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International Cooperation for Maritime Education and Training

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Abstract

This paper gives a background of MarEdu (Maritime Education) a partnership between Turkish Maritime Education Foundation (TUDEV) and Centre for Factory of the Future (C4FF) and its contributions to the development of MET (Maritime Education and Training) programmes and practices and its role in facilitating other MET and international maritime organisations to cooperate to achieve a common goal. The close cooperation and coordination with national and international counterparts enhances and provides mutual benefits for all concerned parties. European Union projects have become an essential tool in providing a catalyst and the cohesiveness of efforts that focus towards a common goal, providing mutual benefits to all participants. Research projects and common vocational studies play a significant role in improving new methodologies, procedures and techniques.

MarEdu maritime training programmes were developed with the support from the EU and in cooperation with national and international maritime regulatory authorities and also with domestic/international maritime education institutes and maritime organizations. The programmes are screened and approved by respective maritime training institutes and governmental maritime authorities worldwide. MarEdu enjoys cooperation with and recognition from several universities and

MET institutions, accrediting and licensing authorities in the U.K., and in other European Union countries. A summary of MarEdu's partners is presented in www.marifuture.org.

International cooperation enables MarEdu to get benefits from the experiences of other colleagues and institutions which are key elements in improving the current standards in maritime education and training. MarEdu programmes receive external verification from BTEC, NVQ and SVQ, Education Excellence (EDEXCEL) and IMarEST.

The European Union supported projects such as: Safety-on-Sea (SOS) instigated and led by TUDEV, with the participation of different maritime education institutions, is a major study project in improving Maritime Education System in Europe; E-GMDSS and GMDSS VET (e-learning GMDSS); the ongoing Maritime English Language (MarTEL) project has established to develop a systems for the testing/examining of seafarers of their "Maritime English" standard and competency; TRAIN 4Cs I and II (Train for Sea) is an EU Leonardo mobility project which enables transfer of cadets to other MET institutions; MarEng Plus (Maritime English content); SURPASS (counter acting automation failures – led by TUDEV); M'Aider (avoiding and preparing for emergency situations) and EBDIG (Boat Design innovations) are making good progress too. MarTEL Plus (development of Maritime English Standards for Ratings); CAPTAINS (developing innovative tools for Maritime English) and Sail Ahead (To provide an opportunity for seafarers' to find jobs on shore) are expected to make a major impact. The new initiative, MariFuture by MarEdu, has led to the establishment of a network of innovative MET centres in Europe. All these projects proved the benefits and the importance of international cooperation and provided fruitful results. The on-going success of these projects had led to new projects such as UniMET (Consolidated MET). The paper intends to widen the participation in EU funded projects in European MET institutions and bring innovative maritime organisations to support MET programmes and provisions.

Key words: *Maritime Education and Training, Cooperation for MET*

1. Introduction

The world merchant fleet is improving both in quality and quantity to meet the demands and requirements of the shipping industry. The growing numbers of the ships transiting throughout the waterways and in open seas are increasing. As a consequence, the level and the extent of automation and human element in the use of automation have also increased for both economic and efficient use of well qualified and competent manpower. Sensitivity of the world's marine environment enforces all concerned parties to take necessary measures for marine pollution. It is now clearly understood that to ensure safety at sea, in addition to technical measures, the studies on human element are also deemed necessary. However, the world is still facing shortage of qualified and efficient officers. This shortage of officers is likely to severely affect the future of shipping. The International Maritime Organization (IMO) in cooperation with maritime community has started 'Go to Sea' initiative to overcome the lack of the qualified seafarers' problem. Furthermore, with the application of new and advanced technologies, ship crews are kept to minimum levels. Therefore highly qualified seafarers are required to run these advanced ships.

IMO has revised the standard of education and training for officers and ratings (STCW) to improve the quality of maritime education and training (MET). The MET institutions need to implement the new requirements stated in the STCW 78 (10). Many countries have initiated studies to implement the revised standards. Not only governments but all the interested parties in the maritime community are also very keen to incorporate recent changes made by IMO in the STCW to establish an effective MET system. These new changes in the STCW have triggered the international cooperation in MET research and development. MET associations such as IMLA and IAMU are supporting the implementation of these recent changes through their conference programmes and in disseminating the implications for MET institutions. Many organizations such as MarEdu, GlobalMET are also very active and engaged in consolidated cooperation in supporting the revision of MET practices through review of existing arrangements. The international cooperation has provided mutual support, information sharing and has led to the development of several new courses and novel tools.

