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Original article

METHOD OF DIAGNOSTIC AND SWOT ANALYSIS IN THE NAVAL PENTATHLON

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Abstract

Aim. This research identifies and optimizes the influence of the four defining components of the SWOT analysis on the training of the athletes who make up the representative naval pentathlon team, during a training macrocycle.

Research methods. The need to apply the methods of diagnosis and SWOT analysis, as methods specific to managerial science in the perspective of evaluating the internal environment, thus identifying the internal components of the representative naval pentathlon team, outlined in the form of strengths and weaknesses, as well as the analysis of the external environment, defined by identifying opportunities and threats in the organizational context of C.I.S.M. (International Council of Military Sports). The use of the diagnosis method and SWOT analysis as methods specific to managerial science, from the perspective of objective evaluation. Our experimental study included two groups of subjects: a group not involved in performance sports activity and a group involved in performance sports activity, respectively, the experimental group - the representative naval pentathlon team of the Naval Academy "Mircea cel Bătrân" Constanța.

Conclusions. The results obtained in our research confirm the fact that the correct identification of the four components of the SWOT analysis applied at the level of the representative batch of naval pentathlon led to the achievement of significantly increased results for the athletes at the level of which the training periodization programed was implemented during a macrocycle proposed by us for the seamanship race test.

Keywords: naval pentathlon, spot analysis, seamanship.

Introduction

The diagnosis and design of the physical training of the Romanian military must be related to the elements that define, describe and determine the functionality of the military structures of NATO, an alliance of which Romania also became a member in 2004. "Integration into the North Atlantic Alliance represents Romania's priority political and military option, being at the same time one of the essential conditions for affirming and promoting our national interests within this organization. Romania's new status also changes its role and place in the security environment NATO and will have special implications on the process of modernization and training of its armed forces," the objectives and contents of military education being subordinate to these desired. (Duțu & Bogzeanu, 2011)

The Romanian naval pentathlon has become a necessity imposed by the modernization and connection of the military system to international political and social requirements. Determined by these circumstances, in the composition of a national naval pentathlon team, we are faced with a multitude of deficiencies, regarding the periodization as structure and content of a specific training system in order to participate in the World Championships. Based on these details, it can be confirmed that it is necessary to develop a new training system for the representative naval pentathlon team of our country. For the inclusion of the representative naval pentathlon team in the international performance criteria, the development of performance capacity is the main starting point in the training of military athletes from the Mircea cel Bătrân Naval Academy in Constanta. Studying the specialized literature, we notice that the term sports performance "(...) can be defined as a bio-psycho-social value achieved within official competitions, as a result of a multiple capacity determined and appreciated based on rigorous criteria or scales established". (Dragnea & Teodorescu, 2002). In this research, we will follow the increase in performance capacity as "(...) the result of the complex manifestation of the individual's availability, materialized in objective values or objectivity in points, places, rankings, it having a complex structure in which biological and psychological factors are present, socially integrated" of military athletes, members of the representative naval pentathlon team - Mircea cel Bătrân Naval Academy, Constanta. (Tudoși, 2000). According to the definition of sports selection "(...) process of searching for the most talented people, capable of achieving high results in a sports branch" in this research we propose through the continuous process of selection the detection of athletes and their training to establish the composition of the team representatives of naval pentathlon. (Platonov, 2015).

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Today, the naval pentathlon is one of the 26 sports disciplines in which regional, continental and world competitions are held under the patronage of the CISM (International Council of Military Sports).

It includes 5 tests:

- the obstacle course (obstacle race-specific marine test);
- swimming equipped for rescue operations (lifesaving);
- utility swimming;
- seamanship (the art of navigation-seamanship skills);
- amphibious cross country (running, shooting, throwing a grenade, boat).

The seamanship test, which is the subject of our research, presents the five specific moments:

1. Start, moving on a 5x5m platform located 2m from the start.
2. Climbing with the help of a board seat, fixed with a rope on a pulley, up to the height of 6m where 5 wooden bolts with a length of 20 cm and a thickness of 3.5 cm will be fixed in specific places.
3. Pulling a line 10-15cm thick and 10m long out of the water
4. Throwing the bandula and fixing it to the pontoon with a "chair knot"
5. Slalom with a frame boat among 5 beacons arranged in a column, at equal distances between them, over a length of 60m

