perception and this perception leads learner to distinguish between what has been done and what must be done, and more learner realizes this, more From his sense of defensive performance and process will be organized to obtain an evolution in motor abilities.

The acquisition of experimental sample of characteristic of agility and motor compatibility contributed significantly to development of technical performance of defensive skills and accuracy, "this is certain because of importance of these qualities, especially in game of volleyball, as development of motor abilities is of great importance in development of the defensive level in game of volleyball". (9:80)

5. Conclusions and recommendations

Conclusions

After conducting statistical treatments and through results achieved from field experiment, the researcher was able to reach following conclusion:

1. The exercises for distributed method used by researcher contributed to development of agility and court defending skill among members of experimental group.
2. There is superiority, even by a small percentage, of experimental group, which performed special exercises on control group, which performed exercises in style of coach in developing agility and volleyball court defending skill among experimental research sample.
3. The development of agility contributed significantly to development of level of defensive performance, and this indicates a moral correlation between agility and court defending skill.

6. Recommendations

In light of conclusions reached, the researcher recommends the following

1. Attention to use of exercises in a distributed manner to develop other skills.
2. The need to pay attention to development of defensive skills in a balanced manner with offensive skills in tactical performance during educational and training approach.
3. Emphasizing importance of motor abilities and developing them at beginning of educational sessions because of their utmost importance in the game of volleyball.

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