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### **PSYCHOLOGICAL AND PEDAGOGICAL CONDITIONS OF FORMING READINESS FOR PROFESSIONAL SELF-REGULATION IN MARITIME PROFESSIONALS IN EDUCATIONAL ESTABLISHMENTS OF UKRAINE**

*The article focuses on the problem of formation of readiness for professional self – regulation of specialists of marine profile under the condition of improving the quality of professional and practical training of their education in higher maritime educational institutions. Special attention is paid to the creation of such personal – pedagogical conditions that would allow the gradual development of professional competence, competitiveness of specialists in the maritime labor market, mobility to the changes taking place in the construction of modern generation ships.*

***Key words:** maritime educational institution, professional self – realization of marine specialists, educational and pedagogical environment, pedagogical conditions, training equipment, Convention and the STCW Code, minimum standards of competence, ship-owner.*

Personnel competence for modern manufacturing in Ukraine does not differ much from that of European countries. In future, they will approach these countries in the context of economic and social globalization, which means introduction of a «systematic approach to analyzing and ensuring Ukraine’s fulfillment of its obligations under international agreements in the field of merchant shipping» (*Strategy, 2008: 9*). Besides, Ukraine has signed an agreement on entry into the European Competence Scheme (ESA), which, unlike the European Qualifications Framework, will focus on specific employment. It should also be noted that the distribution of professional competences may be different and, for the most part, related to «national labor systems».

According to the guidelines for the recognition of basic professions, when planning regulated professions, the following should be taken into consideration:

- the need for marine profile professionals in the maritime labor market;
- professional self-education to perform the duties on board the ship as professionally as possible;
- potential for long-term professional activity;
- strict demarcation between professional activity and the need for crew members, who perform short crew operations.

The primary sources of information on the need for seafarers to work on the ships of a shipping company and the appropriate staffing of their qualifications, according to the position on the ship, is the demand of the shipping company in the staff and the economic situation in the maritime labor market in general.

They also focus on securing access to employment for seafarers seeking employment on board the ships. Such measures should, primarily help to ensure equal access to qualified vocational education, training, and improving of their skills.

Ship owners, as social partners, in this case perform the role of personnel charterers in maritime schools. In the EU, social partners play an important role in the cycle of «need for professionals – vocational training – availability of specialists – employment of specialists». They determine both the first and last link, and the beginning and end of the professional training process. Such cooperation is a prerequisite on the European level for the organization of vocational training, especially in the working place.

However, the urgent task of ship owners is to update the content of vocational education according to modern technologies, first, according to information and communication technologies (ICT), as well as the need to operate modern automated vessels, gain additional profit and improve the economic performance of the company. This approach can be implemented as the result of the rapid response of educational institutions to the requirements of the management of shipping companies to the mobility and professionalism of seafarers.

The professional development of highly qualified specialists, especially in the maritime field, is a long process and involves constant updating of theoretical knowledge, gaining practical experience of professional activity on vessels of the required capacity, as well as undergoing special training on requirements (*Convention, 2012: 162-228*) and maintaining the psychological and physical condition of seafarers. In the autonomous mode, for an educational institution it is difficult to implement the content updating of professional training and put to life the latest technical, educational, methodological, scientific, pedagogical and innovative technologies of training. In cooperation with shipping companies, scientific units of the maritime industry, maritime state institutions, and international organizations engaged in vocational training, retraining and professional training profile is quite real.

Let us consider some ways of formation of readiness for professional self – regulation of specialists of marine profile, provided the quality of professional – practical training of their education in higher marine educational institutions has been improved.

Professional development (self-development), self-realization as basic categories, in fact, embrace all the aspects of constructive changes that enhance the professional's ability in professional activity. At the same time, for the transparent use of the term «professional self-regulation of professionals in the maritime profile», it is advisable to clarify this it, namely: by «*professional self-regulation of maritime profile specialists*» (PS), we understand the process of positive personality transformations that provides creative productivity and independence of accepted decisions in the process of their professional activity on board the ship, the formation of communicative and professional competence in accordance with the requirements of the Convention of the National Taxation Regulations, which further contributes to the development of professionalism and career growth. Thus, «professional self-regulation» in the process of performing professional duties on the ship during the contract conditions is a kind of professional card, which gives the opportunity to adapt to the particularities of this type of ship, to provide their skills and work with ship equipment, procedures that necessary to meet the requirements set out in the VAT Code.

