

# REFRESHER TRAINING IN MARITIME QUALIFICATION

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**Abstract:** Maritime education and training have followed strict regulations since 1978 when the International Convention on Standard of Training, Certification and Watchkeeping was established. Since then, many training courses were developed. The International Maritime Organization divided them in two groups, which are both contents from STCW Part A and Part B. Since the competences in Part A are mandatory for all seafarers and the competences in Part B are recommended, maritime education and training are perceived from the students and trainees in different ways. The refresher training is part of the above problem. The main reason behind the distrustful attitude towards refresher courses as recommended training is the question: “Who has to pay for them?”.

The next problem, which usually arises, concerns the time that the seafarers need to spend for additional training. Both questions make shipping companies cautious in their requirements towards the crewmembers regarding refresher training.

The third problem concerning refresher training is the level of competency of the trainers and instructors. Many seafarers neglect this kind of training just because they have more experience and skills than the instructors do.

The article summarizes the authors experience in the educational and training processes in the field of postgraduate education and training. It analyzes research from questionnaires carried out in different shipping companies with regard to seafarers operating on board of different types of vessels.

## 1. Introduction

The STCW-78 and its amendments made after the IMO's Assembly in Manila in 2010 highlight the issue concerning refresher training of ship crews to the world's maritime community. This subject is not new but until the 27<sup>th</sup> Assembly, this type of training was considered optional. An example is the onboard training, which some ship-owners have been providing to their crews so far. Ship crews are familiar with the Seagull and Videotel training films as:

- Ship security – basic training;
- Transport of dangerous, harmful and hazardous goods;
- Operational use of ECDIS, etc.

Is this form of training effective? Is the acquired knowledge sufficient? Do Seagull, Videotel and other films help improving the crew's qualification enough?

The answers to the questions which onboard training raises are not constant. The reason for this is that there are the multiple factors, which affect the training process of engineers and officers, and there are the merchant interests of ship-owners and charterers.

Hiring qualified officers and engineers is the priority of every ship-owner. Qualification is the set of knowledge and skills used on board in order to ensure the safe navigation of ships carrying out their merchant tasks. The factor called “Qualification” includes:

- Knowledge, acquired during the basic maritime education.
- Skills, acquired during the initial sea practice together with the mandatory post-graduation sea practice.



- Knowledge from qualification courses.
- Knowledge and skills acquired by self-training.

Knowledge and skills alone are not effective, until put into practice. An expression of the qualification of an officer or an engineer is his ability to make decisions adequate to the working environment, the surroundings of the ship and the performed tasks.

The notion of “qualification” has another meaning. From the STCW-78 Convention, it consists of the compulsory knowledge and skills that each seafarer applying for a certificate of competence must acquire and demonstrate. The Convention does not provide guidance on how to acquire knowledge and skills. This issue is solved at a state level.

## **2. Provisions for refresher training**

The immense importance of the human factor in modern shipping is an indisputable fact. Analysis of a number of navigational accidents has lead the investigators to the impact of decisions made by a single person – the Captain, the OOW or the Engineer, to the development of the events.

Highly qualified personnel in the maritime industry are the priority of education and qualification in the maritime training institutes. In his address to the participants in the international assembly of the maritime universities (IAMU) in October 2011, the Secretary-General of the IMO, Efthimios Mitropoulos, stated that the education and the qualification of maritime personnel are of immense importance to the safe operation of ships and preserving maritime environment. The process, according to the secretary-general Mitropoulos, is based on the scientific and academic discipline of creating a bridge between the practical and managing skills of the trainees, and a strict focus on the quality of education.

This statement expresses the official opinion of the IMO, in relation to the place of training and qualification of maritime personnel. The organization supports the critical part of the maritime educational institutes in the development of the maritime industry. Its success is only possible via the close cooperation between all involved – the government, the education, the maritime industry, the seafarers and their families [1].

After the 27<sup>th</sup> assembly of the IMO, the organization added the STCW convention regulations with requirements regarding refreshment training for some types of training. For the officers and engineers of the management and operational level the refresher courses for basic training according to regulations VI/2, VI/3, VI/4 of the convention are mandatory when the period of validity of the competency certificates extends after 2017. Apart from these trainings, the STCW also controls the regulations and the refresher training periods for additional training for officers, engineers and crew of bulkers and passenger ships [2, 3, 4].

Charterers, inspectors and others, who are interested in guaranteeing safe navigation, often require additional and refresher training for seafarers. In the qualification center of the “Navigation” faculty in the Nikola Vaptsarov Naval Academy, several types of refresher training can be acquired:

- Bridge team and resource management
- Ship handling and maneuvering
- Transport of dangerous, harmful and hazardous materials.