Research methods

The concept of the training process is less used in specialized literature, the more common being the phrases education process or instructive-educational process, with the meaning of "(...) complex, intentional, programmed, organized, and conscious activity of teaching and learning" (Ionescu & Radu, 2001). Simultaneously, the employment of deep psychological mechanisms, which lead to the acquisition of a new way of interaction of the individual" (Cucos, 1995) determines the surprise of the essential meaning of the training, that of developing the intellectual, physical, socio-moral skills of the individual, of changing the appreciative structures and actionable, to profoundly change the entire structure of the personality. Therefore, the use of the concept of the training process has the meaning of a set of instructional-educational influences, implicit and explicit, of a formal and informal nature, exercised from the perspective of some projected purposes, described hierarchically by attitudes and capabilities, knowledge strategies, knowledge-concepts, and methodologies". (Popescu-Neveanu, 1978)

Thus, conceived as an open system, marine higher education can be subject to a global approach "both in terms of its structures, functions, and internal organization, as well as its external links with the environment". (Culda, 2002)

Based on these theoretical aspects, the mission of higher marine education focuses, which has as its main objective the training of military and civilian marine officers, and the training process manages a highly qualified human resource category.

The purposes of the training process are embodied in the competences of the graduate of marine higher education, the specific and the operational objectives of the educational process. They mark "clearly what the students should know as information, what they should know how to do, as action, what skills, what attitudes and what capacities they should train" (Stănciulescu, 2007). In this context, the model of the naval officer - as a correlative result of the integrative psycho-social model will be realized through the competencies of the naval officer, as the purpose of the staged educational system, namely training, specialization, and improvement.

In line with NATO standards, the didactic design of higher naval education involves the structuring of "actions and operations that ensure the functionality of the education system and process according to the goals developed in terms of education policy". (Cristea, 1998)

The research represents a novelty in the field of performance sports not only because it has as its subject the military naval pentathlon, a sports discipline specific to military sports, but also because although the first edition of the World Naval Pentathlon Championship took place in Italy, in 1954, Romania started late (2004) and the experience in the field, in the design and modeling of the training process, has not, until now, been fruitful.

In the preliminary research, we considered it necessary to apply the diagnosis method and the SWOT diagnostic analysis - as a method specific to managerial science, with the aim of evaluating the internal environment, reflecting the situation of the internal components of the representative naval pentathlon team, outlined in the form of strengths and weaknesses, as and the evaluation of the external environment, completed by identifying the opportunities and threats, in the international organizational context of CISM, during the 2015-2016 competition period. The application of this method was also imposed by the fact that in 2015 the representative naval pentathlon team of Romania took the 6th place out of 15 participating countries, and in 2016, for objective reasons (political changes in Turkey), it did not participate in the International Championship from Tuzla.

By means of the SWOT Analysis - we have identified the existing strong and weak points in the performance sports activity of the naval pentathlon team, as well as the opportunities and dangers that threaten the activity from the outside.

Stages of the SWOT Analysis:

1. Elaboration of a work page divided into 4 columns, in which the strong points (top left), weak points (top right), opportunities (bottom left) and threats (bottom right) were recorded at the level of the field of activity in discussion;

2. Listing specific items - identifying major problems that require optimal solutions.
3. Establishing and recording major issues (strengths, weaknesses, opportunities, threats).
4. Drawing up four lists (Strengths (A), Weaknesses (B), Opportunities (C), Threats (D), from which the terms of comparison of the causes that generate the effects, phenomena and solutions to solve the recorded problem situations emerge.

Table 1 SWOT analysis - Naval pentathlon representative team "Mircea cel Batrân" Naval Academy

• STRENGTHS	• WEAKNESSES
<ul style="list-style-type: none"> - the selection of students - military athletes in the echelon of military performance sports, from the first year of study; -excellent collaboration with sports structures (Romanian Yachting Club, Techirghiol) and local officials. - collaboration with the leadership structures of the Ministry of National Defense (Naval Staff, General Staff), with the International Federation of Naval Pentathlon and the International Council of Military Sports; - Regional information, documentation and selection center; - Implementation of the activity of the Naval Medicine Center of the Naval Forces and scientific research in the training of military athletes; - the geographical and political climate (NATO member state) favorable for conducting naval pentathlon tests 	<ul style="list-style-type: none"> - absenteeism in the selection process of first-year students, who did not practice the disciplines: athletics, water sports, swimming; - the departure of graduates into the military service system (example: the year 2014 is notable for not showing up at the International Nautical Championships, Tuzla, Turkey) and the decrease in the school population, implicitly the abandonment of the entrance exam; - the absence of a National Federation of Naval Pentathlon and implicitly some selection models; - the permanence of an internal competitive system; - financial aspects; -non-involvement of sponsors due to the legislative framework in force;
• OPPORTUNITIES	• THREATS
<ul style="list-style-type: none"> - the material base and the material equipment necessary for the conduct of large-scale naval competitions, in the Palazu Mare marine practice resort; - the development of a training program during the academic year and the establishment of a special semester structure for the members of the representative naval pentathlon team (in this case the recovery program for laboratory activities and the establishment of an open session according to the international competition calendar); -continuous training of physical education and sports teachers from the Naval Academy; -participating in the interactive theoretical training courses for athletes in the naval pentathlon and learning the innovative legislative aspects from one edition to another of the International Naval Championships; - the organization of highly popular competitions in athletics, swimming and water sports, within the Naval Academy for athletes from the pre-university educational system. 	<ul style="list-style-type: none"> - failure to meet performance objectives; -the low standard of living does not ensure the early building (at the level of children) of the biological capacity necessary for sports performances; - weak funding from the state budget; - unstable economic and social framework;