Considering the context of the new educational philosophy on the problems of formation of professional qualities in specialists, it should be noted that professional self-regulation, according to the definition of scientists, can be justified as one of the sides of professionalism, as a phenomenon that significantly influences the regular changes of their creative forces, professional abilities, and the most consistent with personal qualities and allows the most successful completion of professional tasks that were not previously anticipate (I. Ziazun, V. Kremen, G. Ball, O. Bodaliiov, L. Vygotsky, E. Zeer, E. Klimov, O. Kobyal'kovskaya, O. Leontiev, S. Maksimenko, A. Maslow, V. Rybalka, V. Semichenko, V. Slobodchikov, V. Shapar, N. Shevandrin, etc.).

From the point of view of pedagogical science for the formation of professional self-regulation of a marine profile cadet, it should be considered as a process of purposeful, conscious qualitative changes in the structure of his professional training, which is the driving force for becoming a subject of the participant of the pedagogical process (O. Azhippo, O. Bezznyko, Y. Golenkova, Y. Dragnev, P. Dzhurinsky, A. Zaikin, N. Zubanova, R. Karpiuk, G. Makarov, M. Liannoi, Y. Kurnishchev, L. Sushchenko, O. Tymoshenko, B. Shiyan and others).

However, in order to ensure the process of forming readiness for PS, as a component of professionalism of the future seamen, it is necessary to create such unique pedagogical conditions that would allow their gradual development of professional competence, competitiveness in the maritime labor market, mobility and rapid adaptation to changes that occur when building ships of the modern generation. Such personal pedagogical conditions can be achieved due to the creation of a pedagogical environment in the educational process, which will allow creative interaction of the teaching staff, the employer (the ship owner) and the cadets of the institution. The formation of such educational pedagogical environment should be considered in conjunction with the development and implementation of pedagogical conditions in the educational process, regarding the formation of readiness for PS in students of a marine educational institution.

Let us define the following pedagogical conditions that are characteristic of the formation of PC in the cadets of marine profile:

- formation of personal positive motivation of future specialists in maritime transport, using the opportunities of modern ICT technologies in the educational process to the readiness of the aircraft;
- improvement of work curricula and programs of vocational training, in accordance with national and international requirements, taking into account the formation of the professional competence of the cadets to readiness PS;
- involve highly qualified specialists of shipping companies in carrying out practical work and technological practice as teachers, for the professional training of cadets to work on modern generation automated vessels in multinational crews;
- development and introduction into the pedagogical process to the practical component of training of cadets of innovative technologies and teaching methods;
- practical training in the subjects of the professional course for students of the first and second courses on the training ship of the company in the conditions of a real production environment;
- the passage of swimming practice by cadets on vessels with specially equipped workplaces and the appointment of mentors from the crew of the ship's crew, for the quality implementation of the program of practice;
- development and introduction into training practice of training of cadets, tasks of search - situational plan.

Let us consider in detail each of the pedagogical conditions of formation of PS, and ways of their implementation.

*Formation of personal positive motivation of future specialists of maritime transport, using the possibilities of modern ICT – technologies to the educational process to the readiness of PC.*

Training of the members of marine vessels on simulators and training complexes, as well as ICT technology, technology, technical assistance, code for personal and social protection, and private training for the exploitation of the ship's possession of the ship at different stages of reality, as well as the preparation of the training and include the possibility of dividing the ship's bail; the establishment of minds for the behavior of people with an adequate reality, allowing permission for the individual, to go through, to deceive

the skills, to learn the training; control the operation of the middleware, as a rule, learn how to turn on the emergency, how to turn on the accident, not unsafe situations, due to the purpose of preparation; mutually, for the help of a certain person, who needs to undergo training, we can modulate with our possessions, make sure we have a middleware and, as a rule, with an instructor; the ability of instructors to control, speed up and re-arrange for effective collection of people, as well as undergo training. When planning the process of getting into the first training simulator is aimed at realizing the main aspects of real professional training of a particular faculty, including the number of PS. In this way, a specific type of simulator is almost completely and methodically secure: first, methodical presentations, recommendations before demonstration methods, evaluation criteria.