Globalisation has emerged as one of the most powerful socio-economic and political forces shaping the world today. Shipping has for a long time been recognised as one of the strong catalyst of socio – economic development. International trade has become increasingly important part of the global economy. More than 80 percent of trade travels by ships. With the rapid growth of globalisation in world maritime trade, standardisation of maritime education and training have become more important to achieve better service quality. The impact of globalisation on shipping has been most phenomenal. International and regional cooperation and integration has become a policy instrument for attaining accelerating economic development all over the world.

It is clearly understood that cooperation provides benefit for all and the exchange of knowledge among nations and improves quality of work in different fields. Establishment of European Union (EU) has led to a new manner of cooperation. The EU projects became a fruitful tool to reinforce collaboration among member states for transfer of experiences to improve new solutions. Enhanced number of participants elicited better results.

The BIMCO/ISF Manpower Update at 2005 in particular, drew the attention of maritime industry on seafarer's shortage for officers. International Maritime Organization (IMO) report prepared in cooperation with maritime community concerning shortage of manpower has started 'Go to Sea' initiative to overcome lack of the qualified seafarers' problem. BIMCO/ISF Manpower 2010 Update has mentioned that 'the current estimate of worldwide demand for seafarers in 2010 is **637, 000 officers** and **747, 000 rating**' and alerted all parties concerned the critical manpower shortage expected in shipping for the next decade.

Regarding maritime education and training, previous researches have been very helpful. The IMO report (MSC, 2006) identified three major deficiencies:

- that the STCW is the minimum requirement and not the desirable criteria
- there are failures due to automation on board vessels and
- there is compelling evidence that deficiencies in English language competences are a cause for concern (Ziarati, 2006).

The STCW has been revised in 2010, the amendments, to be known as “The Manila amendments to the STCW Convention and Code” are set to enter into force on 1 January 2012 under the tacit acceptance procedure. It is aimed at bringing the Convention and Code up to date with the developments since they were initially adopted in 1978 and further revised in 1995; and to enable them to address issues that are anticipated to emerge in the foreseeable future.

There are a number of important changes to each chapter of the Convention and Code, as follows:

- Improved measures to prevent fraudulent practices associated with certificates of competency and strengthen the evaluation process (monitoring of Parties’ compliance with the Convention);
- Revised requirements on hours of work and rest and new requirements for the prevention of drug and alcohol abuse, as well as updated standards relating to medical fitness standards for seafarers;
- New certification requirements for able seafarers;
- New requirements relating to training in modern technology such as electronic charts and information systems (ECDIS);
- New requirements for marine environment awareness training and training in leadership and teamwork;
- New training and certification requirements for electro-technical officers;
- Updating of competence requirements for personnel serving on board all types of tankers, including new requirements for personnel serving on liquefied gas tankers;
- New requirements for security training, as well as provisions to ensure that seafarers are properly trained to cope if their ship comes under attack by pirates;
- Introduction of modern training methodology including distance learning and web-based learning;
- New training guidance for personnel serving on board ships operating in polar waters; and
- New training guidance for personnel operating Dynamic Positioning Systems.

The changes on the STCW significantly affect the MET. The MET communities have already started to redesign their education programmes and systems to meet the new requirements. These efforts together with multinational cooperation are supported in different parts of the world. For instance, Global-MET is working on the subject in Asia-Pacific Area when the MET community in Europe and MarEdu are working on UniMET projects to achieve the same goal.

2. Why we need international cooperation?

Sea transportation is an international activity, so the crew should be educated on the basis of international rules and regulations. Transportation cannot be supported only with national education methods and all parties need to improve their MET with mutual support from others.

The manning of multinational crew in ships is a reality and this application is gradually wide spreading. We can solve these problems by providing standardization at MET and the best way to achieve standardization and to succeed is by coordination and cooperation amongst training institutes. We have not achieved standardization of MET as yet. Unfortunately, there are some nations who do not have sufficient experience on MET. The best way to ensure a quality MET is

to provide assistance to those nations by sharing experiences. International cooperation is the key to create a standardized system of maritime education to ensure safety at sea.

