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SPECIFIC METHODS AND MEANS OF TRAINING FOR THE OBSTACLE COURSE TEST WITHIN THE MILITARY PENTATHLON

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Abstract: *The military pentathlon (obstacle course) became an imposed necessity by the military system's modernization and connection to international political and social requirements.*

It is necessary to establish a modern guideline, unitary in structure and content, regarding the athletes training in the current military pentathlon. Multiple means and methods were used, which had the role of verifying various aspects of athletic training content and structure. A series of known methods were used for investigating the somatic physiological and motor parameters, as well as specific measurement methods developed by us for this purpose. At the same time, adapted methods that were elaborated by us were used, both referring to the specific aspect of physical training, as well as psychological profile specific to the military pentathlon.

The proper use of training methods and means for the obstacle course has improved the results for this test.
Key-words: *training; obstacle; methods; military pentathlon.*

INTRODUCTION

Developing the tests and the military training program, they are specified in the international specialized literature since 1950. Both the appearance and evolution of the international military pentathlon are highlighted, as well as the evolution of obtained performance.

In this content, the Romanian military pentathlon became an imposed necessity by the military system's modernization and connection to international political and social requirements.

Given the fact that in the actual nationwide stage there is no scientific approach methodology of the military pentathlon specific training, we consider that is necessary to establish a modern orientation, unitary as structure and content, regarding the military pentathlon training.

PURPOSE

- composition of a syllabus in conformity with the performed activity;
- the ponderation of the obstacle course exercises for improving the functional and psychical motor capacities;
- the final purpose of our scientific endeavor was that of establishing and applying an effective training strategy achieved through educational projects;
- the establishment and estimation of the motor capacity, functional, physical and as well as the experimental estimation of the obstacle course physical training effieciency.

HYPOTHESIS

If we become aware of the obstacle course content, in terms of volume, intensity, complexity and density of the effort, then we can develop an efficient training, based on a didactic planning generative axis, meaning: objectives, contents, strategies and evaluation systems.

The finalities of military pentathlon training, constitutes the strong part of the Marine's training cadres. Therefore the scientific approach of training seems natural to us, considering the military pentathlon as a test of high human performance respectively of high military competence.

The effects of training, focused on the military pentathlon improvement, should reflect the achievement of a harmonious personality, physically and intellectually developed with necessary fighting skills for Naval Forces.

For this efficiency, instructional training strategies will be necessary, capable of leading to continuous improvement of Naval Forces specific fighting skills.

Organizing the efficient practice of physical education and sport of Naval Academy, a moral resonance of the individuals must be provided with an emphasis on proper behavior in specific Navy fighting races.

Both in physical education and training, the practice of physical exercises, most fit for chosen purpose, a growth of the efficiency in the military activity must be realized.

Naval Forces fighter must form in training process , a most effective action of movement in various conditions, rational and effective, rain, wind, snow, storm, temperature variations, thereby easily adapting to space and time body movement.

TASKS

- the theoretical and methodological approach to the Navy's students specific training and their integration as a whole in the in the physical education and sports aim as well as those involved in university physical education.
- studying the Navy's students somato-physiological, motor and mental features
- the study of the main forms of effort, specific to the age of 18 to 23 and the role of sports activity, as a stimulus to improving the effort capacity.
- priorities identification drawn from the educational process components and from the Navy's physical education activities.
- information from the inboard and abroad literature, concerning the systems and forms of organization and practice of specific exercising of weapons.
- experimentation of a curriculum projection specific to Marine Navy students, to positively influence the dynamic of the motor, functional and psychical capacity development.
- reconsidering the initial program and creating a new program based on the new guidelines for accession the North Atlantic.

OPERATIONAL APPROACH

- The research was conducted over a period of 4 semesters for years I and II, with a number of 45 students (2 classes) representing the control group and the 45 students (2 classes) that constituted the experimental group.
- The battery tests were conducted in the gymnasium, stadium and modern military pentathlon's obstacle course (the tests realized on the outdoor sports base, were performed under wet conditions and identical temperatures).
- Considering the composition of the experimental and control groups (military type) the tests were carried out correctly and efficient with the active and conscious participation of the students.

