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# New Tools and Techniques Used to Improve Seafarers' Social and Multicultural Abilities in an Expanding Technological Society

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**Abstract**. Maritime Universities all over the world have the responsibility to train students not only to perform their daily duties according to their job description onboard ships but also to be able to socialize properly with their co-workers when performing duties which involve purely technical skills. Such a task could prove even more difficult because it is directly related to developing social skills and cultural awareness for students while putting into practice the technical knowledge acquired during university studies.

In this paper, we intend to present Constanta Maritime University's (CMU) challenge in the training meant to meet not only STCW 2010 Manila Amendments but also the multitude of social problems which can arise inside a multinational crew along with the continuous development of technology onboard ships. We are going to focus mainly on three different subjects which are part of our university's training when it comes to providing proper social abilities onboard ships along with a correct technical training. Our Navigation Department introduced in the training programme subjects such as "Culture and Multiculturalism" and "Communication Elements Onboard Ships". These two subjects aim precisely at raising future officers' awareness of multicultural crews and the differences which could arise from the technological point of view in what proper social relationships mean in such a situation. A "Leadership" course for master studies is also included in the curricula having as a target to enhance not only social responsibility but also conflict resolution onboard ships especially when such conflicts arise because of technical failures. Even if maritime training institutions' graduates are engineers highly educated in technological subjects, nowadays society requires all crew members to have proper social skills too. Finally, our paper intends not only to emphasise the importance of such studies but also the final outcome which is expected from such changes in our training.

Keywords: Tools, Techniques, Technical Training, Social Responsibility, Technological Development.

#### 1. Introduction

Improving quality in maritime education is very important nowadays considerably influencing the crewing sector. However, maritime education involves high costs therefore investments which could be lowered by providing some complementary technical training for students. Considering the present economic situation worldwide and the obvious decrease in the number of students, maritime universities should try to improve their curricula as much as possible updating it to nowadays

technological development and real situations onboard ships. Training students as close as possible to what happens on board ships is a difficult task for maritime training institutions. Therefore the main issue is if pure technical training is sufficient for them or if another solution could be found for a better training of future officers in order to get them ready for their future career.

Maritime education is not performed only based on simulators and training ships, it is also based on technical and practical subjects which are thought to be the basic request for providing high-level maritime training. This situation, requires the introduction of new subjects whenever necessary trying to prevent the danger of having a reduced number of students at many maritime institutions. These issues compel us to pay more attention to the teaching curricula and adapting it to the latest STCW requirements.

"Rapid evolutions of technologies, increased globalization of information, communication and economy occur. Therefore, it is compulsory for the Maritime Universities to catch up with the technologic advancements and to improve the quality standards in order to remain viable and competitive, to design the education of next generation and to compete with the other universities." [1]

Our university considers both education and research to be essential factors of educational development, and human resources are therefore the main prerequisite for a long time evolution of maritime training. This is the reason why every university should first try to identify, train and develop students' technological and social capacities.

Considering all of the above, we come to the conclusion that traditional practices which were used in teaching are considered to be out-dated in the nowadays technical and cultural situation. Our institution, through all members of the academic community, considers that every university should be an innovative one, having a particular interest for actions which first consider what students need. Therefore we suggest an educational system which would be both modern and flexible one, adapted at all times to new trends in the maritime industry.

#### 2. Training the Apprentices

Constanta Maritime University trains future officers in charge of both navigational and engineering watch, based on the general standards developed by our national Ministry of Education, and on the international standards according to IMO (International Maritime Organisation). Any maritime university in our country has to deal not only with the Ministry of Education, but also with the Romanian Naval Authority evaluating our curricula according to general and specific standards imposed by the International Maritime Organisation and the European Maritime Safety Agency if we want students to graduate with certificates having international recognition.

Our university has all the simulators and laboratories that we consider necessary with software for different specialty disciplines for students from each faculty to benefit from the best technical training before having to go on board ships as cadets. CMU is aiming also at providing training through the specific courses imposed by IMO for trainees in all specialisations as well as counselling those who want to go onboard for training during their university studies. Second year students therefore benefit, besides the technological specific courses, from special courses in Culture and Multiculturalism and Communication Elements Onboard Ships. These two courses have been introduced in the second year right within the period when students also attend the supplementary training which is necessary for them to apply for and receive the seaman's book and the apprentice deck officer certificate.

