

THE MOTOR CAPACITY – FOUNDATION OF MILITARY TRAINING

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The article emphasizes the place and role of motor capacity in the military training process. Thus, the motor capacity is the foundation, the pillar on which military training is based, and its development is an essential purpose of military physical education, which requires a multilateral training of motricity. This requires a large amount of knowledge, qualities, motor skills and abilities, which is achieved with various means specific to the activity of physical education and sports, but also other categories of military training.

Keywords: military training; motor capacity; motor qualities; motor skills; motor abilities.

Military training is a process characterized by the acquisition of specific knowledge and abilities in the military field, a process by which the resources available at a given time (human, material and

to achieve the capacity of personnel/forces to perform specific duties/missions using military equipment¹. Therefore, it is a multilateral process, developed on interconnected systems and related to

Knowledge and accumulation of knowledge	Capacity building thinking	Formation and development of individual skills	Formation of collective skills	Development of collective skills	Assessment and certification of operational capacity	Maintaining / demonstrating operational capability	Gaining professional experience (Knowledge and skills)
Military education		Training		Exercises		Practice training	

Figure 1 *The objectives of military training²*

financial) are transformed into operational capacity, maintained and periodically adapted to international geopolitical and military realities. Military training occupies the most important place in the process of building and maintaining a modern army.

Military training in the Romanian Army is thought of as "the activity carried out by the army

most activities specific to the military environment, as shown in the following figure:

Military training is structured on several very important areas, as follows: the theoretical side (it aims to acknowledge the particularities of the battlefield, training and development of effective thinking); the physical and psycho-moral side (it aims at the formation and development of the physical and psycho-moral capacity necessary for the personnel to fulfill the missions in extreme conditions of effort and stress, specific to the

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operational environment); the technical side (it aims at acknowledging the technique, weapons and military equipment, training and developing the skills necessary for their use in the tactical field); the tactical side (it aims at action skills, training and development of operational skills to accomplish missions).

The predominant feature of military training is the applicative practice, which involves the use of theoretical knowledge and individual skills accumulated in the training process by military personnel, in a specific context, according to the structure and the position they hold.

One of the fundamental factors in carrying out military activity and, obviously, for obtaining superior performances in the process of training the forces, is the motor capacity. As stated in the paper "Terminology of physical education and sports" (1978), motor capacity is "the set of natural and acquired motor possibilities through which various efforts can be made in terms of structure and dosage".

Also, in the literature specific to the field of physical education and sports we find various definitions of motor capacity, but, reported to this article, I consider that Professor Adrian Dragnea best captures this concept, defining it as a "complex of predominantly motor manifestations (skills and abilities), conditioned by the level of development of motor qualities, morpho-functional indices, psychic processes (cognitive, affective, motivational) and metabolic biochemical processes, all put together, correlated and mutually conditioned, resulting in efficient performance of actions and acts required by the specific conditions under which the motor activities are practiced"³. Thus, morpho-functional indices and metabolic biochemical processes can positively or negatively influence the development of motor capacity. In this sense, there are tests to assess the proper development of these elements, the starting point in planning effort in motor activities.

According to the same author, motor capacity includes stable components (abilities; motor qualities – speed, coordination, endurance, strength, mobility, flexibility; motor skills; operational structures; knowledge; experience) and state components (motivation, emotional states, which may promote, reduce or block the expression of motor capacity). This is a multifactorial resultant,

a vector resulting from the interaction of the mentioned components, which evolves after an ascending curve, widens and restructures through maturation and education. In most cases, the motor capacity is not reduced to solving standard situations, but to various situations, through structuring and recombination of its components.⁴

Thus, motor capacity is obviously acquired, especially in the activity of military physical education and sports, but given the specifics of military action, it can also be developed in other categories of training depending on the military branches. In this respect, the motor capacity of the military becomes a complex represented by the following factors: strength (dynamic, static, explosive); speed (reaction, actuation); endurance (in different regimes, cardiopulmonary and local musculature); coordination (simple, multilateral, general, static precision, accuracy, static and dynamic balance).

