Containerisation of MET- Moving Towards a Global Maritime Education System

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Abstract: In order to be relevant and efficient, Maritime Education and Training (MET) has to constantly evolve to meet changing industry and social demands that are influenced by many factors including development of technology, cost to industry and MET institutions, changes in legislation for safety, security requirements, and environmental concerns, etc.

Although International Maritime Organisation (IMO) continues to play an active role in prescribing the competencies and standards for training and certification of seafarers through various conventions and associated national legislation, the shipping world is yet to implement a comprehensive and uniform global standard for MET. There are many factors that contribute to this discrepancy in standards across the maritime world, including:

- varying education backgrounds of seafarers from different countries and regions;
- cultural, ethnic and demographical diversities of seafarers;
- affordability of MET facilities; and
- reluctance to break away from the deep rooted traditions and practices.

This paper explores the above issues across the regions and looks into strategies to standardise MET across the maritime world, with parallels drawn with the aviation industry standards and practices. Interestingly, it is noted that the maritime industry is able to standardise practices across boundaries in operations, such as the containerisation of break bulk cargo that revolutionised cargo operations, significantly improving speed, efficiency and safety.

A similar approach is discussed, referred to as the ‘Containerisation of MET’ in an attempt to unify the standards and processes inherent to maritime education, training and assessment to achieve one global standard. Although the proposed containerisation of MET would take a few years to achieve its goal worldwide, if properly designed and implemented will result in globalising MET, providing seafarers with the:

- ability to study modules in locations anywhere around the world;
- complete modules while sailing, without adverse downtime; and
- appear for assessments anywhere in the world.

The benefits for the respective certification authorities are that the results of assessments will be accessible and accepted by all participating institutions through secure web based portals and the certificates issued will be verified by each administration through Port State Control MOU’s.

Keywords: Maritime Education and Training, Seafarer Training, Global Standards.

1. Introduction

To be successful and to meet the demands of a changing world, all facets of education has to evolve. It could be argued that this has never been more important than in the current environment, where rapidly changing economic and social demands and significant developments in technology heavily influence
the educational outcomes and the delivery methodology. This is true irrespective of whether the education programmes are technical, non-technical, or specialised such as within the maritime discipline. A salient feature of Maritime Education and Training (MET) is that it comprises of a broad and significantly large curriculum that has to be delivered to seafarers over a short period of time, sandwiched between periods of time at sea. The delivery of the large spectrum of knowledge and skills required is hampered by a mix of old and traditional delivery and assessment strategies with modern concepts, exacerbated by varying standards and methods across the different nations and regions [1][2].

Today’s industry finds seafarers working on vessels with diverse technology that can span from five days to five decades in age, and adhering to systems and practices that vary between operators and nations. In this backdrop it is difficult to prescribe a ‘one size fits all’ curriculum. Over the years the International Maritime Organisation (IMO) has been very careful when prescribing the competencies in the Standards of Training, Certification and Watchkeeping convention (STCW 1995 and 2010) Code tables and model courses 7.01 to 7.04. The syllabi were more generic than specific and IMO was cautious in suggesting it as a guideline rather than a prescription [3]. This position was meant to assist the administrations to adopt their own syllabi, training programmes, and assessment criteria in MET conforming to the guidelines provided. However, it also can result in the different authorities and institutions interpreting the standards and qualifications differently.

The 1995 amendments to the STCW convention (STCW, ’95), brought the requirement for countries to be in the IMO ‘white list’[2]. At first glance it was assumed that the step taken by IMO was towards a global standard in MET. However, the countries within the white list were not required to recognise each other’s Certificates of Competency (CoC’s) due to the methodologies adopted by member states to conduct MET and assessment of seafarers. This further widened the gap in MET across the world, and many nations continued to conduct their education and assessment programmes with a domestic focus and in many cases with very little changes to traditional practices.

There were further factors for member states to continue their traditional MET practices with very little changes, such as:

- varying education backgrounds of seafarers from different countries and regions;
- cultural, ethnic, and demographical diversities of seafarers;
- affordability of MET facilities; and
- reluctance to break away from deep rooted traditions and practices.

2. The requirement for global standard

The requirement for unified global standard for MET stems from the requirement of shipping companies for seafarers to obtain their qualifications through a flexible system that provides for shorter and cheaper training options that will produce competent seafarers at a lower cost and be more conducive to international shipping schedules. This is especially so for company sponsored seafarers, as their training costs and time is a direct expense to the company. From the viewpoint of the self-funded seafarer, the requirements are similar although the reasons can differ as they need to spend less money and time away from their families while obtaining their qualifications and be available on the relatively competitive job market for their next opportunity. In this context a major hindrance to seafarers and shipping companies alike in achieving these objectives is the non-recognition of their prior learning completed in different MET institute across different flag state administrations.

