OPTIMIZING THE PHYSICAL TRAINING OF STUDENTS FROM THE FACULTY OF NAVAL ARCHITECTURE THROUGH SPORTIVE AND APPLIED SWIMMING

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Abstract
The study represents the beginning of a large-scale research which allows us to conclude whether the physical education discipline in the curriculum of the Faculty of Naval Architecture corresponds or not with the physical training that is required of specialists in this domain for their successfully integration in the production activity after graduation. In this respect, we conducted a sociological survey among students, naval engineering specialists from the production process and the academic staff from this faculty.
Key words: *optimizing, physical training, efficiency*

IMPORTANCE

The instructional educational process in physical training at the Faculty of Naval Architecture essentially contributes to student training for their adaptation to the conditions and functions of the professional activity. However, as evidenced by both our data research and others' (Filipescu, 1999; Drăgănescu, 2000; Ion, 2003), most graduates do not possess the knowledge, psychomotor skills and methodical abilities for physical education and sport practice, required by the work application, as well as the personality traits, fact that negatively reflects on the specialist labor productivity, on his physical and mental health.

The study includes theoretical and experimental research in order to optimize the instructional and educational process of students training by applying a new syllabus in specialized faculties.

The novelty of this scientific paper is that the aspect of an efficient educational process for physical education in naval architecture faculties was approached for the first time, by using adapted educational contents for basketball, athletics, gymnastics and especially sportive and applied swimming sports subjects, oriented to the psycho-social integration of future specialists.

WORK HYPOTHESIS

- In the physical education instructive-educational process of future naval engineers, will the development and implementation of a content oriented to their professional physical training help or not to increase the quality of their professional physical training needed to their successful integration in the production activity?
- Will the orientation of the educational process of physical education at naval faculties towards professionally applied physical training based on specialist professional and ergonomic characteristics help to increase the professional training level?

The **RESEARCH PURPOSE** consists in the improvement of the physical training professionally applied process in the "Physical Education" discipline from naval faculties based on appropriate physical culture educational contents.

RESEARCH TASKS

1. Studying the theory and practice of the educational process for the discipline "Physical Education" in naval faculties.
2. Assessing the level of psychophysical qualities, and of the development of psychomotor and intellectual training specific to students from naval faculties.
3. Establishing an appropriate academic content for physical education with a view to theshaping of the amount of socio-professional activity of the naval engineer specialist.

RESEARCH METHODS

Among the research methods used, we only mention: study of the specialised literature, the sociopedagogical survey method (questionnaire, interview and conversation) and the statistical mathematical interpretation method of the results.

Using the sociopedagogical survey method assumed from the researcher side a good methodological background, establishing the work samples, establishing the method conditions of use, the application manner of the questionnaire technique and of interview technique, as well as the manner of data processing and interpretation. The manner in which I elaborated the sociological questionnaires, in the form of surveys, interviews, and conversations, was guided by the methodological indications of two authors, Badiu and Ploestianu.

The questionnaire form of the survey was conducted on a sample of 25 teachers from the Departments of Physical Education and Sports of the Faculties of Naval Arhitecture in Galati and Constanta, 160 students from the same faculties and 40 active naval engineers.

The main objectives of the survey were:

1. *For the 3th and 4th year students.* The place and role of physical education in the instructional-educational activities of students, the self-assessment of the instructional-educational process of university physical education, the contribution of physical education to increasing work capacity and health, of its means to profession assimilation, establishing the forms of organization of the physical education activity.

2. *For the teachers from the Department of Physical Education and Sports*. Establishing the place and role of physical education in the professional physical training, setting the objectives, the manner in which the current syllabus solved these objectives, whether it is up-to-date, establishing a work strategy within specifically physical training at naval faculties, determining the place of the discipline relative to other disciplines, at faculty level.

3. *For the active specialists (naval engineers).* Establishing the place and role of physical education in the professionally-applied physical training, setting the learning content according to production needs, the importance of independent physical activity in maintaining exercise capacity.

Setting up the research

The research was conducted during the 2012-2013 academic year and engaged three category of subjects:

- a number of 160 3th and 4th year students from the Naval Faculty, with ages between 21 and 25;
- 25 teachers from the Faculty of Physical Education and Sports (Galati) and from the Naval Faculty (Constanta);
- 40 (25 from Galați, 15 from Brăila) naval production engineers from the shipyards in Galati and Braila, aged 28-45.