Motor capacity is of two types: *general* and *specific*. The general motor capacity includes basic motor qualities (speed, coordination, endurance, strength and, according to some authors, flexibility) and basic and utility applicative motor skills or abilities. The specific motor capacity, which cannot be manifested without the general one, results from the unity of motor qualities and motor skills or abilities specific to some sports, in our case specific to some branches of sport and their tests with applicability in the army or certain categories of training specific to military branches.

Motor qualities, also called physical qualities in some specialized papers, are innate traits / characteristics of people and can be educated throughout life. In military action, given the wide range of missions in which the personnel is engaged, but also their diversity, we often encounter a combination of motor qualities.

The development level of motor qualities determines the fulfillment of the requirements provided by the training programs regarding the increase and improvement of the system of knowledge, skills and motor abilities in the military. To support this essential aspect in guiding the military training content in general and military physical education in particular, we can start from the analysis of the following example: throwing hand grenades accurately can be performed - correctly, from a technical point



of view, but inefficiently not having the strength and speed needed to hit the target; less accurately, but strongly enough and relatively precisely; very correctly, strongly enough and very sharply, thus very efficiently. Therefore, reaching the parameters specific to the last mode of execution is not possible if one acts only on the technique, but, first of all, due to the development of the general strength and the throwing arm, the speed and precision in execution, which all combined with different weights, determine improving the technique and efficiency of the process.

In order to determine the value and contribution of motor qualities to the accomplishment of different motor actions, each of them is associated to certain parameters. Thus, for determining the value of strength is used as a standard parameter – load, for speed – speed of movements, for endurance – duration of action, and for coordination capacity – complexity and accuracy of action. Noting the extent to which these parameters are present, to a different extent, in an action or in a chain of motor actions, we realize the role and contribution of the motor quality or qualities involved in the execution of those actions.

The development of motor qualities requires a rigorous objectification of the process of physical training of the military. This objectification refers to the establishment of concrete ways of quantitative and qualitative assessment of progress, on the basis of which the methods effectiveness, procedures and means used can also be assessed. The process of developing motor qualities offers us wide and concrete possibilities for objective assessment of the progress made by the military, but also of the quality of the pedagogical performance of the instructors. From this perspective, the objectification of the process of developing motor qualities requires the instructor to do the following: to know the level of military training, to know from which stage it starts; to establish tests and rules specific to each motor quality and to apply them periodically in the activity of the military; to develop exercise structures for the final model regarding the development of motor qualities, according to the *Military Physical Training Regulation*; to keep an accurate record of all the data obtained and to use it for the critical assessment of the activity carried out. Thus, the objectification of the process of development of motor qualities determines a clearer

ordering of the instructor's activity, obliges him to permanently try to identify the most efficient means and organizational forms and ensure an increased efficiency to achieve the proposed goal.

Motor skills are "human motor actions acquired during individual life (in ontogenesis) through conscious and systematic exercise"⁵, based on dynamic stereotypes formed in the cerebral cortex. These are considered automated components of voluntary motor activity. As a result of multiple repetitions, performed systematically and continuously, in stereotypical structures, the component movements of a motor action reach a high level of perfection, which allows it to be performed easily and accurately (coordinated), with minimal energy expenditure, economic), with high efficiency and without the need for direct participation of consciousness. Thus, motor skills are complex conditioned reflex chains that rely on various connections between the vestibular cortical areas, speech, view, and other analyzers, on the one hand, and the motor centers interested in coordinating this activity, on the other. These skills are systems of temporary connections, more precisely dynamic motor stereotypes, developed and strengthened through exercise.

The formation of motor skills is a requirement present in all programs/plans specific to the activity of physical education and sports in the army, being one of the main purposes of the military training process. The formation of motor skills is achieved only in a strict interdependence with the development of motor qualities, both being components of the unitary process of improving the motor activity of the military.