*Improvement of vocational training plans and programs (RNPs) of vocational training, in accordance with national requirements and the STCW Code, taking into account the formation of professional competence of cadets for the readiness of the PC;*

The main tendencies of transformation of quality of professional training of future specialists of maritime profile into international navigation are indicators of recognition of maritime education of Ukraine by the international community as competitiveness of graduates of maritime educational institutions in the labor market. Maritime education is oriented towards the formation of seafarers' professional competence and is clearly defined by the requirements of the Convention and the VAT Code, which are reflected in the minimum standards of competence of the navigational watch (Sections A – II / 1, Column 1 of the VAT Code), teamwork in terms of teamwork, leadership and engagement.

Similar competences are also included in the specifications of the minimum standards of competence of the operating level that are part of the machine command (section A – III / 2 column 1 of the VAT Code). Accordingly, educational standards reflect the need to successfully accomplish the projected tasks and solve situations, and use in practice the acquired professional experience. In particular when meeting the requirements of the Code of Practice in the column «Method of demonstrating competence», to show their own creative approach, to use in practice methodologically appropriate methods, forms and means of mastering the skills of safe management of the ship's equipment. In professional training programs focused on the formation of professional competence, it is necessary to focus on the following areas of transformation of the content of training of specialists in marine profile:

- didactic rethinking of the essence of educational material in terms of its inseparable connection with practical use, as well as its feasibility, accessibility, and compliance with the requirements of national and international documents;

- defining of relevant for marine professionals links of educational materials with marine engineering practice, which provides the scope of their use in real conditions of the vessel;

- practical appliance of professional actions through motivated performance of educational tasks on the training equipment and the decision of emergency and dangerous situations by means of using the optimum system of operation safety means of ship internal combustion engines;

- enabling cadets to master the educational material, within their maritime responsibilities, according to the sections of the requirements of the minimum standards of competence of the STCW Code in the column «Knowledge, understanding and skills» and «Criteria for assessing competence».

We should note that the results of successful implementation of the developed RNP will serve the indicators of cadets' performance on training equipment, provided that optimal consideration of specific for each stage of training didactic, methodological and psychological factors of influence in the performance of professional tasks.

*Participation of highly qualified specialists of shipping companies in the conducting practical work and technological practice of cadets for their professional and psychological preparation for work on automated ships of the modern generation in multinational crews;*

The named criterion assumes that the training of practical professional skills is based on educational standards, which are interrelated with the formation of their skills by cadets in accordance with the Convention and the STCW Code, provided in column 2 «Knowledge, understanding and skills». According to its purpose, the actual acquisition of practical skills is possible only in the process of actual performance of professional duties on board the vessel. It should be noted that various training and modern simulation tools are not able to replace the acquisition of a skill, as they only provide opportunities to prepare for the primary duties, and accelerate the acquisition of basic knowledge and skills and ensure the safety of navigation. However, the acquisition of practical skills during the initial training has only an ancillary function – to acquaint cadets with the basics and specifics of their future work, but their main aim is to provide cadets with the opportunity to apply the acquired theoretical knowledge in practice.

*Working out and implementation in the pedagogical process of the practical component of the cadet-training program, innovative technologies and teaching methods.*

Innovative technologies of training have their own feature and are always subject to the development of a specific practical direction, in which the achievement of this goal gives a positive result in further work on the ship in the event of dangerous and emergency situations. The introduction of innovations in the content, methods, forms and means of training of marine specialists has been explained, on the one hand, by the growth in the operation of modern generation of new technologies, TIC technologies, automated vessel monitoring, satellite navigation control, electronic - cartographic technology management decisions. require from the command staff of ships a wide range of professional knowledge and overcoming the inertia of thinking in decision-making, and on the other hand – by the need to study in avoidance of dangerous and emergency situations with the introduction of methods of solving situational problems in the educational process.