The investigation was materialized in the questionnaires filled in by students (at the methodical office), teachers (in their free time) and engineers (at the shipyard, after work). The reliability coefficient of the responses is 9.8.

In the second stage, the results of the measurements and questionnaires were consolidated, analyzed and interpreted. The somato-functional test results of motive and psycho-motive qualities and those of mental and intellectual development were compared with country level biomotive potential. By comparing these levels, we concluded that the biomotive potential of students from the Naval Faculty, 3th and 4th years of study, is inferior at most of the indicators compared with the country biomotive potential at the age of 18-19.

After analyzing the above conclusions and the current syllabus of physical education at the Naval Faculty, we considered necessary to develop a new syllabus, the current one being inadequate in terms of achieving the professional physical training objectives of the students from this faculty.

After analyzing and interpreting the responses to the questionnaires, we reached the following ***conclusions***:

1. On the subject of independent physical exercise practicing during leisure, naval engineers (100%) answered affirmatively regarding the independent motive activities.

2. Regarding the development of the syllabus for physical education that will create appropriate conditions required by the naval engineering profession, 84% of the teachers questioned, 56% of students and 95% of naval engineers considered that the need to elaborate an appropriate syllabus is felt.

3. The inclusion of sportive and applied swimming hours as a compulsory activity, favourably influencing professionally-applied physical training; of the three categories of subjects questioned 93% of the naval engineers, 68.75% of the physical education teachers and 62.5% of the students answered affirmatively; consequently, swimming needs to be included as a compulsory subject.

4. In the matter of increasing the number of physical education hours, in addition to the 2 hours/week, 88% of the teachers, 75% of the naval engineers and 56% of the students choosen to include another 2 optional hours/week, in the next 2 years.

The results of the analysis and of the generalization of data from the specialized literature, the professional and ergonomic characteristics of the naval engineering work activity, the context of the concept of one activity transfer in others, as well as socio-educational survey allowed us to materialize and elaborate an appropriate syllabus contents for the "Physical Education" discipline, for naval faculties students.

Table 1. Survey results concerning the attitude of students, teachers, and naval engineers toward physical education classes and the priorities in the professionally-applied physical training

Questionnaire results								
Questionnaire results (160 students)		**%**	**Questionnaire results (25 PE teachers)**		**%**	**Questionnaire results (40 naval engineers)**		
1	Yes	68	**1**	Yes	100	**1**	Yes	100
	Not	5		Not			Not	
	Partially	27		I do not know			Partially	
2	Yes	82	**2**	Yes	16	**2**	Yes	95

	Not	3		Not	84		Not	
	Partially	15		I do not know			Partially	5
3	Yes	73	**3**	A	4	**3**	Yes	5
	Not	3		B	4		Not	75
	Partially	24		C	12		Partially	20
4	Yes	56		D	28	**4**	Yes	100
	Not	16		E	52		Not	
	Partially	28	**4**	Enough			Partially	
5 A	Yes	94		Insufficient	76	**5**	Yes	
	Not			Parțial	24		Not	
	Partially	6	**5**	Da	4		Partially	
5 B	Yes	85		Nu	76	**6**	Yes	
	Not	7		Partially	20		Not	
	Partially	8	**6**	A			Partially	
5 C	Yes	78		B	16	**7**	Yes	
	Not	3		C	40		Not	
	Partially	19		D	44		Partially	
5 D	Yes	62	**7**	A		**8**	Yes	
	Not	10		B			Not	
	Partially	28		C			Partially	
6	Yes	66		D		**9**	Yes	75
	Not	14		E			Not	2,5
	Partially	20		F	100		Partially	22,5
7	A	7	**8**	A	96	**10**	Yes	95
	B	42		B			Not	
	C	51		C	4		Partially	5
8	Yes	28	**9**	A				
	Not	62		B				
	Partially	10		C				
9	A	56		D				
	B	5		E	100			
	C	36		F				
	D	3	**10**	A				
10	A	2		B				
	B	37		C	100			
	C	57	**11**	A	68,75			
	D	4		B				
11	A	21		C	31,25			
	B	38						
	C	41						
12	A	62,5						
	B							
	C	37,5						

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