The meetings with the participants in the mentioned training courses and their opinions on the offered services gave a reason for the conducting of a questionnaire regarding the necessity and the benefit of refresher training.

## **3. Contents and analysis of the questionnaire**

A questionnaire of 15 questions was filled in, which gathered opinions from 168 participants occupied as officers or engineers. The questions were composed and arranged in such a manner as to create a gradation of the impression from the maritime education – from the general case of elementary maritime education to the personal case of qualification education and refresher training. In addition,

respondents were asked about their position on the ship, the type of ship on which they were sailing and the total years of seagoing service. The survey included the idea of life-long learning, which has begun to gather followers and supporters in many maritime organizations and institutions. More and more companies in the industry are taking steps to apply this type of education to the crews through onboard training, fleet officer meetings and refresher courses.

While seafarers accept onboard training without any particular objections, the seminars and refresher trainings are likely to have certain negative responses, mainly because of the engagement they require during the stay ashore. For every seafarer the holiday is sacred, especially on the first days after signing of a ship. There are not many people who would be willing to sacrifice their time ashore for qualifying activity, especially if they have to take part in courses with themes that are already familiar.

The survey was performed in a period of two months. The participants were involved in short term qualification courses lasting from 2 to 5 days and long-term courses with duration over 5 days:

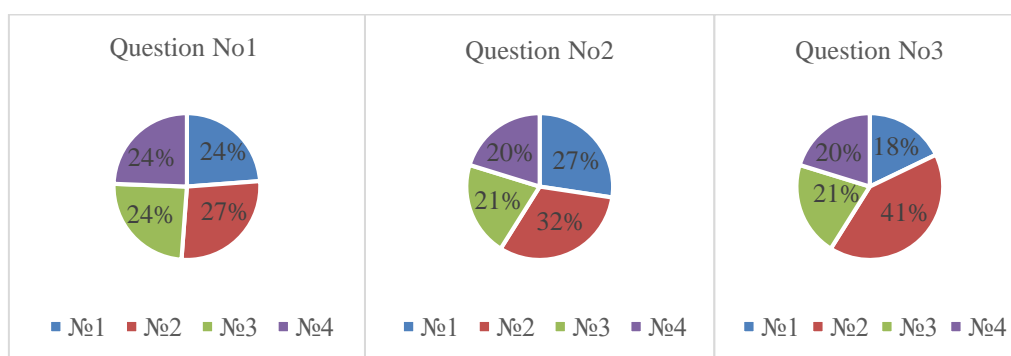
- Bridge team and resource management – 5 days;
- Operational use of ECDIS – 5 days;
- Ship handling and maneuvering – 3 days;
- Transport of dangerous, harmful and hazardous materials – 4 days;
- Maritime environment awareness – 2 days;
- Model course 7.01: Master and Chief Mate – 3 months.

The engineers were involved in only two courses - „Maritime environment awareness“ and „Transport of dangerous, harmful and hazardous materials“.

During the second decade of the 21st century, the Maritime Education System underwent major changes. Its development is obvious and undeniable. The industry, however, requires skills and knowledge, which much more practical from the maritime officers and engineers. This trend set on by the STCW and accepted by the 27<sup>th</sup> Assemble in Manila in 2010, shifted the educational focus towards acquiring and improvement of such knowledge, while theoretical training received a rather supportive role. In this regard, the first set of questions from the survey is directed to primary maritime education. In Table №1 questions are listed along with their response in the form of distractors. The respondents should choose only one answer.

**Table 1 – First group of questions from the survey and the answers to them**

<b>FIRST GROUP OF QUESTIONS</b>	<b>№ 1</b>	<b>№ 2</b>	<b>№ 3</b>	<b>№ 4</b>
1. Do you consider that the education in maritime university is quite enough as vocational education for future ship's officers?	Yes, completely.	Yes, but a periodical refresher training is necessary.	Rather enough.	No, it is definitely not enough.
2. Is there a need for further training for junior officers and management staff?	Yes, it is mandatory for ship officers to have further training	Yes, it would be good to organize such training.	Yes, but maybe without such training	No, it is not necessary.
3. During what period should refresher training be organized for seafarers?	Regularly every year	In the every change and amendment in the major conventions in the shipping	By decision of the shipowner	As long as possible.



