



Synchronization of breathing and aiming skills as a Basis for training rifle shooters at a moving target

UDC 796.015



PhD **O.Yu. Ilyakhina**^{1,2}

PhD, Associate Professor **L.A. Kadutskaya**^{1,2}

PhD **E.Yu. Domracheva**¹

PhD, Associate Professor **I.N. Ozerov**³

¹Belgorod State National Research University, Belgorod

²Putilin Belgorod Law Institute of Ministry of the Interior of Russia, Belgorod

³Moscow Academy of the Investigative Committee of the Russian Federation, Moscow

Corresponding author: kadutskaya@bsu.edu.ru

Abstract

Objective of the study was to develop a pedagogical model for training rifle shooters at a moving target based on the synchronization of breathing and aiming skills.

Methods and structure of the study. Conducted: analysis of scientific and methodological literature on the problem under study; analysis of training programs for rifle shooters at a moving target; generalization of advanced pedagogical experience in the field of training athletes. The study examined the components of a pedagogical model for training shooters; carried out: the choice of means and methods of training; implementation of the training program; ensuring control over the growth of sportsmanship and results in shooting among athletes.

Results and conclusions. It was revealed that the motor action in shooting from a rifle at a moving target can be carried out in accordance with the target task only on the basis of coordination of muscle efforts in the production of a well-aimed shot. This is the basis for synchronizing breathing and aiming skills in the preparation of running target rifle shooters for competition. Based on this, motor memory arises, which stores a huge number of the simplest coordinations necessary for producing a well-aimed shot. The revealed components of the developed model most capaciously characterize the peculiarities of the training of shooters from a rifle at a moving target. The leading criterion for the effectiveness of the shooter training model is the synchronization of breathing and aiming skills. The use of the training model is aimed at ensuring a high level of development of the necessary muscles in rifle shooters at a moving target, increasing the level of sportsmanship, creating conditions for faster adaptation of athletes to the specific conditions of competitive activity.

Keywords: *model, training, athlete, shooter, rifle, moving target, bullet shooting.*

Introduction. The quality of the formation of breathing synchronization and aiming skills in shooting from a rifle at a moving target is determined by the ability to actively relax muscles during competitions. Relaxation is an important part of the motor skill in shooting a moving target with a rifle while synchronizing breathing and aiming skills. Synchronization of breathing and aiming skills in rifle shooters at a moving target leads to the creation of prerequisites for the full use of coordination abilities due to the formation of a relaxation skill during training [4].

The formation of breathing synchronization and aiming skills during the training of rifle shooters at a moving target is carried out on a certain basis. This

basis is the carrier of the consistency of means and methods of training rifle shooters on a moving target. Consistency of training methods and methods of developing breathing synchronization and aiming skills in rifle shooters at a moving target is the main direction of application of exercises for breathing synchronization and aiming [1].

The effectiveness of synchronization of breathing and aiming skills is associated with the level of development of coordination abilities in rifle shooters at a moving target. Regarding rifle shooters at a moving target, the abilities of coordination can be expressed by the ability to rationally organize efforts in space and time, to repeatedly reproduce



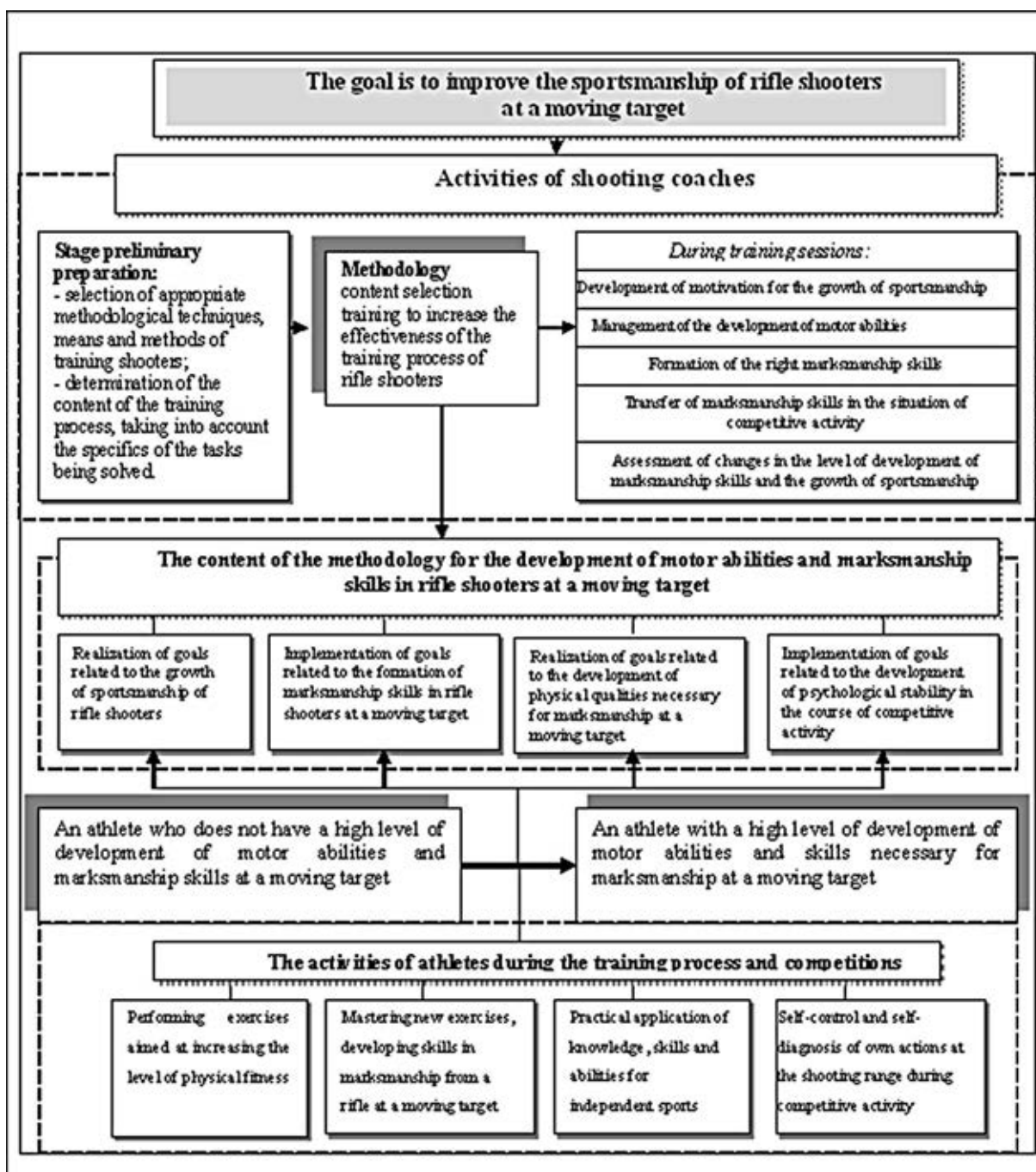
the movements associated with the production of a well-aimed shot, while maintaining their dynamics, tempo, rhythm and structure [2, 3].