We should mention that the main task in this context is not only to obtain a certain completion of professional training, but also to develop the practical capabilities of the aircraft, depending on the situation that arises during the ship's voyage. It should also be emphasized that, in contrast to innovative methods and solutions, pedagogical skills, innovative technologies of training have the end result and the ability to reproduce and adjust to the purpose of the future educational process, as pointed out by famous researchers: (*Pidlasy, 2004: 616*), (*Pometun, 2004: 16-25*), (*Pyrozhenko, 2003: 192*), (*Sysojeva, 1999: 25-27*) and others. An important feature of the work of marine professionals is the frequent change of not only the place and area of their professional duties, but also the types of vessels and their equipment, which significantly affects the nature and content of the crew of the vessel serving them. Consequently, the methodological saturation of professional marine specialist training is being changed in:

- the sphere of scientific and practical grounding of the method, given its use in specific conditions associated with the performance of work on the company's vessels;
- the areas of scientific substantiation and practical implementation of a method specific to maritime transport aimed at achieving the results of actions in the event of dangerous and emergency situations;
- the methods of working out actions and decisions that are related to risk, as well as the choice of alternatives, without interfering in the educational process of the teacher;
- the methods of formation of cognitive potential of the specialist of sea branch with mastering of skills of the analysis of the actions and professional possibilities;

- the methods of motivational support of value development, installation and orientation on clear performance of professional duties on the ship;
- the methods, forming a creative approach in solving situations that are classified as dangerous or emergency class and contribute to their detection and identification with subsequent assessment and solution of using the knowledge and skills that are obtained on the training equipment.

*Practical classes on the subjects of the professional course for the first and second year students on a company's training ship and in real production environment.*

The results of the analysis of marine specialist professional training according to the dissertation research (*Gerganov, 2015: 76-77*), proved that cadets receive insufficient theoretical knowledge and do not acquire a sufficient level of skills required by the Convention and the STCW Code. In view of these shortcomings, we must state that educational services do not meet the needs of the ship owner and the labor market. In this direction prevail: preparation to work under the conditions of competition; priority of ship owner requirements for trained and qualified university specialists; change in the programs of professional training of specialists in the maritime industry on new technologies, modern technical means and materials; creation of new seafarers' employment relations between universities and shipping companies and crewing agencies. This, in turn, may be achieved through the introduction of modern pedagogical technologies, flexible forms of training, widespread use of training equipment, as well as the introduction of a lifelong learning system that will provide equal access to education for all categories of citizens in this area.

*Development and implementation of the tasks of the situation – search plane in the training practice of cadets.*

The mechanism, reflecting implementation of the situational searching tasks in the process of future seafarer training, can be represented according to the following model: the assessment of complexity of the given tasks and their successful solving to achieve the requirements of collective and personal safety; disassembly of the reasons or actions which caused this or that dangerous situation; finding ways of optimal and successful way out of the situation. The peculiarity of the situational methods in the process of professional training of marine specialists presuppose:

- sufficient educational and methodological support for the cadets, who are trained in relation to tasks and exercises, as well as have adequate time to get acquainted with and solve problems using situational methods;
- providing cadets with the time to get acquainted with the simulator and its features for solving problems using situational techniques in the process of professional training of marine specialists;
- providing instruction on the situation to achieve the educational purpose and complexity, which will correspond the level of cadet's experience by teachers;
- effective control over the solution of the tasks of the given situation and its support by appropriate language contact and visual observation of the cadet's activity;
- using of criteria for assessing the knowledge of cadets by assessing the actions on the simulator to solve situational problems in accordance with the requirements of the minimum standard of competence demonstrated during the solution of the situation on the ship;
- checking the correctness of the cadet's problem solving to get out of a given situation, which is simulated on the simulator, and its ability to ensure the safety of the crew in a particular sea case.

The educational process using the solution of problems of situational - search plan to practice actions in extreme conditions is carried out in maritime educational institutions, usually through the use of special simulators and training complexes with the appropriate software, which significantly expands the scope of training. Their use also contributes to the

development of those professional abilities that are associated with work in difficult conditions and involve overcoming malfunctions, emergency precedents, and correcting mistakes.