**Figure 1** – Answers to questions № 1, 2 and 3 distributed in percentiles

The results from the first two questions showed a hesitant attitude towards maritime education and the possibility of further training. The answers to the third question showed that 82% of the respondents preferred to participate as little as possible in refresher training, or courses that would be organized in the event of change in some of the major conventions. Unfortunately, only 18% of the respondents wished to be involved in annual refresher training.

This contrast of opinions is largely the result of a lack of experienced young officers and a lack of sufficient maritime experience in establishing clear criteria for professionalism. It is logical for young officers who have recently been in an academic environment not to want to return to it again or at least not so soon. On the other hand, senior officers are clearly aware of the knowledge and skills required at sea and of whether they can acquire them at the university or while working aboard. We cannot ignore the differences between the generations that represent these two groups.

Nearly half of the respondents agreed that all innovations and changes to the rules of maritime conventions must be presented to seafarers in some form, but there is no unanimous opinion as to what period this should implement. Today's refresher training practice is three or five years [2, 5]. However, it does not exhaust the opportunities for refresher training. Important and up-to-date information can be presented in other forms and with other modern means.

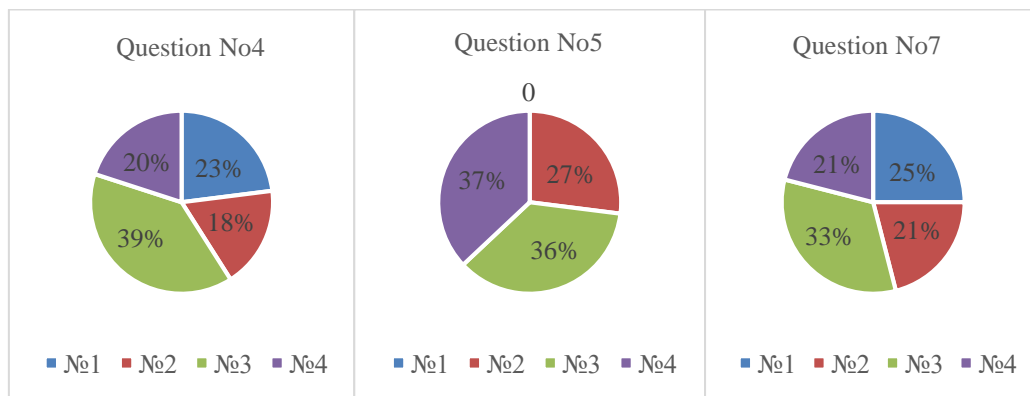
The second group of questions is focused towards the essence of the study - the need for refresher training and qualification, and their structure. The questions with numbers: 4, 8, 9, 11 and 14 allow more than one answer.

**Table 2** – Second group of questions from the survey and the answers to them

SECOND GROUP OF QUESTIONS	№ 1	№ 2	№ 3	№ 4
4. Do you think that refresher courses are necessary in your training activities?	Yes, definitely.	Yes, but maybe without them	Yes, but not for all training courses.	No, these courses are a waste of time.
5. In what period specific courses refresher training should carried out.	Every year	Once every three years	Once every five years	Only if the seagoing service is interrupted.
6. What topics should cover the syllabus of a refresher course?	The whole issue on a given topic.	The only news of the problem, but very detailed.	Balanced information – innovation and the existing rules and	Novelties in the shortest form.

