Test assessment of the development of kickboxers coordination abilities of at the stage of sportmanship improvement

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Abstract

Objective of the study was to develop a set of methods for assessing the development of kickboxers' coordination abilities at the stage of improving sportsmanship.

Methods and structure of the study. In the experiment, methods of analysis and generalization of data from scientific and methodological literature and practical experience of trainers of the Fortuna sports and recreation center in Chaikovsky (Perm Territory) were used.

Results and conclusions. The composition of the innovative complex of methods for assessing the development of coordination abilities included the following control exercises: striking with hands and feet on a scoreboard with numbers (kinesthetic differentiation), performing technical and tactical actions in time with a metronome (rhythmic abilities), passing stations with performing technical and tactical actions without the participation of the visual analyzer (spatial orientation), performing technical and tactical actions on a conditioned signal (complex motor reaction), performing technical and tactical actions with a change in motor task (dexterity), performing technical and tactical actions in an unstable position (ability to maintain balance).

Keywords: *coordination abilities, a set of assessment methods, kickboxing, the stage of sportsmanship improvement.*

Introduction. The most important component of training activity is the control over the level of preparedness of athletes, which, in turn, stimulates specialists and coaches to search, develop and implement new and more effective ways to assess physical qualities and abilities in sports training. The dynamically developing type of martial arts is no exception - kickboxing, which imposes specific requirements on the technique demonstrated by athletes in complex coordination and dynamic situations of competitive activity.

Analysis of the results of studies by different authors [1-3] allows us to conclude that competitive performance in kickboxing largely depends on the speed of motor reactions, the ability to instantly make rational decisions and effectively implement them as quickly as possible.

The theoretical analysis of the research problem showed the importance of controlling the physical fitness of athletes in kickboxing, however, unfortunately, there are no scientific data on specific means of evaluating the development of kickboxers' coordination abilities at the stage of improving sportsmanship, which significantly reduces the effectiveness of sports training in this sport.

Objective of the study was to develop a set of methods for assessing the development of kickboxers' coordination abilities at the stage of improving sportsmanship.

Based on the theoretical analysis, it was found that, according to experts [4], the control of the level of coordination of athletes should be carried out by assessing the entire set of motor abilities: kinesthetic differentiation, rhythmic abilities, spa-

tial orientation, complex motor response, dexterity and balance.

The data obtained indicated the expediency of selecting specific kickboxing means to assess the entire set of kickboxers' coordination abilities, taking into account their qualifications and the specifics of the content of the stage of sportsmanship improvement. When selecting methods for assessing coordination abilities, the results of scientific research on martial arts and the practical experience of kickboxing coaches were taken into account.

After developing a complex for assessing coordination abilities, we tested it in the conditions of sports training of kickboxers at the stage of improving sportsmanship, which made it possible to describe the methodological features of its implementation.

Methods for evaluating different types of kickboxers' coordination abilities at the stage of sportsmanship improvement

Type of coordination abilities	Assessment method	General guidelines
Kinesthetic differentiation	Punching and kicking on the scoreboard with numbers	A scoreboard is hung in front of the subject with randomly located numbers on it in separate cells from 1 to 36. The tester names one number or a combination of numbers. The task of the subject is to reproduce a given combination of numbers by striking the cells in the shortest time period. This test evaluates the number of accurately delivered strikes on the specified cells in 60 seconds
Rhythmic abilities	Performing technical and tactical actions in time with the metronome	The tester selects the technical and tactical actions that will be performed by the test subject. Next, the interval of sound appearance (knocking) is set on the metronome, at the occurrence of which the subject must perform the specified technical action as quickly as possible. This test evaluates the ratio of the number of errors (untimely execution) to the total number of actions in 2 minutes
Spatial orientation	Passing stations with the performance of technical and tactical actions without the participation of a visual analyzer	The tester demonstrates to the subject a set of five technical and tactical actions for memorization. The task of the subject is to reproduce these actions at agreed points with tangible boundaries with an impenetrable bandage put on his eyes. This test evaluates the total time (min., s) spent on passing all stations
Complex motor response	Performing technical and tactical actions according to a conditional signal	The tester selects several conditional signals (3-4), each of which is associated with one or another technical and tactical action. This is reported to the test subject. External noise (music) is created. The subject's task is to reproduce the technical action corresponding to the signal as quickly and accurately as possible. This test evaluates the ratio of the number of errors (action that does not correspond to the signal) to the total number of actions in 2 minutes
Agility	Performing technical and tactical actions with a change in the motor task	The tester selects two conditional signals - a technical element that will be carried out by him. Cardinally different, but logically related, technical and tactical actions, which are implemented by the subjects, are tied to each conditional signal. The task of the subject is the fastest and most accurate transition from one action to another according to a conditional signal. This test evaluates the number of completed transitions from one motor task to another before making an error within 2 minutes
Ability to keep balance	Performing technical and tactical actions in an unstable position	A bench is used to implement this test. The tester chooses a technical-tactical action, or a set of actions implemented during testing. The task of the subject is the fastest and most accurate performance of technical and tactical actions without losing balance while standing on the bench. This test evaluates the number of technical actions performed before losing balance within 2 minutes