Objective of the study was to develop a pedagogical model for training rifle shooters at a moving target based on the synchronization of breathing and aiming skills.

Methods and structure of the study. Conducted: analysis of scientific and methodological literature on the problem under study; analysis of training programs for rifle shooters at a moving target;

generalization of advanced pedagogical experience in the field of training athletes. The study examined the components of a pedagogical model for training shooters; carried out: the choice of means and methods of training; implementation of the training program; ensuring control over the growth of sportsmanship and results in shooting among athletes.

Results of the study and their discussion. The most important scientific approach to effectively synchronizing breathing and aiming skills during the training of rifle shooters at a moving target is the



Model of training shooters from a rifle at a moving target



applied work force during the production of a well-aimed shot. The work force of rifle shooters on a moving target can manifest itself in different ways: during a repeated shot, at a high speed of movement or not very quickly, in a relaxed or tense state of the muscles. The strength of muscle contraction is associated with the work of three groups of physiological systems: the central and peripheral nervous systems, as well as with the state of the muscular system of shooters from a rifle at a moving target.

Improving the quality of synchronization of breathing and aiming skills during the training of rifle shooters at a moving target is determined mainly by the development of their adaptive changes at the level of the central nervous system. This leads to an increase in the ability of motor centers to improve intermuscular coordination in rifle shooters at a moving target when making a well-aimed shot.

It should be noted that the effective synchronization of breathing and aiming skills during the preparation of rifle shooters at a moving target for competitions causes significant changes in their muscles. Synchronization of breathing and aiming skills is provided by a holistic reaction of their body, associated with the mobilization of mental qualities, functions of the muscular, nervous and other physiological systems.

It has been established that in the course of synchronization of breathing and aiming skills of rifle shooters at a moving target, the level of technical readiness for competitions increases.

The analysis of the current system of shooters' training shows that their training program does not involve the use of special exercises that require the development of the necessary muscle groups. Based on the foregoing, one of the main tasks of the training process is to improve the quality of training shooters. To solve this problem, a model for training shooters from a rifle at a moving target was developed (see figure).

When organizing the training process, it was taken into account that an effective increase in the readiness of shooters is possible only with positive interaction between all parties of training. It was also taken into account that other non-specific factors can also influence the training effect: the degree of success of shooters from a rifle at a moving target in competitions, training mode, etc.

The practical implementation of the developed model can make it possible to analyze changes in some fitness indicators of shooters based on the results of the training process in the course of preparing for competitive activities.

Conclusions. The revealed components of the developed model most capaciously characterize the peculiarities of the training of shooters from a rifle at a moving target. The leading criterion for the effectiveness of the shooter training model is the synchronization of breathing and aiming skills. The use of the training model is aimed at ensuring a high level of development of the necessary muscles in rifle shooters at a moving target, increasing the level of sportsmanship, creating conditions for faster adaptation of athletes to the specific conditions of competitive activity.

References

1. Bolotin A.E., Ilyakhina O.Yu., Domracheva E.Yu. et al. Struktura psichologo-pedagogicheskikh uslovij, neobhodimyh dlya uluchsheniya podgotovki strelkov iz vintovki po dvizhushchejsya misheni [The structure of psychological and pedagogical conditions necessary to improve the training of shooters from a rifle at a moving target]. Fizicheskaya kultura studentov [Physical culture of students]. Proceedings national scientific-practical. conf. 2019. pp. 7-10
2. Domracheva E.Yu., Ilyakhina O.Yu., Dubrovsky V.Yu. et al. Proyavlenie osnovnykh svojstv vnimaniya – koncentraciya i pereklyuchenie u strelkov po dvizhushchejsya misheni [Manifestation of the main properties of attention - concentration and switching among shooters at a moving target]. Sovremennyj uchenyj. 2019. No. 4. pp. 64-67.
3. Kadutskaya L.A., Posokhov A.V., Mironova T.A. et al. Proyavlenie koncentracii i pereklyucheniya vnimaniya u strelkov po dvizhushchejsya misheni [Manifestation of concentration and switching of attention among shooters at a moving target]. Teoriya i praktika fiz. kultury. 2019. No. 8. pp. 87-89.
4. Yuriev A.A. Pulevaya sportivnaya strelba [Bullet sport shooting]. 3rd ed., rev., sup.. Moscow: Fizkultura i sport publ., 1973. 431 p.