Table 2 The succession of the problems of the internal environment (strengths/weaknesses) and the determination of their importance and intensity within the application of the SWOT analysis

Crt.no	Problem	Coefficients									
		Intensity					Importance				
		S.M	Sm	N	Fm	F.M	Fm	m	N	M	F.M
		-2	-1	0	1	2	-2	-1	0	1	2
1.	the selection of students - military athletes in the echelon of military performance sports, from the first year of study;				x						x

2.	excellent collaboration with sports structures (Romanian Yachting Club, Techirghiol) and local officials.					X				X	
3.	collaboration with the leadership structures of the Ministry of National Defense (Naval Staff, General Staff), with the International Federation of Naval Pentathlon and the International Council of Military Sports;					X					X
4.	Regional information, documentation and selection center;				X						X
5.	Implementation of the activity of the Naval Medicine Center of the Naval Forces and scientific research in the training of military athletes;				X					X	
6.	the geographical and political climate (NATO member state) favorable for conducting naval pentathlon trials			X							X
7	absenteeism in the selection process of first-year students, who did not practice the disciplines: athletics, water sports, swimming;		X						X		
8	the departure of graduates into the military system (example: the year 2014 is notable for not appearing at the International Nautical Championships, Tuzla, Turkey) and the decrease of the school population, implicitly the abandonment of the entrance exam;		X						X		
9	the absence of a National Naval Pentathlon Federation and implicitly some selection models;		X						X		
10	The perpetuation of an internal competitive system;	X							X		
11	financial aspects;		X						X		
12	non-involvement of sponsors due to the legislative framework in force	X						X			

Based on the elaboration of the list of problems, the determination of the intensity and importance of each of them, we determined the matrix of strong points/weak points, related to the internal organizational environment.

Three categories of situations were identified as follows:

- Strengths – problems with a high production intensity and increased importance will be placed in rectangle A on the upper left side;
- Weak points – problems with a low production intensity and little importance will be placed in the rectangle C on the lower right side;
- Relatively neutral points – problems that are either of high importance and low intensity, or of low importance and intensity and which must be permanently in the manager's attention because they can become either strong or weak points at any time. These problems are located in quadrants B and D.

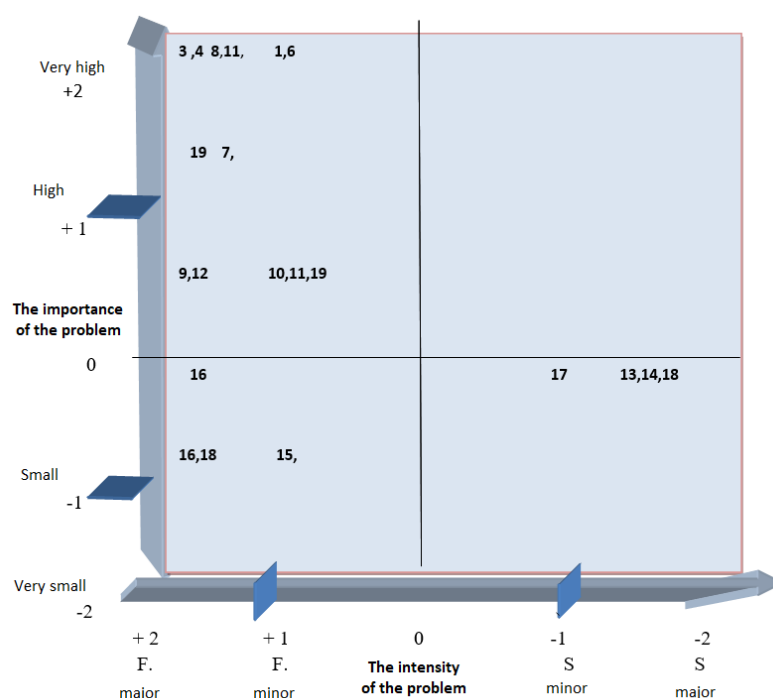


Figure 1 Strengths/weaknesses matrix drawn up based on the list of problems and the assessment of their intensity and importance

In delimiting and determining the problems of the external environment, respectively, the opportunities and threats, we used the MEFE technique - evaluation matrix of external factors.