After the exams which conclude the supplementary training required by IMO, students receive specialized certificates for each training. Every student who has these certificates and passes the medical examinations has the right to obtain the two documents which will enable him to start his career onboard ships. There is a compulsory period of time for training, 12 months actually onboard ship, for any cadet, either from the bridge or engine room for passing the exam for the officer in charge of a navigational or engineering watch certificate which is very important for them. It's their first experience onboard a ship and this is why we consider it to be essential for their future career. Studying a subject such as Culture and Multiculturalism prepares them for their first experience within a multicultural crew helping them to combine technical knowledge with social awareness.

For any young person, being for the first time onboard a ship may be quite challenging so the purpose of such training is to avoid a cultural shock which would add up to the emotional stress involved in the technical repairs which need to be performed onboard ships. Being trained in the other nations' cultural habits may help them to communicate better with the other crew members and to adapt to the different personalities of their co-workers in a purely technical environment. During the courses and seminars taught for this subject students are able to learn the basic information related to the main cultures around the world and to practice multicultural dialogues based on real life situations when performing purely technical jobs onboard ships.

Our university has also created different courses in order to provide continuous theoretical and technical training for our students. Both Bridge Team Management and Engine Team Management trainings are available for them aiming to familiarize them with the specific operations of the specialized systems considering not only the technical issues involved in ships' operation but also the fact that they will be involved in teamwork situations which are very common on board the ships. Such trainings involve drills which simulate both bridge and engine real life situations. The drills are performed under the supervision of an instructor and if necessary a technician who will enable students to familiarise themselves with the equipment and actions specific on the bridge and in the engine room of merchant ships. Students will then be able to identify and properly use the equipment on the bridge or in the engine room not only in normal conditions but also when different problems arise. The simulated exercises become more and more difficult and the trainee acquires some basic experience in order to react correctly when using the above mentioned equipment. Before each exercise there is a briefing informing them of what is about to happen and after each exercise there is a debriefing, in which their reactions and decisions are assessed.

During these drills, each trainee will have the opportunity to get involved according to specific roles for the two main departments onboard a ship and they will also be part of different situations which may arise during a navigational or engineering watch, acknowledging the gradual steps involved according to the hierarchy of that department. These exercises aim at achieving different knowledge for the trainee such as:

- Decision making;
- Bridge and Engine team organisation;
- Acknowledging one's role in the hierarchy of the department being part of a team there;
- Understanding what one has to do in a particular situation;
- Understanding the importance of properly planning, respecting the plan and the schedule for all technical procedures;
  - Proper understanding of what watchkeeping actually means;
- Acquiring some basic experience in spotting the problem and solving it with professionalism.

In order to support the proper development of these courses the Communication Elements Onboard Ship course was introduced for the second year students in navigation and the third year students for engineers besides the Maritime English seminars which also provide communication skills for future cadets. It was considered to be very important for students to acquire the basic rules and patterns for communication with crew members from different countries considering the hierarchical position of each one of them and the specific technical issues which could be the subject of such communication. Students need to be prepared for handling specific situations onboard ships and this is why during seminars they have the opportunity to practice dialogues based on particular operational situations for their department.

The study of multiculturalism is necessarily an effort to enhance the students' knowledge and awareness of the world in which they live and their future work environment. As the world seems to be getting smaller and smaller with the widespread use of technology, the importance of multicultural education for future mariners grows exponentially. Students who will have the opportunity of working in multinational crews need an even better understanding of the similarities and differences between their own cultures and those of the world around them. Likewise, the ever-present reality of conflicts

between nations reinforces the importance of multicultural education as the need for people of varying backgrounds to have a better understanding of one another has international implications for future generations.

Our university also provides a Global Maritime Distress and Safety System Certificate Course – which is meant to familiarize students with the basic technical operations involved in maritime radio communication which is possible by acquiring the correspondent communication techniques used in GMDSS. The aim here is to train students in properly operating the GMDSS equipment which is very important onboard any merchant ship. This training is not only theoretical but also practical, aiming at complying with the requirements of the STCW Code, and specific IMO recommendations.

