

HOW TO PROVIDE THE QUALITY TRAINING OF SHIPBOARD PERSONNEL

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The problem of quality of maritime professional training is evaluated in the article. The results of research revealing labor functions in which young graduates of Maritime University tend to have difficulties in theory and practice are introduced. Dynamics of professionally important psycho-physiological functions of cadets enrolled to study for the last 9 years has also been presented. The author thinks that unification of efforts of administration and academics at Maritime University, of industry and research personnel is one of the main ways to stabilize the quality of training the cadets.

Keywords: quality of professional training, professional competence, professional psychological selection, psychological follow-up of education process.

The structure of Admiral Nevelskoy Maritime State University (MSU(N)) carrying out the engineering training of shipboard personnel is unique to a large extent because the department of psychology has been incorporated in its structure since 1993. Not only have the training of professionals in accordance with the profile, but scientific research in the field of marine psychology been conducted at this department. Besides, it is necessary to mention the activities carried out by employees of Marine Psychology Research Laboratory that was created on the basis of Professional Selection Laboratory arranged to perform professional and psychological selection for maritime specialties in 1987, namely, 25 years ago.

Therefore, at present the following main trends of current research have been formed at the department:

- professional and psychological selection of applicants for maritime specialties;
- psychognostic follow-up of the educational process;
- research on demand for the university administration;
- research activities ordered by maritime companies and agencies.

Faculty research activities are being carried out as:

- dissertations (PhD and MSc level),
- graduation works by specialists-psychologists, its results forming the basis of budget research ordered by the university administration,
- contracting activity, grants.

Namely, not just professional psychologists who confirmed their qualification level with dissertations but those ones having specialization in the field of labor psychology, engineering psychology and ergonomics, possessing ‘field’ experience in marine psychology work at the department. However, the more serious and large-scale tasks are set for research, the more important is direct cooperation with professors teaching special maritime disciplines and mariners - practitioners. A psychologist is only a process organizer and performer, the whole content aspect is professionals’ responsibility, one can’t do without it. Certainly, the psychologist knows the laws of human psychic functioning, dynamics of development of the group processes, he can analyze and forecast behavior under complex labor circumstances. But no specialist, even with outstanding experience, can take the liberty to evaluate the content aspect of the engineering labor.

Complexity of at-sea research often results from insufficiency of tested, validated and reliable diagnostic facilities, research instruments have to be created in accordance with specific tasks. So, to study graduates’ professional competence of two specialities – of navigators and ship engineers- on the basis of existing international standards, two forms of questionnaires have been developed – one for the level of management, another one for maintenance level. Creation of instruments turned out to be possible thanks to efforts of the expertise group in which representatives of shipboard personnel (8 people) and Captain-Instructor V.P. Serikov of PRISCO shipping company (the city

of Nakhodka); Deputy Chairman of Maritime Qualification Committee, Chief State Inspector V.V. Zubkov; members of Analytical Center of Continuous Education Technologies; Heads and leading professors of principal Chairs - Navigation, Ship Control, Technical Means of Navigation and also the members of MSU(N) Dean offices of Navigation and Ship Engineering Faculties (V.M. Lobastov, M.A. Korshunov, A.V. Vorobyov, A.P. Dombinsky, S.M. Sharlay) were included.

Research was carried out in 2009-2011 by M.S. Sementsov and T.S. Ryabova (35 self-assessment questionnaires, the 73 ones with the expert evaluation for the level of maintenance). According to the results of self-assessment by junior officers and expert evaluation on the part of their seniors, now we know that it is necessary to pay special attention to formation of such labor functions – their theoretical and practical constituents –among the present cadets. They are for navigators: actions in emergency; ensuring of compliance with the legislation requirements; knowledge of principles of work of shipboard power units, methods of its use for rational movement and ship maneuvering; work with ship correspondence; planning and ensuring the safe loading, placement, fastening the cargoes and also its handling during voyages and unloading, carriage of the hazardous cargoes; control for embarkation, stiffness and tension in the hull; arrangement and guidance to render medical help on board; application of first medical aid.