The external environment - includes all the elements called Opportunities and Threats that come from the external environment and that can negatively or positively influence the activity.

In this study, we determined the probability and impact of the field of external forces on the organization on a scale from 1 to 9, where 1 means a very low probability or impact, and 9 very high probability or impact.

Table 3 The problems of the external environment and the determination of the probability of occurrence and their involvement in the application of the SWOT analysis

Crt.no	Problem	The probability of manifestation									The impact on for the naval pentathlon team								
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	9
1	the material base and the material equipment necessary to perform large-scale naval competitions, in the Palazu Mare marine practice resort						X											X	
2	the development of a training program during the academic year and the establishment of a special semester structure for the members of the representative naval pentathlon team (in this case the recovery program for laboratory activities and the establishment of an open session according to the international competition calendar);							X									X		
3	Continuous training of physical education and sports teachers from the Naval Academy;								X									X	

4	participating in the interactive theoretical training courses for athletes in the naval pentathlon and learning the innovative legislative aspects from one edition to another of the International Naval Championships							X										X		
5	the organization of highly popular competitions in athletics, swimming and water sports, within the Naval Academy for athletes from the pre-university educational system							X												X
6	Failure to meet performance objectives						X								X					
7	The low standard of living does not ensure the early building (at the level of children) of the biological capacity necessary for sports performance;					X											X			
8	poor funding from the state budget;						X											X		
9	unstable economic and social framework						X											X		

Based on the data entered in table no. 3, the matrix of opportunities (top) and threats (bottom) presented in figure no. 2, in which the problems are grouped into four quadrants depending on the values of the probability of occurrence and the impact on performance.

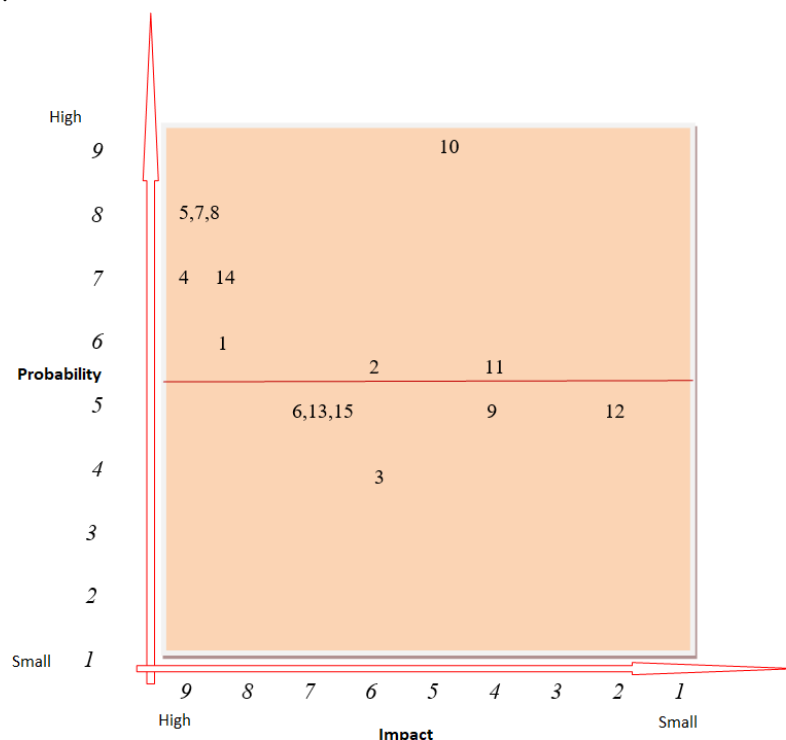


Figure 2 The opportunities/threats matrix drawn up based on the list of problems, the assessment of their probability and the impact on the naval pentathlon team

Conclusions

The process of determining and identifying the components of the SWOT analysis was a determining factor in the inclusion of the representative Romanian naval pentathlon team in the international performance criteria, thus causing the development of the performance capacity of each component of the team participating in the seamanship tests, which are based on a precise diagnosis of the bio-psycho-motor skills of athletes.

The originality of this approach is marked by the development of a training model, over the period of a macrocycle, for the maritime skills test in the naval pentathlon, a test that claims a great performance progress because it is scored best in the competition (in the economy of the 5), in accordance with the international score of the International Military Sports Council table).

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