



Methodology of training leg movements in middle school age basketballers

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Abstract

Objective of the study. To substantiate the method of training leg movements in basketball players of middle school age.

Methods and structure of the study. The research materials include theoretical sources of Russian and Chinese authors, which relate to the issue under study. In addition, also important material is the pedagogical experiment conducted by the author of the work and the analysis of the results of this experiment.

Research methods: 1. Analysis of theoretical sources. 2. Methodological analysis. 3. Pedagogical experiment.

Results of the study and their discussion. The main problems that prevent athletes from revealing their own potential in basketball are insufficient share of observation, difficulties with quick reaction time and problems with controlling the balance of their own body. The paper provides recommendations to solve these problems and contradictions.

An experiment was conducted in the paper, the results of which allowed to clearly see the effectiveness of the proposed recommendations. If at the beginning of the experiment the indicators of the participants of the experimental group were lower than those of the participants of the control group, then by the time of the experiment completion and retesting the ratio changed in the opposite direction.

Keywords: *basketball, leg training, basketball classes, sports in high school, leg exercises, basketball for schoolchildren.*

Introduction. The quality of footwork directly affects the rationality, accuracy and standardization of other technical movements. In particular, a basketball player who is good at controlling the movements of his feet, usually leads the ball better, throws it more accurately, makes better passes, etc. Therefore, the technique of leg movement is especially important when playing basketball. In training, attention should be paid to the development of athletes' lower extremities for the sake of improving game efficiency and increasing competitive performance. This is especially important for middle school students, who are still in the process of developing the basic body abilities necessary to play basketball. It is important to lay the foundation during this period on which all other basketball competencies will be built later on.

The novelty of the work lies in the fact that it not only considers the problems with leg training in middle school basketball classes and provides practical rec-

ommendations for their solution, but also conducts an experiment aimed at testing the effectiveness of the recommendations.

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Results of the study and their discussion. Footwork training in basketball represents one of the priority



tasks of a good sports coach. Footwork is a general term that encompasses a wide range of activities related to lower extremity movements in the game of basketball. Each of these actions has a clear purpose and focus related to the realization of the current strategy and tactics of the entire basketball team in the context of the role of a particular basketball player at a given moment in time. In the present paper, this issue is examined through the example of middle school students.

In the People's Republic of China, school is divided into elementary, middle and high school. Elementary school educates children from 6 to 11 years old, middle school educates children from 11 to 15 years old, and high school educates children from 15 to 18 years old. This article deals with the education of young basketball players aged 11 to 15 years old, i.e. middle school students, using the PRC as an example.

Secondary school students have not yet sufficiently developed their speed, strength and agility. They have to learn quality standardization and coordination of their own movements. Consequently, the most important task of a basketball coach is to help young athletes learn to better master their footwork during basketball practice and competition.

The problems that need to be addressed when practicing footwork in basketball are athletes' lack of observation and reaction speed, as well as difficulties in the ability to control body balance. A characterization of each of the problems is presented below, along with practical suggestions for successfully addressing them.

First, a lack of observation can prevent young basketball players from understanding what is happening in different parts of the court as well as reacting in a timely manner. Basketball is a game that involves

not only the athlete's body, but also their brain. Every second the position of the game is changing rapidly, and in order to correctly direct your movements, you should understand what exactly to do and correctly select the target.

Secondly, in addition to the difficulties in observation, we should also note the lack of reaction speed of some athletes, while reaction speed directly affects the speed of movement of all parts of the body, including the legs. An athlete with a quick reaction is faster in running and jumping, hence more efficient in achieving the goal, whether it is related to defense or offense. Since a basketball player often has only a few tenths or hundredths of a second to make a decision, reaction speed can be a decisive factor.

Thirdly, the ability to control one's own body balance is also a significant challenge that many aspiring basketball players have to face. This skill will reduce the number of errors on the court and also reduce the risk of injury, so it needs to be developed.

Table 1 provides some practical suggestions to address the challenges.

As can be seen from the results of Table 1, coaches should increase the focus on practicing basketball players' leg movements. For this purpose, it is necessary to use special physical exercises. However, psychological training is also important, in particular, it implies the development of self-confidence, self-control and other important qualities.

As part of the preparation of the work, an experiment was conducted with the participation of 60 schoolchildren aged 11 to 15 years old, engaged in basketball in the framework of pre-professional training. Two groups were formed: control and experimental. There were 30 people in each group. The participants of the experimental group practiced according

Table 1. Problems preventing athletes from practicing footwork in basketball and methods of solving them

Existing Problem	Practical recommendations for its solution
Lack of observation Difficulties with reaction time	Observation and reaction speed can be developed through constant mental exercises during training. Basic basketball footwork training and psychological qualities are inseparable, therefore, to work on observation and reaction speed it is important to develop athletes' self-confidence, self-control and focus on the game without distractions.
Problems with controlling body balance	In order to control the balance of their own body, more exercises should be done to develop the lower limbs. These can be jogging, jumping rope, obstacle course running, etc. In addition to practical training, theory is also important: basketball players should understand the basic physiology of the leg muscles, as well as understand how the legs are affected by certain loads from a scientific point of view.

Table 2. Experimental results in a middle school in Changsha City, PRC

Parameter	Control group (before)	Control group (after)	Experimental group (before)	Experimental group (after)
Observation (in points)	5,2±0,8	4,5±0,6	5,1±0,5	7,8±0,9
Reaction speed (in seconds)	0,58±0,1	0,56±0,09	0,60±0,08	0,45±0,1
Balance control (in points)	6,0±0,7	6,3±0,6	5,9±0,4	7,9±0,7

to the above practical recommendations, while the representatives of the control group practiced using traditional methods of basketball training.

Two tests were performed for each participant in the experiment. The first one was carried out before the experiment, and the second one - at the end of the experiment. The results showed the average scores for each group both before and after the experiment. Observation, reaction speed, and balance control were assessed.

Table 2 shows the results of the experiment. They show improvement in both groups, however, the participants in the experimental group showed greater dynamics compared to the participants in the control group.

As can be seen from the results of Table 2, the results of the experimental group members were slightly lower at the beginning of the experiment. However, after the end of the experiment, the ratio changed and the experimental group members had significantly higher scores compared to the control group. All this indicates a high degree of effectiveness of the given practical recommendations.

Consequently, the practical approbation of the recommendations in the article suggests that there is a high degree of their effectiveness in training the legs of basketball players. Further implementation of the experimental results in training practice is recommended.

Conclusion. According to the results of the work we can make a number of conclusions. They are given below. The main problems that prevent athletes from revealing their own potential in basketball are insufficient share of observation, difficulties with quick reaction time and problems with controlling the balance of their own body. The paper provides recommendations

to solve these problems and contradictions.

An experiment was conducted in the paper, the results of which allowed to clearly see the effectiveness of the proposed recommendations. If at the beginning of the experiment the indicators of the participants of the experimental group were lower than those of the participants of the control group, then by the time of the experiment completion and retesting the ratio changed in the opposite direction.

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