Internet facilitates application of distance learning allows a large number of learners to gain knowledge in different parts of the world at their own convenience. The distance learning has a significant tool to meet increasing education and training requirements when STCW 78(10) will be effective.

The standardization of Maritime English, simulator training, training aids and material have priority to meet the new STCW requirements. It is certainly understood that all the STCW signatories need to start their cooperation on these issues to ensure the full application of new rules.

3. Conceptual approach

Innovative concepts of marine education, a shift from knowledge-based to a competency-based training, and the need for constant professional updating and recertification have brought maritime training institutions out from under the shadows of the maritime administration and industry; now they must assume an equal partnership rather than simply reacting to the others' demands (Ziarati, 2006). MET planners should meet the STCW's requirements rather than trying to meet different and sometimes conflicting requests from maritime administrations, industry and academics. To achieve that goal all MET experts in the different parts of the world should establish cooperation and coordination links to get benefit from the other colleagues. This will facilitate the work and eliminate the probable mistakes and misunderstandings.

The posture of the merchant fleet has been changed with the introduction of sophisticated ships design techniques on board the ships. This improvement caused additional education and training requirements to support highly specialised maritime operations. The development of advanced navigational technologies specialised and professional transportation technologies, pollution prevention technologies and regulations were considered important for inclusion into the seafarers' competency standards. To meet these requirements maritime community needed to review competences (skills, training, selection, instruction and supervision) of seafarers at all level (CHSS, 2006). This approach led to the change of the STCW 78 at Manila Conference in 2010.

MET planners generally work on the programmes (syllabi) rather than other essential elements of the MET system such as standards of teaching staff, facilities and equipment which have a strong influence for the success of programmes. Although the STCW covers these issues to a degree but it is not satisfactory yet and it needs more research and study.

The STCW is the bible of MET, SOLAS, MARPOL where the ILO regulations are the key elements which regulate most of the changes to seafarers' qualification requirements. The SOLAS and MARPOL regulations change more rapidly and frequently rather than the STCW. Inclusion of these requirements in the STCW takes time and this situation causes delay for reflecting current requirements into qualification standards. To overcome this delay it is important to establish a link between the STCW and SOLAS, MARPOL, ILO study groups. As far as the study groups are concerned, not only the IMO but other significant organizations such as EMSA's (European Maritime Safety Agency) contribution should also be taken into account.

The STCW covers the general requirements for competence but not in detail. So, further study is required to define skills, training, selection, instruction and supervision principles and detailed programmes for each level to meet the required standards. It is a huge work and needs long duration studies and excessive man power. Best way to achieve such a mission and to achieve the feasible solution is to create the cooperation and coordination with other nations and related organizations. The international projects become a suitable tool to provide mutual support for researchers in different parts of the world.

4. International met projects

Having a common goal, the European Union has an advantage to encourage and initiate union-wide projects with the participation of member and also adjacent countries..

EU Commission has submitted and supported many EU projects in support of vocational education and training including MET. Not only the member countries but also other countries in the participation process could get benefit from these projects.

MarEdu and specifically TUDEV had participated in many EU projects and benefitted from them *to improve the Turkish Maritime shipping to be in the level of advanced countries to improve our country's economic strength, prosperity and the efficiency of maritime policies.*

MarEdu with support from TUDEV initiated several major EU funded projects related to maritime vocational training courses and leading to recognised international accreditation. These projects are;

SOS – To improve and to provide an internationally recognized MET in EU

E-GMDSS (SRC) – To develop e-learning system for GMDSS SRC (Short Range Communication) operators

MarTEL – To provide Maritime English Tests in line with STCW requirements

TRAIN 4C I and II – To provide mobility for cadets in support of SOS project.

SURPASS – To improve training programmes to reduce casualties due to automated system on board the ships

M'AIDER – To improve accident scenarios for training programmes to reduce casualties

EBDIG – To adopt innovations in automotive industry in small boat design

The focus of these projects have been primarily on the staff development through seeking support from the EU to develop consortia for joint programme and resource developments either to underpin or to support a given programme and/or its delivery. The staff development programmes so far have involved over 185 visits to other partner centres and attendance at major maritime conferences and scholarly events.