THE EVOLUTION OF THE EXPERIMENT

The scientific approach in developing a new sense of direction to training methods in this branch of sport requires the following steps:

- study oftheoretical conceptsand practical experienceof specialistsdealing withthe structure and contentof military pentathlon training process
- establishing the morphological development level of the functional and general physical capacity, general and specific psychomotor of military athletes;
- developing a streamlined training system in structure and content, as well as specific military pentathlon training model conditions in a macrocycle;
- Theoretical and experimental argumentation for the training and selection pattern content of the pentathlon's military athletes.

In order to realize this present work, I carefully studied the work of some experts, from various echelons of military physical education.

For this, I have used the following research methods:

- The bibliographic method
- Pedagogical observation method
- Pedagogical experimenting
- Testing method
- Statistical and mathematical techniques
- graphical representation
- bibliographic method.

In preparing the military athletes for military pentathlon obstacle course test, I used the next training methods, especially for resistance development:

- methods based on the volume variation
- method of regular and coninuous efforts
- repeated efforts method

methods based on intensity variation

- variable efforts method
- progressive efforts method
- methods based on volume and intensity variation
- interval training method

The training methods were selected based on the specifity of the military pentathlon tests. Each method of training has been approached in the training lesson through specific ways.

Training methods:

1. **Enduring training method**

The general characteristic of this method is the prolonged effort, which is not fragmented by pauses. Speed can be evenly or variable. Prolonged length is not standardized, it varies depending on the training individualization and on the technical and energetic peculiarities of each branch or sports contests. The length has its own limits though, between 50-120 minutes for devoted athletes and especially for endurance runningtests (L. S. Homenkov, 1977; D. Alexandrescu, 1991;).

From the practical experience, the up above mentioned specialists, confirms the next variants:

- continuum training method which consists in performing the exercise without break time on long distances, that can exceed several times the distance or the duration of the competition;
- alternative or variable training method consists on differentiated repetition of the effort, under the aspect of performance speed, distances and time periods in which they are performed;
- an alternative method by which, a given distance or time, some parts are executed with high speed or on the one that increases progressively (so that the intensity of the effort to increase short, and the oxygen level to be completed in the next immediate period of time.

2. **The alternative-progressive method**

This method can be approached as following: rising and/or equal of distances (time periods) or execution speed; rising unequal distanced or execution speed; combined, binding the increased or decreased effort system with the equal or unequal ones.

3. **Fartlek method**

This method is based on completing some distances (period of time) established altogether by the athlete. Alternating the running tempo, a pre-established scheme is applied by the athlete, depending on the running field state (dip), level of training and the time of applying this according to sporting form chart. Usually, the race is conducted in varied field, with a duration of 30-60 min; the value of the tempo depending on the variation of the field, both on the imposed intensities by the training stage.

4. **Intervals training method**

This method is based on the principle of effort division on time intervals with planned effort and resting periods.

This has several variants:

- short intervals method with effort timing between 15 sec and 2 min;
- medium intervals method with effort timing between 2 and 8 minutes;
- long intervals method with effort timing between 8 and 15 minutes.

5. **Repeated training method**

This method is based on repeating some equal distances, which are executed with high, submaximal and maximal intensity.

This has several variants:

- with medium breaks, usually 4-6 minutes, the intensity being raised (over 80%);
- with large breaks, usually between 12-20 min, which intercalates the submaximal and maximal efforts;
- with short breaks, between 3-1min (in the swimming training it goes down to 45-15 sec);
- with varying duration breaks, of decrease and increase, once with increasing and decreasing execution speed.

6. **"Stress" training method**

This method is based on carrying out a maximum volume of effort, that exceeds a few times the distance or competition timing. The breaks between training are small or medium. It is usually used for testing the effort capacity.

7. **Control training method**

The method's purpose consist on developing an exclusive special resistance. Through this method a shaping of the contest occurs, respecting the entire scheme of physical, technical, tactical and psychical effort.

8. **The Amazonian method**

In the USA, endurance running is carried out by an own training method, which sums up the best and most efficient in preparing runners worldwide. This method tries to merge the unified and coherent intervals training, fartlek and marathon training. The method consists of the so called "5 consecutive steps", which completes one another.

The 5 steps are:

- marathon training (it consists in a long run of 40-50 km. During the run, 40-50 beats/minutes are not exceeded, which serves to aerobic capacity development;
- fartlek (an alternating tempo running and speeding run);
- intervals training (changing the length and content, then increasing the volume of repetition number);
- training with repetitions (alike the intervals training, but with resting is made until recovery);

- sprint training (seeks correlation between running distance and recovery time).