Although shipping is global in every sense, it is yet to have a global system to provide flexible and globally recognised seafarer qualifications. The flag state administrations and MET institutions together with other stakeholders determine the standards of qualifications for seafarers, which may not necessarily be global. The differences becomes apparent when seafarers seek to obtain their qualifications from a number countries, for example obtaining their CoCs from different countries as they progressed through their careers. This occurs when seafarers migrate between countries or are required to seek qualifications from other countries due to limitations in their own flag state qualification.
structure, (i.e. non-offering of management level CoCs), location of their employers company and the route of their vessels, or attainment of higher qualifications and pathways.

In extreme cases, some state administrations are not willing to accept any of the prior qualifications the seafarers had obtained from other jurisdictions, although they would be recognised on the IMO white list. Unfortunately, the IMO itself provides the justification for countries to adopt such a position by declaring in the regulations, that the training provided by a MET institution should be, “…approved, administered, supervised and monitored by the same administration to be accepted as valid” [4]. This inference enables an administration to consider any qualification or associated education and training done outside their jurisdiction as unacceptable, requiring the applicants to redo the qualification or the relevant components, although the training and assessment regimes in the two jurisdictions could be very similar. From the viewpoint of the administration, they are adhering to the regulation. However, this leads to many difficulties to the seafarers and their employers, who will need to spend more time and money to qualify to the level required, irrespective of the qualifications they possess.

Coupled with the above administrative implication, the dissimilarity of the relevant MET curriculum and the delivery and assessment strategies across different countries contribute to the non-acceptance of each other’s qualifications or associated learning. In most cases it is difficult to map the curriculum and syllabi of two different nations and the training programmes and qualifications themselves may have totally different structures.

Although the STCW 95 amendments clearly spelt out the levels of responsibility and associated functions for each level of responsibility, there is little information on entry requirements. Thus, MET institutions in different jurisdictions adopted diverse entry points for school leavers embarking on seafaring careers to suit their own needs, requirements, and internal influences. In essence, the MET structures, curriculum and assessment methodologies have evolved within each jurisdiction, that many now have significantly differences between them.

Although the different jurisdictions are reluctant to recognise each other’s qualifications, the shipping companies that hire multi-national crew do so very successfully with seafarers holding CoC’s from different jurisdictions. This implies that the IMO white list is working at the exit level with regard to the competencies attained by seafarers, although the administrations may be reluctant to accept each other’s training and education programmes.

A quick look at the crew list of a ship with a multi-national crew would clearly show the diversity of the crew’s background and their training, education, and qualifications. It is typical for a ship to have a mix of officers from Western and Eastern Europe, the Subcontinent, Asia, South America, and Africa, with each officer trained under their own MET system and qualified under their own state administration. Although the qualifications may come from different continents with different MET structures and curriculum, the final outcome is that they run the ship to the satisfaction of all stakeholders.

It can be debated that although the different administrations have adopted their own structure and curriculum, the individual processes guided by the standards outlined in the STCW code to meet the stipulated white list requirements, results in a similar end product, i.e. competent seafarers that meet the needs of the industry. This begs the question, why the global maritime industry does not adopt a unified curriculum to produce competent seafarers that are recognised across nations.

This is similar to that practised within aviation industry. It is true that the bulk of the commercial aircrafts belong to few makes and categories making it easier for the aviation industry to have a uniform global standard. However, even in the aviation industry, despite attempts to harmonise the requirements between nations, the differences in certification practices and standards from place to place serve to limit full international validity of the national qualifications [5]. On the other hand, ships are quite diverse in comparison with aircrafts and can be argued, that the existence of different standards as inevitable.
However, as per IMO STCW Code, all merchant ships require personnel to be qualified in the same seven functions to operate a vessel safely and efficiently. These functions are:

- Navigation
- Cargo handling and stowage
- Controlling the operation and care of the ship
- Marine Engineering
- Electrical, electronics and control engineering
- Maintenance and repair
- Radio communications [6].

When considering different types of ships, the only difference comes in the cargo handling function. The other six functions remain the same for all ships immaterial of what they carry or where they trade except under special conditions such as operations in polar waters. This further strengthens the case to adopt a uniform global standard and a structure for MET.

3. Proposed Approach

The proposed approach is based on three main factors, which needs to be embraced worldwide:

- MET structure and curriculum is similar for all administrations
- The education and training is carried out in specific unit modules, which will be similar for all countries.
- Assessment methodology is similar for all administrations.

