

IMPROVING SAFETY AT SEA AND PORTS BY DEVELOPING STANDARDS FOR MARITIME ENGLISH

¹ Martin Ziarati, ² Reza Ziarati and ¹ Bahar Calbas ¹ Lena Moussly

¹ Centre for Factories of the Future, UK
Enterprise Centre
University of Coventry Techno Centre
Puma Way
Tel: ++44 2476 23734
E-mail: martin_ziarati@c4ff.co.uk

² Piri Reis University, TR
Tuzla İstasyon Mah.,
Hacıoğlu Sok., 34940.
Tuzla, İstanbul,
Tel: 0216 4470079
rziarati@tudevedu.tr

Abstract

There are no international or European standards for Maritime English other than the existing English language standards and maritime English model courses such as International Maritime Organisation's (IMO) SMCP (Standard Maritime Communication Phrases, 2001). Review of the arguments from the recent IMO meetings (IMO MSC, 2006) considering MSC 82/15/2 and MSC 82/15/3 had identified that 'there is a compelling need to promote a high level of working maritime English language skills'. Several EU member states have invited STW sub-committee to consider how the requirements in the STCW-Code can be strengthened in this connection.

A transnational project team composed of some eight European countries, funded through the EU Leonardo programme, was established to identify the need for such standards. The research work to date has clearly indicated that communication failures are a major cause of many accidents and incidents. The core of the communication failures was found to be lack of skills in use of maritime English by seafarers of various types and ranks. The need analysis elucidated that different types of seafarer require a different set of English language skills at varying level of competency and that at higher ranks a greater level of competency is required.

The next task was to find out exactly what skills and at what skill levels the standards should be developed for each and every type of seafarer. This task was followed by the development of methods and methodologies for the identified and the intended standards.

This paper reports on a major European Union Leonardo funded project established to develop standards and study units for maritime English. IMLA conference is an excellent platform to invite other interested groups to join this exciting and worthwhile project.

Key Words : Maritime English, Standards, Safety at Sea, Communication Failure

IMPROVING SAFETY AT SEA AND PORTS BY DEVELOPING STANDARDS FOR MARITIME ENGLISH

1. Introduction

Shipping is perhaps the most international of the entire world's great industries and one of the most dangerous. Safety of life at sea, the marine environment and over 80% of the world's trade depend on the professionalism and competence of seafarers. It has been reported that over 80% of accidents and incidents are due to human error (IMO, 2005). One of the main causes of accidents and incidents are due to poor standards of maritime English. The language of the sea is Maritime English and many ships, and to a lesser extent, ports, are manned by multinational crews. Hence, good communication in Maritime English is essential for creation and maintenance of effective working environments and safety of the crew, and generally safety at sea and at ports. There are many reports and papers (MCA –MSC 82/15/02 and MSC 82/15/03, Ziarati, 2006) identifying poor communication as one of the most significant factors in accidents at sea and at ports. There is only one Leonardo project viz., English for Dockworkers (E/02/B/F/LA_115852, 2002), which has tried to address the communication problems in dockyards through the development of training materials for self-learning in English language. A list of all the Leonardo projects in maritime fields is presented in the reference section, at the end of the paper. However, there is no Leonardo project on establishing standards for Maritime personnel working in the water transportation sector.

The importance of skills in English Language competency was highlighted at the recent IMO Maritime Safety Committee (IMO MSC 82, 2006). Papers presented by the Turkish and UK delegates clearly stated that language competency is a problem. The papers led to discussions at the Human Element Working Group (HEWG) when it was reported that many seafarers have problems in expressing themselves in English and in using maritime terminologies. It was agreed that STCW Convention had to be revised in this connection and IMO's maritime English course model's (based on SMCP) minimum requirements is no longer acceptable. The inadequacy of Maritime English standards has been a major contributory factor in causes of accidents, some involving loss of life, large numbers of injuries and extensive financial loss (Deniz Ticareti, 2006; MAIB, 2006).

This project is in line with Loginovsky (2002) which reports on the significance of English as the working language of the international shipping industry and that the overall performance and safety of the international fleet depends on the skill to apply it correctly. He states that the ability of a non-native speaker to have a good command in Maritime English is very much influenced by the ability to think in it in the framework of the maritime profession. He concludes that to make the teaching and learning processes more effective, it is required to power up the thought activity of a seafarer using English. This project has taken note of the recent papers at the IMO MSC event (2006) and recommendations of several international papers (Ziarati, 2006; Loginovsky, 2002) concerning lack of standards or and appropriate underpinning knowledge and skill for maritime English.

