Volume XXII 2019
ISSUE no.2
MBNA Publishing House Constanta 2019

Scientific Bulletin of Naval Academy

SBNA PAPER • OPEN ACCESS

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To cite this article: C. C. OLARU, Scientific Bulletin of Naval Academy, Vol. XXII 2019, pg. 377-381.

Available online at www.anmb.ro

ISSN: 2392-8956; ISSN-L: 1454-864X

doi: 10.21279/1454-864X-19-I2-044

Development of motricity in naval pentathlon

PhD student Constantin Cristinel OLARU

City of Constanța, Constanța county, Bobîlna street, no.25 a, postal code 900002
Email: olarucristinel@yahoo.com

Abstract. The technical skills specific to naval pentathlon are largely conditioned by the level of development of certain conditional and coordinative motoric skills, and the level of aptitudes, which plays a very important role.
The naval pentathlon, practiced by the military of the naval forces, consists of each athlete passing the following five races: obstacle race, lifesaving swimming race, utility swimming race, amphibious cross-country race, seamanship race. The races have a rich content of swimming related actions, throwing, running, jumping, climbing, shooting and rowing and require from the athlete a complex training.

Keywords: training, motility, naval pentathlon

1. Introducere

The motor control of the voluntary movements, which, as a result of sports training is transformed into skills, and specialized, automated and perfected motor skills, represents the top of the technical training.

M.Epuran (1976) considers that motor skills represent "characteristics or components of the learned motor acts, which by exercise acquire superior performance indices: coordination, precision, speed, ease, plasticity, automation".

According to V I Platonov (2015), motor skills are formed through learning, and their most important feature is the automatic control of movements. The same author argues that performing any competitive activity requires complete motor control, materialized in the execution with maximum efficiency of all specialized actions and procedures, which are part of the technical baggage of the respective sports field.

The specialization and improvement of the perceptual-motor skills is important because of the following aspects:

- assures the stability of the execution of motor actions, the achievement of the purpose being less influenced by the disturbing factors of the environment;
- ensures the athlete's ability to focus on other aspects of the activity

The complete manifestation of the perceptual-motor skills and the achieving of the proposed purpose through them, depends to a large extent on the proprioceptive sensitivity (kinesthetic and balance), visual, auditory and the spatial-temporal characteristics.

Regarding the classification of skills in terms of their use, we can talk about technical skills and tactical skills. Technical skills are an important component of naval pentathlon training. The technique, as presented by A Dragnea and S Mate Teodorescu (2002), represents "a system of motor structures, specific to each branch of sport, performed rationally and economically, with the purpose of obtaining maximum performance in competitions".

2. The stages of formation of specific skills

It is very important for the coach to recognize and respect the physiological and psychological stages that the athletes will naturally go through in the process of forming the motor skills and in the same time to apply the pedagogical principles in order to train and improve them.

In initiating and controlling movements, four components are delimited: motivation, thinking, programming and execution[1].

[1] Platonov, V I, 2015. Periodization of sports training, Ed. Discobolul:208

The motivation is manifested by forming certain cheers and specific emotional reactions, which will trigger another chain of hormonal reactions that play a role in amplifying the neural excitation. This behavior is analyzed and integrated into thoughts (reasonings), followed by the elaboration of a program of motor action.

As a result of research conducted in the field of rational skills training, P.K. Anohin (1975), quoted by V.I. Platonov (2015) concludes that *the basis of the control mechanism of voluntary movements is cyclicity, which implies that each motor act must end with a reverse transmission of neural stimuli that informs about the results of the action.* [2]

The technical skills specific to naval pentathlon are largely conditioned by the level of development of certain conditional and coordinative motoric skills, and the level of aptitudes, which plays a very important role.

The development of motor control, in order to meet the technical aspects presented above, implies an extensive learning process throughout which the pedagogical principles and the stages described by numerous specialists in the field of sports training will be respected.

A Dragnea and S Teodorescu (2002) present a description of these stages:

- The stage of informing and formation of the movement description, which is based on a verbal and intuitive information of the motor task the athlete should perform.
- The stage of coarse or insufficiently differentiated movemenets, corresponding to the first practical executions of the technical process.
- The stage of fine coordination and consolidation of technical precedures, characterized by correct executions, in standard conditions, with increased parameteres of force, speed, rythm, precision, amplitude.
- The stage of perfecting and overlearning the technical process defined by performing of the technical procedure under various conditions, with higher efficiency indices.

3. Mental training in naval pentathlon

Mental training can assure a good consolidation of motor acts and actions

Mental training can be defined by explaining the two terms: “training” and “mental”. Training in any field involves repetitive exercise, with the purpose of improving motor performance, and the mental side involves imagining or representing a movement.

The representation of knowledge as a mental process is formed by a complex of sensations and perceptions and is considered a basic element in the execution and learning of motor acts. "The intentional representation of the movement is a means of training, perfecting and restoring of motor skills" (M Epuran, M Stănescu, 2010).

In naval pentathlon, the role of mental training arises from the need to acquire complex technical structures and the mental visualization of the approach of the competition route. In order to achieve the objectives of mental training, I think that it is first of all necessary to have a good understanding of these structures and to maintain a connection of each element in the structure's composition with the sensations and perceptions from reality.

According to V.I. Platonov, the efficiency of technical improvement processes depends on the ability of the athlete to consciously preceive motor actions and focus on details. Thus, the athlete can reach the perfection of certain types of specific senses that play an important role in forming an optimal system of motion control and improvement of technical mastery.