There are also several new EU projects, 2010-2013, initiated or supported by MarEdu. These new and the existing EU projects were secured through hard work against tough competition. The MarEdu partners are willing to continue their good work and have proposed several proposals within the newly formed MariFuture platform to realise the intended future map. The network is expected to be involved in a continuous programme of research and development.

Newly approved EU funded projects are:

SAIL AHEAD – To provide opportunities for captains to find job onshore. Value 385, 000 EUR.

CAPTAINS – To develop content and scenarios for **MarTEL plus** Maritime English Standards, www.captains.pro. Value 390, 000 EUR.

MarTEL Plus – To develop Maritime Standards for Ratings, www.martel.pro Value 400, 000 EUR.

UniMET – To build on the success of SOS and TRAIN 4Cs Projects to reduce variability in MET, Value 400, 000 www.unimet.pro (Under construction).

EU Maritime Projects also creates a perfect cooperation platform and networking for maritime community including shipping companies and training centres and other relevant educational establishments. Such an effective cooperation between European maritime and MET institutions for upgrading seafarers' competences and adapting requirements to the prerequisites of today's shipping industry. Wider collaboration in the form of exchange of students and developing and sharing courses as well as establishing joint facilities is the key element to such fruitful

collaboration. E-learning/virtual learning including video conferencing is the ideal ways to facilitate the access to such courses and knowledge enhancing activities (MariFuture, 2010). E-learning is a very useful tool for the learners who are not able to reach education facilities due to working conditions, especially for the people working at sea.

Partnership of training institutions and the industry partners towards establishing ‘maritime certificates of excellence’ (European maritime postgraduate courses), may well go further than the STCW requirements. This cooperation will create good collaboration as well as cost savings. This will provide the environment for companies to follow good practices from each other. (Mari Future, 2010).

It is strongly believed that partnership of the maritime industry into European Union projects in support of maritime education and training will help to achieve the aim and objectives of all concerned bodies for qualified and efficient manpower. If the same practise can be achieved in the other parts of the world, the maritime community will get a huge benefit from it and finally this development will support our efforts to improve ‘Safety at Sea’.

5. Conclusions

The aim is to improve maritime education and training systems and to have a high quality and more unified maritime education and training system for the World maritime community.

There are several important issues that still need to be resolved for the successful and up-to-date delivery of MET programmes. One of the important requirements, inter alia, is that of the English Language which poses for some non-English speaking maritime nations a daunting task. English is the Maritime Language and understandably crucial in the avoidance of near-miss or accident situations at sea. TÜDEV, played and is playing an important role in the development of Maritime English Standards by its active participation in the development and writing of the MarTEL project.

The STCW, in 2010, has been revised in response to many changes in technology – navigation and engineering. The revised STCW will have a profound effect on MET for its successful and profitable ongoing management, developments and operations affecting all sectors of future maritime industries. Despite these efforts there are no mechanisms for monitoring how these standards are being applied. European Maritime Safety Agency (EMSA) has started to monitor STCW compliance, however, many VET providers have been found not to follow these requirements. It is evident that there is a need for raising awareness of standardised uniform system of Maritime Education and Training across EU and transferring these good practices with the ultimate aim of improving the level of safety at sea world-wide.

MarEdu has developed new projects such as SURPASS (concerning Automation) and SOS II (regarding Emergency Situations) with support from several major MET institutions in the EU.

The primary purpose is to provide a single unified voice of the Marine Education and training and give the member METs the opportunity to enhance their national recognition while meeting the current and future performance improvement requirements of the STCW.

MarEdu’s mission is therefore is to:

- Create and maintain as an organization of maritime educators that conduct Maritime educational and licensing courses in a responsible and professional manner that meet the standards established by the IMO.
- As a unified member of MET, provide a strong articulate voice to the MCA concerning marine licensing, education and regulatory issues that affect the quality of sea farers.
- As a MET centre, foster professional relationships with member and other professional organizations, welcome new participants and always support the educational needs of the professional merchant mariner.

- Assist in establishing a link between the STCW and SOLAS, MARPOL, ILO study groups while considering IMO and EMSA's (European Maritime Safety Agency) contributions.
- Assist in establishing partnership of training institutions and the industry partners towards establishing 'maritime certificates of excellence'.

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