Within the relationship of interdependence between skills and motor qualities, it is noted that the latter are somato-functional abilities specific to each individual (born or developed/educated in the training process) in the absence of which motor skills cannot be formed and strengthened. As for motor skills, which, as we have seen, are automated components in the field of motricity, they are the forms of concrete activity in which motor qualities are manifested.

Achieving a motor action, no matter how complex, depends on the level of the component skills development, namely those movements that have previously been acquired and consolidated through a large number of repetitions, but also by



the value at which the motor qualities required by the respective action are developed. For example, rope climbing can be performed by all soldiers who have strength in their arms, but if they acquired the technique, the action would be performed more easily, naturally and accurately.

Skills and motor structures have certain peculiarities of their own, such as: uniqueness and irreversibility (motricity reject reversibility and identity of executions); chaining (combining the elements and not their simple addition, each component being dependent on the previous and the next); originality of execution (although they are automated, motor actions are not repeated identically based on the rule of associativity. For example, a soldier who repeats a military application course will not always choose the same solution).

In the process of military training we must take into account these particularities, which suggest that it is necessary to pay special attention not so much to equipping the military with standardized response techniques to stimuli, but especially to educate adaptability, which does not involve simple automated responses, but thinking, abstraction, generalization, inventiveness.

Motor abilities are motor actions acquired in human ontogenesis, which succeed motor skills, representing their next stage of evolution. They are learning outcomes that "seek to capitalize on the intellectual and motor capacity of the subject by adapting them to new motor tasks"⁶. Thus, regarding motor abilities, we can say that they are the properties of the human body, acquired as a result of participation in various training programs and which materialize through the possibility of performing motor tasks in changing conditions.

The literature in the field highlights two types of motor abilities: elementary and higher or complex. Basic motor abilities, according to some specialists in the field, precede motor skills, they are understood as the capacity of the individual to receive qualitatively and quantitatively "motor information" very quickly (there are many situations when we say about an individual that in the phase of learning a new motor element and due to its motor possibilities of adaptation, is very "skilled"). These are formed in a fairly short time by observing the motor action of other individuals through explanation by the instructor and practice.

Therefore, motor abilities represent the motor and intellectual baggage through which the motor skills of the military are expressed in new, variable, unforeseen conditions. These are non-automated components of the human motricity precisely because of this unforeseen and depend, to a large extent, on the amount of motor skills previously acquired, their quality and application to specific situations, as well as the capacity to analyze and synthesize the cerebral cortex (of its plasticity).

Generalization of certain knowledge in the form of rules, laws and notions, the motor experience (its variety and quality) give the soldier the possibility to act in different conditions as well, different from those in which the motor skills had been formed. These allow him to identify rational solutions, appropriate to the purpose of the new action and to carry it out cursorily, with relative ease.

In conclusion, the development of motor capacity is ultimately the result of acting on multiple levels in the direction of improving the major functions of the body, increasing muscle strength and resistance of the body to intense demands on the background of education general coordination, on the one hand, and the formation of a vast baggage of motor skills or abilities, on the other hand. These effects cannot be obtained if we do not act in an organized, systematic and continuous way, permanently taking into account the morpho-functional and psychological possibilities of the military.

In military physical education and sports, as well as in other training categories that are components of both general military training and specialized training, the improvement of motor capacity must be a priority concern and fall into the category of first-rate objectives from the plan with the main activities of each military structure.

NOTES:

1 *** *Doctrina instruirii Armatei României*, General Staff, Bucharest, 2006, p. 19.

2 *Ibidem*, p. 16.

3 A. Dragnea și colab., *Educație fizică și sport – teorie și didactică*, FEST Publishing House, Bucharest, 2006, p. 4.

4 *Ibidem*, p. 4.

5 Gh. Cârstea, *Teoria și metodică educației fizice și sportului*, AN-DA Publishing House, Bucharest, 2000, p. 18.

6 A. Dragnea, *op.cit.*, p.135.



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