Whether viewed as a psychic process or as an attribute of different psychic processes, the authors unanimously acknowledge the determining role of attention in learning.

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[2] Platonov, V I, 2015. Periodization of sports training, Ed. Discobolul: 209

A.Cosmovici, considers attention to be one of the fundamental processes in elementary learning, stating: “There cannot be an act of effective knowledge and much less an organized one within a lesson, without a focus of the student's consciousness or without having his attention.”[3]

Considering that attention enables the orientation towards the phenomena and activities that are of particular interest to us, M. Epuran and I. Holdevici, argue, the impossibility of carrying out a learning activity in the absence of attention: “Attention is the psychic function without which the required learning processes cannot be carried out."[4].

M. Epuran considers that "in the educational process, attention is on one hand an essential condition for perception and understanding of the learning material, and on the other hand, it constitutes as an effect of the learning process, through its proper evolution, ensuring the development of the various qualities of attention, necessary in any activity ”.[5]

According to V. Horghidan, mental training is understood, as *"the influence of image on the motor act, while the ideomotor phenomenon, which means the overall training of the body activity by representation of the motor act, is the basis of the mental training"*.[6]

The definition proposed by J. Weineck describes mental training as the activity of "learning or perfecting a motor sequence, through mental representation, without the intervention of the real exercise".[7]

Epuran and his colleagues point out that one of the main purposes of motor training for students or athletes is to make very accurate representations of the movements that are going to be performed and to develop the ability to represent themselves in movement. These representations of movements are called ideomotor representations, and define representations that generate the movements.[8]

Using these theoretical details as a starting point, M. Epuran considers that mental training consists of repetitions of representation, based on the capacity of awareness of one's own movements, as a result of the exercise and learning and of the ability to update them in the imagined act. The author defines it as *"the process of maintaining and consolidating the representations of movements and actions, having the effect of activating the neuromuscular formations and thus increasing the efficiency of the work in practice"*.[9]

It has been observed that mental training has educational influences on the athlete, which reaches an increased level of activity awareness, acquires disciplined thinking, increases the ability to concentrate, develops self-determination and conscious management of own activity.[10]

J. Wainеck highlights the main benefits of mental training:

- reduces the learning time required to develop the skills
- increases the stability of skills
- gives confidence in the technical execution
- increases the perfecting energy saving through practically complex training
- it is useful during training interruptions due to injuries
- allows the athlete to face the competition with less strain, by becoming familiar with the conditions of the competition.

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[3] Cosmovici, A., Iacob, L. (1999). School psychology. Iași, Polirom Publishing House: 130

[4] Epuran, M., Holdevici, I. (1980). Psychology compedium for coaches. Bucharest, Sport-Tourism Publishing House: 135

[5] Epuran, M., (1976). Psychology of physical education. Bucharest, Sport-Tourism Publishing House: 327

[6] Horghidan V, (2000). The field of psychomotority, Bucharest, Sport-Tourism Publishing House, : 167

[7] Weineck J. (2005). AntrenamientoTotal. Barcelona. Editorial Paidotribo: 555

[8] Epuran, M., Holdevici, I., Tonița I., (2008). Psychology of performance sport. Theory and practice., București, Editura Fest: 370

[9] Epuran, M., Holdevici, I., Tonița I., (2008). Psychology of performance sport. Theory and practice., București, Editura Fest: 371

[10] Epuran, M., Holdevici, I., Tonița I., (2008). Psychology of performance sport. Theory and practice., București, Editura Fest: 372

- it is necessary in the case of naval pentathlon, because of the difficulties in management of training time according to the energy resources of the athlete.
- is advantageous in sports where th erisk of injury is high.
- favors the correction of erroneously learned motor techniques, because, by repeated mental representation, the old motor schemes are relaxed and new ones can be programmed.[11]

The mental training represents a basic component of the "complete training"[12], together with the training itself (physical, technical, tactical, theoretical, psychological, artistic, recovery), the psycho-regulating training and the invisible training.

4. Conclusions

I believe that mental training should not replace practical exercise, performed until the skills are automated and perfected, and applicable in the naval pentathlon must be accompanied by a good proprioceptive and sensorimotor experience.

In naval pentathlon it is vital that the perfected perceptual-motor skills to ensure the followings:

- correct evaluation of speed and distance;
- correct assessment of the boat's tilt angle and a suitable positioning for efficient and safe rowing;
- correct assessment of throwing force;
- safe landing from obstacles;

The technical training within naval pentathlon training will aim the development of the following skills:

- skills specific to cork swimming;
- running on various surfaces;
- skills needed for obstacle race;
- skills for sports shooting;
- skills specific to rowing in competition boats;
- skills specific to applied swimming (water transport of materials, partner, equiped swimming);
- skills for throwing exercise grenades;

The improvement of skills for each of the five races of naval pentathlon, will be achieved by practicing at different level of intensity, where proprioceptive sensitivity plays an important role.

For each race and moment that require the use of mental training, Specific mental actions will be established.

The established mental training model will be carried out for each stage of the race, that requires special attention, concentration, or requires complex motor actions: execution of the marine knot, climbing with the marine seat on board and fixing the bolts on colors, certain obstacles in the application path. It is important to identify for each athlete the inefficient moments of the race and to act in a manner to improve and perfect them.

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