According to results of comparison of data of the expert evaluation and self-assessment by ship engineers, difficulties arise in theory and practice more often in fulfilling such functions as: usage of main power plant and auxiliary mechanisms and related control systems; maintenance of electric equipment, electric apparatus and control systems; understanding maintenance limitations in unforeseen/emergency situations; conduct of maintenance and other documentations, receiving timely information on technical exploitation of shipboard technical aids; fulfillment of requirements of normative and legal documents of Russian and international conventions, orders, rules and instructions valid on board; ability to apply basic knowledge of fundamental and professional disciplines, ability to solve practical tasks of maintenance of shipboard technical aids; skills of development

and use of drawings, instructions, schemes, graphs, diagrams and other professionally important documents; knowledge of control methods and standardization of maintenance indexes, standards of technical service and repair of shipboard technical aids, determination of meanings during the process of maintenance and according to the results of tests; ability to manage shipboard technical aids with the help of traditional automated or computing systems; use of manual tools and measuring devices for dismantling, technical service, repair and assembly of the shipboard power unit and equipment.

Decrease of level of the cadets' direct professional skills, weak knowledge at the examination to receive 'working' diplomas have been long worrying experienced educators, the key faculty personnel. The research results confirm teachers' observations concretizing and differentiating them to a large extent. And employers increasingly express anxiety with the quality of training of the present graduates.

Alas, one can forecast only complication of the professional training situation for the nearest years. The analysis of the diagnostic data of cadets enrolled for study for the last 9 years has resulted in such a conclusion. Psychognostic methods on the basis of which the professional and psychological selection for maritime specialties has been carried out allow us to study psycho-physiological functions directly connected with requirements for operator's activity: reaction speed, reaction accuracy, dynamic eye sight measurement, spatial representations, operative memory, attention, hand-eye reaction. In 2004 members of Marine Psychology Research Laboratory had performed standardization, calculated local standards and determined tolerance groups on the statistically important array of the received results. Therefore the best results belong to the 1st group, the worst, low indexes in two or more methods from the four ones do to the fifth group.

For the last two years an extremely low percent of the first-year students with the 1st and the 2nd tolerance group has been noted: 7,65% during the last enrollment and 2,4% at the previous one. The year of 2004 was the same 'losing' (4,3%). All the rest years witnessed more than 17-25% of the cadets with the 1st and 2nd tolerance groups. At the same time a steadily high percent of the enrolled cadets with the 4th tolerance group (from 13,3 to 45,2 %) has remained, namely of those ones with

the weak formation of necessary psycho-physiological functions. A sure increase among the first-year students of the 5th tolerance group was spotted, namely, the cadets who cannot be recommended for work at sea from the psychological point of view. Again, it is the last two years when their percentage has reached the threatening level.

A paradoxical situation has been set, hasn't it? Educators basically teach as they have been doing before, employers, despite change of the market structure, need qualified and energetic specialists as they have been interested in before, there is a professional body of psychologists who have been conducting research and able to deal with the correction work. But there is an obvious tendency of decline of the level of graduates' training for direct work at sea. We think that we have come to the direct necessity of unification, consolidation of efforts of faculty, administration of maritime departments, employers and science.

At present, MSU(N) administration has already outlined urgent measures to change the arrangements and content of the process of studies. But the employers can make their contribution, too, for example, having returned to the system of practice guidance. Unfortunately, for the last years while conducting research work we sometimes do not get keen response on the part of the employers. It has been revealed not only in decrease of contract orders for research but also in absence of interest on the part of mariners, including those ones using crewing services, in participating in ongoing research activities. Certainly, one can understand ship officers' workload, increasing document flow and the growing number of professional and criminal responsibilities, especially for captains. But the question is who will navigate a ship tomorrow, who will take care of its machinery. Mutual enrichment of content and organizational aspect of the educational process, research and practice can be possible only upon direct interest from all the parties. And this is the world tendency, who else but the mariners know well about it. For example, while developing the promotion courses of training the shipboard personnel the efforts of various specialists are combined – those ones of maritime industry, corporations, maritime administrations, associations of ship owners and not only domestically, but internationally, too.

A human being has always been and still remains a leading but at the same time, a most vulnerable element in increasingly complex technical systems. And due to this fact one can understand a tendency of minimization of the human operator's role designated in the world practice of navigation, namely, creation of more and more advanced machines allowing to perform a continuous control over the ship, her equipment and mechanisms. However, we think that this tendency has its own permissible limits. The human-operator on the bridge and in the engineering department has been performing today and in the foreseeable future will perform his main function of command and control - along with watching and monitoring technical means. It depends on our common efforts how professionally MSU(N) graduates will do this..

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