Depending on the applied methods in training lesson, the used ways are represented by ideomotor exercises. At the same time special exercises are used, that makes complex machine, equipment and specialty device exercises. Depending on the natural factors and the hygienic conditions in which the activities are developed, some ways of restoring the body after exercise are applied. Depending on training factors, we can present the existence of the next types of ideomotor exercises: competition drills – the main ways of training that contributes to complex adaptation of the body to each effort test with the most direct way, those motor actions that represents the parts of the test structure. There are distributed by domain specialists (L. S. Homenkov, 1977; D. Alexandrescu, 1991; N. Alexe, 1993), in three categories: learning and perfecting the technique of the contest test; tactical exercises; special exercises, mainly oriented to developing the motor qualities, specific to the assay.

Means system of forming the specific motor skills

- Jumping skills developing exercises
- Balance development exercises:
  - **a)** balance training exercises that manifests within statically actions (as maintained positions)
  - **b)** balance training exercises that manifests in dynamic actions (as movement)
- Crawling skills exercises:
  - **a)** exercises for developing crawling skills on knee position;
  - **b)** exercises for developing crawling skills on knee with hands support position;
  - **c)** exercises for developing crawling skills on lying forward position (facial);
  - **d)** lying forward with support, crawling forward, backward or sideways by stepping with the arm and the opposite leg or arm and leg on the same side;
  - **e)** exercises for developing crawling skills on seated position (sitting)
- Exercises for developing climbing skills:
  - **a)** exercises for developing climbing skills on a fixed ladder;
  - **b)** exercises for developing climbing skills on a skew gym bench;
  - **c)** exercises for developing climbing skills on a mobile gym ladder;
  - **d)** exercises for developing climbing skills on the inferior side of a mobile horizontal ladder (below);
  - **e)** exercises for developing climbing skills on the superios side of a mobile horizontal ladder (above);
  - **f)** exercises for developing climbing skills on a mobile ladder, inclined on its superior side;
  - **g)** exercises for developing climbing skills on a mobile vertical ladder;
  - **h)** exercises for developing climbing skills on a mobile ladder, inclined on her inferior side;
  - **i)** exercises for developing climbing skills on a rope ladder (seamanlike);
  - **j)** exercises for developing climbing skills on a vertical rope ladder;
  - **k)** exercises for developing climbing skills on a horizontal rope ladder.
- Exercises for developing escalating skills.

OBATAINED RESULTS AND THEIR INTERPRETATION

In specialized literature, the majority of the sports professionals state that athletes training can be done on the basis of criteria that can be taken as a model in conducting effective training process. In the content of these models, there is a unity regarding the somatic, functional, biochemical aspect and of assessing the general training parameters.

Aspects that can highlight the structure and content of training military athlete's level were selected using the main parameters presented in the specialized literature.

The made recordings gives us information about the next aspects: physiological, motor, morphological, functional capacity, obstacle course performance.

Regarding the physical development, in its evaluation in the two tests (experimental and witness), we used six parameters. According to the obtained data from the two tests, similar values result, only the size and weight being higher in the experimental test. Regarding the motor capacity development, the testing battery included three tests that aimed the endurance evaluation (1000m), arms strength (push-ups – 2 minutes) and legs strength (long jump without take off). Developing a specific training program for the obstacle course made that all the results at these tests to be significantly better at the experimental test than the witness one.

To physiological indicators a slight growth of the experimental sample values is shown, this being due to the military training that is carried out in MBNA. To be noted that the measurement of the obstacle course is an increase of 12.24 sec at the experimental group compared to 4.71 sec in the witness group (from initial to intermediate testing).

CONCLUSIONS

The performed study on the witness and experiment groups, aimed on one hand the verification of differentiated applied training methods of the two groups, and on the other side, checking the motor and functional components role, in developing the needed skills for obstacle course military test, which plays an important role in training combat soldiers.

Following the obtained results from statistical processing, applied to the motor and physiological characteristics corresponding data, we can say:

- motor and functional characteristics specific to the subjects of the two groups, witness and experiment, significantly differ from the initial to the final testing, the process having an upward trend;
- training methods were applied to experimental group subjects that yielded to better results, confirmed by statistical processing applied to characteristic data measured in the final test. Exceptions to this statement are "long jump without take off" tests and "heart rate", where the final obtained results by the two groups subjects did not significantly differ .

The obtained results from the both groups subjects have an upward trend, observing a performance improvement from one test to another.

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