There are severe shortages of personnel with sea going experience (Ziarati, 2003; Pourzanjani et al, 2002, Schroder et al, 2004). This is expected to get worse (IER, 2005 report sponsored by ISF and BIMCO). The shortage ranges from some 30000 (IER, 2003) seafarers to over 100000 (Urkmez, 2005). This is anticipated to lead to an overlook of deficiency in competence by shipping companies desperately seeking seafarers to man their vessels.

2. The Birth of MarTEL

A transnational project team composed of some eight European countries, funded through the EU Leonardo programme, was established to identify the need for such standards. The work of the transnational team led to development of a proposal known as MarTEL (Maritime Test of English Language). The project was submitted to the National Agency responsible for coordinating the work of Leonardo programme in the UK. The project was subsequently approved with a budget of 400000EUR to conclude the work of the MarTEL project team.

MarTEL aims to address major problems relating to competency in maritime English for the well-being of seafarers and those working in the shipping and maritime industries including ports. The problem is addressed at its very roots, that is, helping to improve the language competency of those wishing to embark on a career in the Merchant Navy as rating and officers in partner countries at three key stages: 17/18 years old, 21/22 years old and 23+ through an integrated and interrelated standardised assessment system catering for all classes of seafarer as outlined in the project summary.. The project is concerned with the establishment of standards of Maritime English for all classes of seafarers and for those working at ports. The standards are expected to be recognised by international professional bodies and the licensing authorities. To ensure these developments are implemented effectively it is proposed:

- to develop supporting training programmes for the intended standards by formation of pilot groups initially in one of the partner countries and then re-run them and/or validate them in other partner countries,
- to establish a network of transnational partners to support the development of the project, to surpass excel the minimum of standard of maritime English set by IMO,
- to design a programme for the trainers and assessors development, and their certification, for application of the intended standards and subsequent tests, as well as for the internal assessment and verification process, in line with European vocational qualifications for Assessors and Verifiers,
- to facilitate secondment of trainers and assessors to partners' establishments on short assignments in order to familiarise the trainers and assessors with the necessary skills and good practice,
- to form a committee to monitor the progress and make the necessary changes when required, applying a quality manual instigated in the course of developing this project, and
- to develop bridges for maritime personnel, through these standards so that they can take advantage of other programmes, some leading to higher vocational qualifications.

All tests for officer and senior officer levels will have weight on different skills. The officers are expected to reach certain levels of proficiency and competency at given ranks/duties by their companies or potential employers.

3. Transfer of Innovation

The current practice in many non-English speaking European member countries as well as countries outside Europe is that institutions involved with education of seafarers provide either short course programmes in English for industry or develop six months to one year English preparation programmes for cadet officers prior to commencement of the main education programme. Every year thousands of cadet officers come to the UK, through various schemes and pathways, and enrol on various merchant navy education and training programmes for different classes of seafarers. For instance, in some colleges these cadets are sent on 6-months general English courses prior to the admission onto merchant navy programmes. In Turkey, for example, generally all officer cadets undergo one year of English preparation. Review of the arrangements for other European countries for training of English seafarers clearly indicates that there are no standards of competence and the actual period of education and training in English language is also different in different countries for given classes of seafarers. Often these programmes irrespective of type or level, particularly those concerning cadet officers, are not related to the vocation of seafaring and are grammar based (TOEFL, IELTS, etc). MarTEL will establish given standards for all classes of seafarers. The partners in this

consortium would wish the contracting organisation to take a lead in realisation of the project aims. The UK partners and the silent partners (see www.mardeu.co.uk) would also benefit immensely by standardising the English tests for each and every class of seafarer so that thousands of overseas students coming to the UK (who incidentally in the majority of cases will eventually work for European based shipping companies) would achieve a common standard in English competency prior to commencing their main programme of study and training.

The establishment of standards is expected to help partners to set up test centres offering a valuable and profitable operation at their own institution benefiting professionally and financially from such an undertaking. One innovative aspect of the proposed project is that two standards will be offered at elementary and intermediate levels which could be used for industrial updating of existing seafarers employed in ship operation companies at the elementary and intermediate levels.