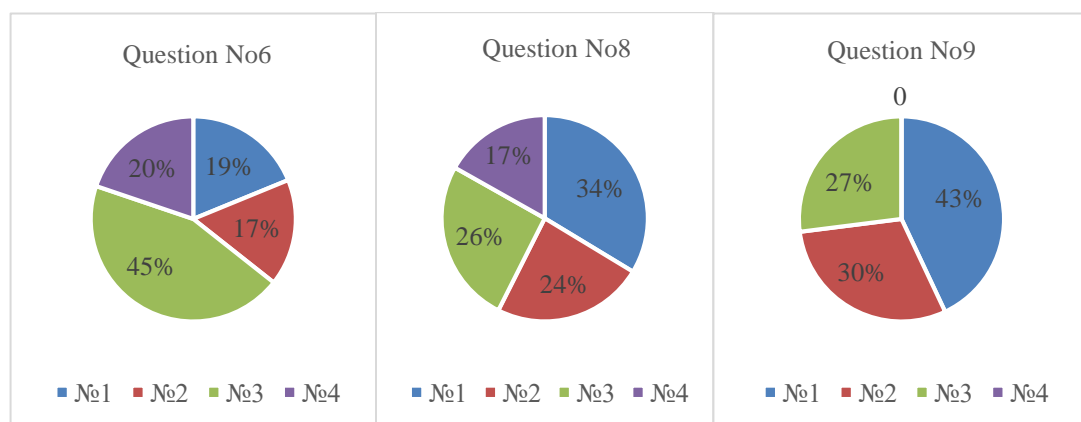
requirements				
7. Do you consider that refreshing should be carried out in the absence of changes in the subject matter of a qualification course?	Yes, the rules are forgotten over the years.	Yes, a Marine Officer should not break up the connection with training institution.	Rather not.	No, once there is not changes, there is no need to refresh the knowledge.
8. Do you consider that each company needs to introduce its own training topics to its officers?	Yes, it is due to specific organization and requirements of the company.	Yes, because it is useful for officers to maintain their level of preparation.	No, the requirements of international maritime legislation are the same for everyone.	No, it is a waste of time.
9. In what format it is appropriate to conduct if a refresher course is required for a particular training.	In specialized institution under the guidance of a lecturer.	On the ship during the contract (onboard training).	Online in internet.	Using literature available in a specialized bookstore.
11. Which topics in the shipping need refresher training?	Topics concerning human factor.	Engineering topics related to innovations in the bridge electronic equipment	Topics related to changes in legislation (conventions and resolutions).	Topics related to new regulations in the shipping.
12. Is it necessary to standardized refresher training?	Yes, according to flag administration requirements.	Yes, according to international regulations	Yes, according to requirements of the company initialized it.	No, the educational institutions determine themselves the way and the syllabus they run.
13. Refresher training should cover:	All ship's crew despite of the type of cargo they carries.	Only the most risky ships caring potentially dangerous goods – tankers, chemical	Passengers ships only.	Vessels for which the ship owner considers that the cargo is potentially dangerous to the crew and the environment.

tankers, gas carriers				
14. If refresher training on human factor in the shipping is to be carried out emphasis should be placed on the syllabus ( please indicate the most important skills in your opinion)	Teamwork.	Decision making skills.	Communication skills	Other (please write)

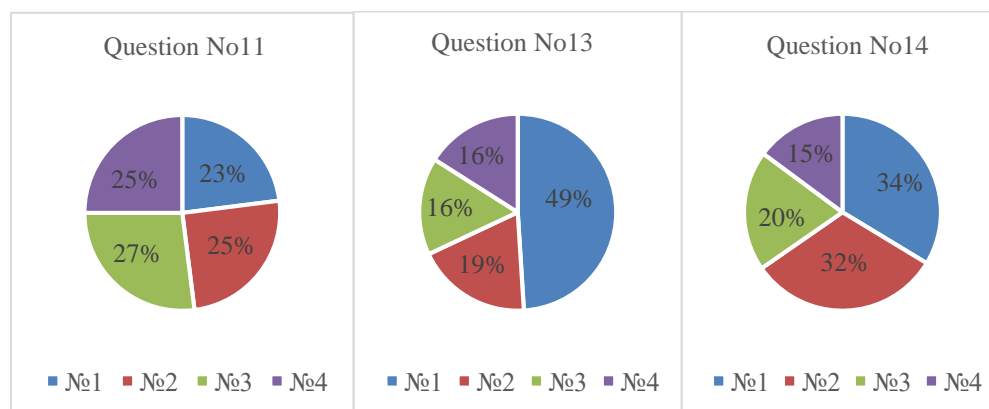


**Figure 2** – Answers to questions 4, 5 and 7 distributed in percentiles

The analysis of questions 4 and 5 shows that 1/5 of the respondents indicated, "Answer No4" ("No, these courses are a waste of time" and "Only if the seagoing service is interrupted"), which is a direct refusal of periodic refreshing knowledge. Here the tendency for young officers to declare a strong denial to post-university education is also retained. It is interesting to note that 78% of those respondents sail aboard bulk carriers, general cargo vessels, yachts and pleasure craft where the risks in the working environment is are relatively small. Officers and engineers who sail to aboard tankers, offshore vessels and passenger ships indicate " Answer No1" and " Answer No3" to Question 4 and " Answer No2" and " Answer No3" to Question No5. Such a positive attitude to post-university studies is probably due to the continuous inspections to which these types of ships are subjected and the raised requirements for the seafarers' competence.



**Figure 3** – Answers to questions 6, 8 and 9 distributed in percentiles



**Figure 4** – Answers to questions 11, 13 and 14 distributed in percentiles

Questions № 6, 7, 8, 9, 11, 13, and 14 cover the topic of refresher trainings, which would be of interest for the process of education throughout the entire life. Almost half of the interviewed, 44.64%, would like better to receive balanced information – innovations and existing rules. About 1/5 of the interviewed prefer receiving the entire information of the topic, and 1/3 of the interviewed would demand only the innovations. Here the profile looks like this:

- The senior officers – 62% of those who chose Answer №3 of question 6, require balanced information.
- The innovations of a topic – junior officers mostly, 68% of those who chose answers №2 and №4 of question 6.

