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IMPROVING STUDENTS' PHYSICAL FITNESS THROUGH VOLLEYBALL TRAINING

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Abstract. The article studies the issues of developing physical fitness of students of higher educational institutions through volleyball training. 48 students participated in the study. A special set of exercises aimed at developing agility and speed was used. As a result of the experiment, a significant improvement in physical qualities was revealed in the experimental group.

Keywords: volleyball, physical fitness, speed, agility, students, pedagogical experiment.

Today, the development of physical education and sports in the Republic of Uzbekistan is one of the priority areas that has risen to the level of state policy. Large-scale reforms are being implemented in the country to strengthen the health of the population, especially young people, to widely involve them in a healthy lifestyle, and to develop sports infrastructure.

The decrees and resolutions of the President of the Republic of Uzbekistan aimed at popularizing physical education and sports have identified increasing the physical activity of students in educational institutions, involving them in sports activities, and raising a healthy generation as important strategic tasks. In particular, special attention is paid to the modernization of physical education work in the higher education system based on the principle of “healthy youth - healthy future”. In this regard, sports games, in particular volleyball, are of great importance as an important pedagogical tool in improving the physical fitness of students. Volleyball is not only a competitive activity, but also an effective tool that increases movement activity, develops quick thinking, and improves coordination skills.

Modern pedagogical and sports scientific research emphasizes that sports games significantly develop speed, agility, reaction speed, and the ability to adapt movement in students [5]. In particular, the dynamic nature of the volleyball game and the rapid change of situations require a high level of functional training from the athlete [2].

Today, there is an increasing need to transfer physical education classes from traditional methods to a modern integrated approach in higher education institutions. This requires the comprehensive development of not only physical, but also psychophysiological capabilities of students. In this regard, enriching volleyball classes with special developmental exercises increases pedagogical efficiency. Within the framework of this study, the possibilities of developing students' speed and agility qualities based on volleyball classes were studied. The results of the study serve to further enrich the scientific and practical foundations of using sports games in the educational process.

Purpose of the study. To determine the effectiveness of developing students' speed and agility qualities through volleyball classes. The issues of developing physical qualities have been widely studied in many studies in the field of sports pedagogy. L.P. Matveyev interprets the physical

education system as a holistic process aimed at forming a person's motor skills[1]. In his opinion, a systematic approach to the development of physical qualities is important.

Y.D. Zheleznyak, analyzing the educational potential of volleyball training, emphasizes that this sport can be highly effective in developing quick decision-making and coordination of movements [2].

V.N. Platonov notes the importance of the combination of special and general training in the system of athlete training and indicates the need to apply this principle in sports games [3].

L.R. Airapetyans, analyzing the pedagogical significance of sports games, substantiates the fact that through them it is possible to develop teamwork, quick thinking and reaction of movements in students [4].

V.M. Zatsiorsky, studying the biomechanical foundations of physical qualities, emphasizes that speed and agility are related to neuromuscular mechanisms [5]. Also, N.G. Ozolin points out the importance of proper planning of training sessions and optimal distribution of loads in coaching practice [6].

V.S. Keller substantiates that the use of integral exercises in the sports training system leads to the comprehensive development of physical qualities [7].

Research methodology. This study was organized on the basis of a pedagogical experiment aimed at identifying the possibilities of improving the physical fitness of students through volleyball training. Systematic, complex and activity-oriented approaches were used in the research process.

The theoretical and methodological basis of the study was the theory of physical education, the methodology of sports training, and scientific principles related to the development of movement qualities. In particular, the theory of physical education of L.P. Matveyev, the system of athlete training of V.N. Platonov, the methodology of volleyball training of Y.D. Zheleznyak, and the scientific views of V.M. Zatsiorsky on the development of physical qualities served as the theoretical basis of the study.

Research methods: pedagogical observation, testing (5 physical tests), pedagogical experiment, mathematical and statistical analysis.

Research organization. 48 students participated in the study. They were divided into 2 groups: experimental group - 24 people, control group - 2 people.

The experiment lasted 8 weeks.

Exercises used: 5-10 m quick start run, sprinting, reaction speed exercises, quick movements with the ball, coordination of jumping and landing

Test system: 1) 30 m run (seconds). 2) 10x4 m sprinting (seconds). 3) Reaction time (ms). 4) Vertical jump (cm). 5) Agility test (change of direction).

Research results.

Table 1

Experimental group results (n=24)

Tests	Before the experiment	After the experience
30 m run (s)	4.92	4.55
10x5 m shuttle (s)	21.4	19.8
Reaction (ms)	285	240
Vertical jump (cm)	42	51

Agility test (s)	12.6	10.9

2-Table

Control group results (n=24)

Tests	Before the experiment	After the experience
30 m run (s)	4.90	4.80
10x5 m shuttle (s)	21.3	21.0
Reaction (ms)	283	275
Vertical jump (cm)	43	45
Agility test (s)	12.5	12.1

Analysis of results. The results of the pedagogical experiment showed that there were significant differences in physical fitness indicators between the experimental and control groups. Positive dynamics were observed in all test indicators in the experimental group. In particular, the results of the 30-meter run improved from 4.92 seconds to 4.55 seconds, demonstrating the development of agility. Also, the results of the 10x4-meter shuttle run improved from 11.8 seconds to 11.2 seconds, indicating an increase in the ability to quickly control movements and change direction. The highest growth rates were recorded in reaction time and agility tests. A decrease in reaction time from 285 milliseconds to 240 milliseconds indicates an increase in the speed of response to external influences in students. This confirms the effectiveness of signal exercises and game situations aimed at quick decision-making used in volleyball training. The increase in the vertical jump from 42 cm to 51 cm indicates the development of explosive power qualities. This change is considered legitimate, since technical actions such as blocking, executing an attack blow and receiving high balls in volleyball are constantly associated with jumping movements. Although some positive changes were also observed in the control group, their scale was much lower than in the experimental group. This indicates that the development of physical qualities occurs to a limited extent without the use of specially directed exercises. The results confirmed the high effectiveness of including special exercises that develop speed, agility and reaction speed in volleyball training.

Discussion. The results of the study demonstrated the high potential of volleyball training in the development of students' physical fitness. The integrated system of exercises used during the experiment served to comprehensively develop such important physical qualities of students as speed, agility, reaction speed and explosive power.

The results obtained confirm the theoretical views of L.P. Matveyev, Y.D. Zheleznyak and V.N. Platonov on the complex formation of motor skills through sports games. The constantly changing situations that arise in a volleyball game require students to quickly analyze, make decisions and coordinate actions in a short time. As a result, the activity of the central nervous system and neuromuscular apparatus improves, and the efficiency of movement increases. Also, special coordination and reaction exercises used in the training sessions developed the students' abilities to determine spatial orientation, maintain balance and accurately control movements. This is of great importance not only in sports activities, but also in everyday life and professional activities.

The results of the study showed that the targeted use of special physical training tools in the organization of volleyball training sessions is an important factor in increasing the functional capabilities of students of higher educational institutions.

Conclusion. Based on the results of the study, the following conclusions can be drawn:

Volleyball training is one of the effective means of developing the physical fitness of students.

A special set of exercises aimed at developing speed, agility, reaction speed and coordination skills significantly improves physical qualities.

The results of the pedagogical experiment showed that all test indicators in the experimental group improved at a higher rate than in the control group.

The system of exercises organized on the basis of an integrated approach in volleyball training serves to increase the functional capabilities, motor activity and level of sports preparation of students.

The results obtained indicate the feasibility of introducing this system of exercises into the practice of organizing physical education classes and sports clubs in higher educational institutions.

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