Results of the study and their discussion. In sports training, the scientific approach of V.B. Issurin and V.I. Lyakh [4], based on a comprehensive assessment of the coordination abilities of athletes. The authors propose to determine the level of coordination fitness of athletes, differentiating the methods of assessment by the following types of abilities:

• kinesthetic differentiation, which refers to the ability of an athlete to differentiate the spatial, temporal and power characteristics of movement in accordance with the given conditions;

• rhythmic abilities, which are manifested in the ability of athletes to notice, memorize, correct and reproduce the rhythm and tempo of movements when performing a motor task;

• spatial orientation characterizes the athlete's ability to determine and adequately correct their own body position and motor behavior in space;

• a complex motor reaction is characterized by the ability to accurately and timely respond with adequate motor actions to conditioned signals recognized among other extraneous (interfering) signals;

• dexterity is manifested in the ability of an athlete to quickly change direction and respond to pre-expected or sudden signals;

• maintaining balance, which refers to the ability to control the spatial position of the body while maintaining balance and stability of the posture [4].

The data obtained made it possible to develop a set of methods for assessing the development of each type of coordination abilities of kickboxers at the stage of improving sportsmanship, which is presented in the table.

This table presents the types of coordination abilities and methods for their assessment in kickboxers at the stage of improving sportsmanship.

The test "Kicking and kicking on the scoreboard with numbers" - allows you to assess the level of the kickboxer's ability to differentiate the spatial, temporal and power characteristics of technical and tactical actions in accordance with the specified conditions in terms of the total number of accurate hits on the numbers for 1 minute.

The test "Performing technical and tactical actions to the beat with a metronome" - the level of development of the kickboxer's ability to memorize, correct and reproduce the rhythm and tempo of technical and tactical actions is determined in terms of the percentage of erroneous actions (untimely performed) to the total number of actions in 2 minutes.

The test "Passing stations with the performance of technical and tactical actions without the participation of a visual analyzer" assesses the ability of a kickboxer to determine and timely correct his own body position and motor behavior in space when performing technical and tactical actions. The assessment of this ability occurs through the indicator of the time spent by the athlete to perform.

The test "Performing technical and tactical actions on a conditional signal" - determines the level of the ability of a kickboxer to accurately and timely perform technical and tactical actions in response to conditional signals recognized by the athlete among other extraneous (knocking down) signals. This ability is evaluated by the percentage ratio of erroneous actions (inconsistent with the signal) to the total number of actions performed in 2 minutes.

The test "Performing technical and tactical actions with a change in motor task" allows you to determine the ability of a kickboxer to quickly change the direction of movement and respond to pre-expected or suddenly occurring signals. With the help of this test, the trainer evaluates this ability by the number of transitions from one motor task to another before making an error within two minutes.

The test "Performing technical and tactical actions in an unstable position" - allows you to determine the level of the kickboxer's ability to control his own body position in space while maintaining balance and stability of the posture. This ability is evaluated by the number of technical actions performed before the athlete loses balance within 2 minutes.

Conclusion**s.** It has been established that in order to control the development of coordination of athletes, experts recommend assessing the ability to kinesthetic differentiation, rhythm maintenance, spatial orientation, the manifestation of a complex motor reaction, dexterity and balance.

Based on the established facts, a set of methods for assessing the coordination abilities of kickboxers at the stage of improving sportsmanship was developed, which included the following control tests: punching and kicking on the scoreboard with numbers (kinesthetic differentiation), performing technical and tactical actions in time with the metronome (rhythmic abilities), passing stations with the performance of technical and tactical actions without the participation of a visual analyzer (spatial orientation), performing technical and tactical actions on a conditional signal (complex motor reaction), performing technical and tactical actions with a change in motor task (dexterity), performing technical - tactical actions in an unstable position (ability to maintain balance).

At the moment, the developed complex has been in-

troduced into the training of kickboxers at the stage of improving sportsmanship in order to determine the normative values, which will allow kickboxing coaches and athletes to develop coordination abilities more effectively.

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