The analysis of the answers of question 9 gave an interesting result. Most of the interviewed chose answer №1. Their opinion is that qualified lecturers should conduct the refresher trainings in a specialized training center. We can reach the conclusion that the live contact and the possibility for a dialogue are the major motives for the participation in refresher training. Sharing experience in solving specific practical issues is an irreplaceable and extremely useful part of the class form of training. This type of training is preferred even to the modern means of training, no matter the fact that in order to attend this type of qualification training sailors have to sacrifice part of their time between contracts, sometimes even away from their families.

Those who preferred the modern means of training – on board and online – are much less. As expected answers № 2 and № 3 were chosen by the junior officers and engineers – 77% of those who support these two types of training. The most common comments of the opponents of the modern means of training are:

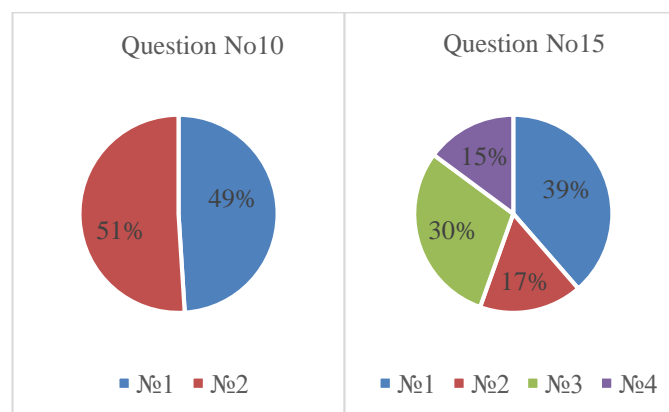
- Unclear questions in the examination part of the training.
- Low level of the presented information for the topic.
- Lack of time for further insight of the issues of the training.
- Absence of live contact with qualified lecturer or instructor.

**Table 3** – Third group of questions from the survey and the answers to them

THIRD GROUP OF QUESTIONS	№1	№2	№3	№4
10. Should state control over the refresher course be implemented?	Yes, as other STCW courses	No, until refresher courses becomes mandatory	-	-



15. Who should pay the participation of an officer in a refresher course?	The shipowner.	The account must be shared between shipowner and the officer.	Depending on the purpose of the course and what document required it – STCW or company rules.	Officer wholly
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**Figure 5** – Answers to questions 10 and 15 distributed in percentiles

In the seafarer's comments regarding the type of training, the question "Who pays for the course?" is present. The worldwide practice for solving this issue is different from ship owners or seafarers or ship owners completely covering the expenses to implementing a voucher system and sharing the cost [5]. This issue is not major one but plays a part in forming the mood and attitude to the refresher training. Besides, providing the charge for training required by the ship-owner is an element of the social policy of the company, and an attainment that stimulates loyalty and dedication to work by the seafarers.

#### 4. CONCLUSION

After the amendments in the STCW in 1995, the maritime community began paying more attention to the training and qualification of the Officers and Engineers on the ships. The Ship-owners are responsible for the hiring of qualified crew. The controlling organizations such as Flag Administrations or Port State Control via their inspections also provide assistance in ensuring that the crew's qualification complies with IMO's requirements. The continued accidents and loss of life at sea are the accelerator of the process of changes in the Maritime Conventions and therefore a stimulus for refresher training for all levels of maritime qualification.

The questionnaire's goal is to express the opinions of the maritime Officers and Engineers about refresher training, its place and role in improving their qualification in the areas of work environment as well as in their social life ashore. The summary of the results shows us that most of the interviewed are positive about the general process of training throughout the entire life, part of which is the refresher training. It is clear that the Officers and Engineers, which work on ships with increased risk, are more likely to spend some of their free time for training and improving their qualification. The questionnaire also shows that when the training is not mandatory by the main regulations of IMO, the participation motivation is harder to reach.

#### References

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- [3] Directive 2008/106/EC on the minimum level of training of seafarers (recast), Official Journal of the European Communities L323 of 3.12.2008 p.33-61.
- [4] Directive 2012/35/EU of the European Parliament and of the Council of 21 November 2012 amending Directive 2008/106/EC on the minimum level of training of seafarers. L343 of 14.12.2012 p.78-105.
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