#### 3. Training Officers

First of all we have to admit that there is a difference between the generations of maritime officers which is due to the inevitable evolution in their education. Nowadays, maritime training institutions use innovative methods in the teaching process based on modern simulators and sophisticated equipment being aware that practical training is also necessary in the future maritime officers' education. Being able to go onboard ships as cadets provides students with the necessary practical training of their technical skills while being supervised by experienced trainers and seafarers.

Since IMO decided for the future maritime officers to comply with the compulsory 12 months training as cadets onboard ships, the fulfilment of this request became an essential part of their education. Before they have the opportunity of actually going onboard a real ship, our students are supported during their studies by being trained on simulators in different areas of their future expertise such as radar navigation and ship handling for future deck cadets and electro mechanics and electro techniques for future engineer cadets.

Therefore, we need to see what happens with trainees after they become officers. Which are their training needs in order to attain the managerial level? Besides the specialty subjects which are studied during the Master Degree studies, maritime officers need to acquire some helpful information for the next level in their career. This is why our university chose to introduce a Leadership course in the Master studies. We consider that master degree students need to acquire such knowledge before they become Chief Officers and Masters later on.

Maritime universities should also consider the multicultural characteristic of most crews onboard ships, a very important aspect for which students should be prepared. Multiculturalism is not only characteristic for crews but also for the entire maritime industry where people of different nationalities have to work together. Most shipping and crewing companies are international due to the fact that they have subsidiaries all over the world for the benefit of their business. For onboard activities, all issues related to multinational crews are complex and this is why maritime training institutions should rely their curricula also on researching the common characteristics and differences between seafarers with diverse cultural background. The purpose for such interest is to help future maritime officers to develop positive relations with their co-workers. For those who will occupy managerial positions later on it is even more important to be able to properly manage a multinational crew. They are the ones who need particular Leadership training before facing the real life issues related to their responsibilities.

Multicultural issues are not easy to manage especially for cadets during their first voyages when they have to deal not only with professional problems but also with people coming from different countries and speaking a different mother language. As previously mentioned, maritime universities should try to be one step ahead of this problem by getting students to acknowledge that they'll have to deal with people coming from all over the world. Being for the first time onboard a ship it would be very useful for cadets to be trained in the specific cultural issues and activities which could arise between crew members providing them with the proper information related to different cultures and nations around the world.

When going onboard ships, our trainees will surely work with people coming from different cultural environments so they have to be prepared for all such situations; they will also be able to

improve their skills in Maritime English and take advantage of the experience of their co-workers all these adding up to the technical knowledge provided in the university.

Our institution aims to increase our students' knowledge according to European's levels of information by making our diplomas compatible with the European ones when it comes to quality in education and the educational fields in our university; we also aim at identifying the requirements of the stakeholders in the field and updating our curricula to their expectations based also on our international experience; further on our university assesses our performance asking feedback both from our trainees and the companies they work for in order to be able to improve the educational process according to their opinions; when it comes to our graduates' future, Constanta Maritime University also tries to get involved in recommending them to all companies we collaborate with; finally we have to emphasise the importance or our partnerships which have as a main purpose precisely to support our graduates making it easier for them to make their first steps in their future career.

We consider therefore that any maritime training institution has to work at all times for continuously updating and improving one's performance, either by making the necessary acquisitions related to simulators or the university's library or by improving the curricula getting it closer to the real life experience of our graduates onboard ships.

#### 4. Conclusions

The general conclusion here is that future maritime officers have to observe not only safety rules but also the international standards when it comes to their daily duties in order to perform their tasks properly onboard ships. And if we talk about standards then we actually refer to STCW which sets the basic conditions for both deck and engineer officers trying to get their certificates and perform their watch duties according to the rules. STCW does not only set minimum standards for crew members, it also regulates shipowners' activity, maritime universities' educational curricula and national maritime administrations' work.

Therefore we consider that nowadays it is important to include all maritime universities' curricula subjects related to multicultural diversity and multinational crews. An emphasis on multicultural activities, communication onboard ships and leadership across the curricula may improve our students' social skills and behaviour. Culture is an important part of any nation's background and understanding cultural differences while paying respect to their coworkers history would prove helpful for cadets going onboard ships for the first time. Such a positive attitude in a maritime university would also prove the appropriate consideration for our students' cultural background.

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