4. The Containerisation analogy

The strategy of this new approach can be compared with or analogues with the containerisation of cargo in the seventies. Before containers were introduced to carry cargo, break bulk cargo was loaded into and discharged out of cargo holds of ships using cargo nets, pallets, cranes and/or derricks. This necessarily required manual labour for storing and moving cargo, which took considerable amounts of time. On average a 20,000 GRT cargo ship of yesteryear would take anywhere between three to four weeks to completely discharge and then load a full load of cargo while in port, which could further extend in adverse weather conditions. Today a similar capacity container ship with around 1500 containers will take only two and half days or less to do the same cargo operation, with very little interruption due to the weather, unless encountering severe conditions [7].

Containerisation enabled the pre-stuffing of break bulk cargo into containers, speeding up the transfer of the cargo to the ship’s location, easy pre-storage in close proximity to the ship, and quick loading of them into the ship, and stacking them in specified bays and tiers to enable easy and structured subsequent movement of the cargo. These ships normally berth in terminals with large gantry cranes, which can move cargo at a much faster rate than the previous cargo cranes and derricks. The movement of containers on land is also made easy with a combinations of gantries, shifters, stackers, trucks, and trains. The cargo was unpacked only when they reached their final destination.

The proposed MET unit module will be like containers, with a specific amount of material for the students to learn and be assessed on. The MET institutions can deliver these modules through face-to-face, distance, or blended delivery strategies. There are many ways in which seafarers can obtain their education, one being through e-learning using modern information and communications technology (ICT) assisted learning practised in many MET institutions [8] [9].

The assessment process will require approved centres or locations in strategic points across the world (similar to container ports with gantries) to carry out assessment when a seafarer wishes to appear for his assessment. These centres can utilise modern communication technology such as the internet, common web portals, and share points to enable consistency, validity and reliability [10] [11][12].
A seafarer should be able to get a module to study and appear for the assessment at any approved centre. The assessment does not have to be overseen by the same administration from where the study module was obtained from. The results can be handled by a worldwide data base similar to the port state control web portals for various Memorandum of Understanding’s (MoU’s).

Seafarers can collect the modules necessary for certification from various administrations and gradually complete the required assessments at the various portals. This will prepare them for the final assessment which can be completed anywhere in the world. The certificate can be issued by the administration conducting the orals, making sure that the candidate has collected all the necessary modules and completed the final assessment.

5. The challenges ahead

As this proposed maritime education, training, assessment, and certification system will operate under a single umbrella framework, it will evoke various reactions from parties to the STCW convention. Thus, these will need to be addressed through active dialogue and negotiations. The final outcome needs to satisfy all parties of its authenticity, transparency, and the fairness of the process, which will guarantee acceptance by the stakeholders and the competence of the end product.

The challenges for the proposed containerisation of MET requires:

- Universally accepted curriculum
- Development of modules with learning material for all three major forms of delivery
- Development of relevant, reliable, and authentic assessment tools
- Establishment of a protected web portal and share points for each administration

In such a context, an organisation, such as the IAMU, needs to take the lead role in developing and championing this proposal. Further, the IMO or a nominee needs to play the role of the overseer and establish a process to audit the MET institutions/administrations who take part in education, training, assessment of seafarers and the end product.

6. Conclusion

The containerisation of cargo was made possible by adopting specific sizes of containers; i.e. 20 foot and 40 foot containers, thus enabling the ease of stacking and transportation. Further they are handled by respective spreaders, gantries, and other transportation equipment, standards and practices, which are universal. The logistics involved in container movement and trans-shipment also follow the same global standards and procedures. Over the past 40 years containerisation of break bulk cargo completely transformed the world shipping into a very efficient phase with mega ships and hub ports.

A similar approach is proposed for MET, with key institutions functioning as learning providers and ‘education / assessment hubs’ in various parts of the world. Seafarers can then obtain their qualifications at their own pace, with a choice of different learning styles.

Assessments would be standardised and controlled through the protected web portals, ensuring consistent, reliable, and validated assessments that have been tried and tested to the satisfaction of the maritime community. This will ensure quality, accountability, and easy transferability across jurisdictions, with information stored on and accessed from a secure global database.

However, this will require a collective approach to be implemented and succeed. It will need an organisation such as the IAMU to lobby for such change and lead the development. It will need the administrations across the regions the willingness to share with and accommodate others. Once achieved, it will provide seafarers and their employers with a flexible and robust education, training, and certification framework.
References