The need to use simulators is can also be explained by the fact that accidents and extreme situations occur relatively rarely and therefore the relevant skills and abilities are not automated in everyday professional activities. In order to observe a positive transfer of professional actions to practical activities after training on the simulator, it is necessary to comply with certain psychological and pedagogical requirements for the design of the simulator, as well as educational and methodological support for the organization of training on it.

In turn, the STCW Convention established requirements for simulators that are used during the seafarer competence assessment period, namely:

- ability to meet the specific objectives of the assessment, which makes it possible to clearly identify the main components of the professional competence of the seafarer;
- operational capabilities of the simulator during the assessment exclude the possibility of error of such equipment;
- behavioral realism, in the process of using the simulator, allows the candidate to use all the acquired professional skills and abilities that correspond to the content of the assessment;
- interface through which the candidate is assessed for professional competence must fully reproduce the environment;
- training equipment in the process of assessment of professional competence should be close to real conditions and include accidents, dangers or emergencies that are related to the training objectives;
- when assessing the results of actions on the simulator, the examiner must monitor, monitor and record the performance of the task for an objective assessment of the work of candidates for diplomas.

It should be noted that the orientation of the educational process at the stages of theoretical and practical training is subject to the development of practical skills and abilities. We may add that the main criterion for the success of the training of qualified specialists in the marine profile is compliance with the requirements of competence in accordance with the STCW Code. At the stage of preliminary study of the simulator, the cadet should get as deep an idea as possible about the functioning of the system with subsystems on the one hand, and models of errors of the produced values or models of faults - on the other.

Practical classes are organized and provided by highly qualified specialists of a shipping company, who once worked on ships of both national and foreign companies (including multinational crews), which allows students to learn more about the peculiarities of working with foreign sailors, Filipinos, Arabs, Turks, Greeks, etc.), their weaknesses and strengths of training during navigation. Some of these practical classes are conducted in professional English, as well as communication between students of courses on various topics. Along with the topics of professional training, the topics of special training are included: struggles for personal survival, firefighting, life raft and boat management, first aid and others, which are held in a specially designated compartment of the vessel. The ship has a classification of all situations that most often occur in the event of equipment failure, and a detailed scheme for troubleshooting during the navigation period.

The professional activity of seafarers has its own specificity, and is characterized not only by certain actions, movements, and techniques, but also psychophysiological phenomena that play a significant role in the communication of the crew in case of danger. Disclosure of the structure and content of these phenomena and self-regulation in the

process of working out tasks on training equipment is a significant addition to maritime professionalism. These include: special psychological readiness of sailors for dangerous situations, resistance to monotony and long manifestation of a high level of vigilance, special psychophysical state of the crew on the bridge and in the team, the state of their ability to work and readiness to perform tasks and the control over their implementation, resistance to extreme stress and overexertion of physical and intellectual strength.

The professional self-regulation of a sailor is also distinguished by the operative adaptation to the new, unexpected, unpredictable, or temporary failures, to risk, danger, and severe responsibility. In practice, a marine specialist uses different abilities that have different psychological load.

Situational – search methods of training in the formation of professional self – regulation require a new approach to ensuring the practical thinking of future sailors from the teaching staff, which makes the latter feel the shortcomings of theoretical training in solving problems of analysis of extreme situations on board the ship. Important conditions in this case are first of all «emancipation» of the teacher and cadets in the decision of problems, formation at them of creative style of practical thinking, observance of professional ethics. In addition, as a sphere of creative approach in overcoming emergency and dangerous situations, it is especially important to move from the practice of «stating the situation and reacting to the next steps» to the practice of «predicting and anticipating» their development, i.e. to move from passive control of shipping safety for the management of safety procedures. This can be realized only with the appropriate adjustment of methods, teaching aids and the introduction of modern training equipment used in the training of the fleet. Organizing the training of ship's crew in the event of fire, flooding, various complications of navigation events, in real conditions during the operation of the vessel, is almost impossible for reasons of safety, or the cost of such training. Training equipment, based on the introduction of modern ICT and the work with the use of situational techniques, the aim of which is to practice the actions of the crewmembers in extreme conditions, complement and functionally agreed with each other, making it possible to form aircraft for various situations provided by the International Convention and the STCW Code.

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