One other innovative feature is that the standards are intended to be skill based, and each standard will be provided with a sample unit of a study. The unit of study is an attempt to provide the necessary learning and training support for candidates aiming for a particular merchant navy qualification, and hence, a given standard of maritime English.

4. Benefactors

4.1 Target Group

MarTEL is a maritime language competency assessment programme for the language certification of main target groups outlined in the project summary.

The language preparation programmes in EU member states for education and training of seafarers is not standardised, neither in terms of level or duration of study. For cadet officers, the duration of the initial English preparation programme ranges from one to three years, and the examination standards are often set at a local level. Some institutions use standards such as TOEFL and IELTS which are not designed for students following a vocational programme. There are many cases where IMO requirements are integrated within a degree programme at a university. Again in many cases, the examination is not based on European or international standards, and if standards are applied these are of the type mentioned earlier. In all cases reviewed, the English programmes are the same for all classes of seafarers. Hence, the existing arrangements do not differentiate between the language skills requirement of different classes of seafarers. Furthermore, the level of competency varies significantly in across institutions in a given country and this even more inconsistent across the EU. In the majority of cases English preparation programmes are grammar based in order to satisfy the need of standards such as TOEFL and IELTS. A distinction has been made between the English requirements, say for a deck officer of watch and that needed for an engineering officer of watch. The intended standards are also underpinned by a sample unit of study to encourage vocational reference and ensure the programmes that support these standards focus on skills as well as grammar. The unit of study for each class of seafarer would also set the scene for maintenance of standards in the future and act as a guideline for development of training/learning/testing material.

In non-English speaking countries, many seafarers, especially at below officer levels, have serious problems with English language. To this end, two of the standards of the foundation standards (elementary and intermediate) can be used to target this particular group. The standards are being designed so that industry could use them to assess the competence of their employees at particular standards proposed.

4.2 Potential Users

Potential users will be lower and upper secondary school leavers, 'lycee/lise' cadets, young unemployed and all those employed in the water transportation industries (all ratings, officers and above, deck as well as

engineering) as well as all education and training centres concerned with the formation of Merchant Navy personnel.

There is no standardised maritime English testing system in Europe. The level of English competence among merchant navy officers is inconsistent. The experience of running merchant navy officer programmes by the partners has indicated major language deficiencies and inconsistency. This has been acknowledged by the many EU member state delegation to IMO. Poor comprehension has been a major cause of accidents and incidents at sea and ports as reported in several European accident analysis reports (Deinz Ticareti, 2005) and IMO's accident analysis reports.

As mentioned earlier, one of the main reasons for the intended standards is that shipping companies and organisations could use them to assess the competence of their employees at a particular standard proposed. To this end, all personnel working in the maritime industry could benefit from these standards as specific tests for specific vocational requirements for different ranks of seafarers.

Every year thousands of cadets enrol on various education and training programmes to follow a career in merchant navy. The largest user group are the cadet officers studying/training to become an officer of watch either as a Deck officer or An Engineering. The second most preferred location is the UK. The advanced foundation tests could be used to standardise the level of competency for both engineering and deck cadet officers before enrolling on their main programme. The tests are designed to ensure that, if successful, the cadets have reached the required level of competency for progression onto the main programme of study. Later in their career, they can take advantage of the tests designed for senior officer post for progression to higher ranks, working at sea or at ports.

5. E-Learning and assessment

The experience of various partners in maritime education and training and most of them in English language training has provided an added value to the existing efforts in partner countries. The fact that the standards and the study units that underpinned them can also be used as a means of self-learning and self-assessment would provide an added value which also widens the demand for the standard in the intended target groups. The partnership intends to seriously support the development of e-learning and e-assessment which has been assigned to two leading partners involved in such developments. This is expected to increase the existing interest in the project and its dissemination. The partnership is convinced that the intended plans to link the e-platforms (or one single integrated one) to the website and Internet portals holding the test materials and provides the connection to other databases would substantially enhance the possibility of wider audience within the stated target groups. This project would not have been possible without the support from the Leonardo programme. This programme has motivated the partners to come together in a worthy cause and innovatively transfer the existing knowledge and know-how, being developed simultaneously with recent and current Leonardo projects (SOS, 2005-07 and E-GMDSS, 2006-08).

6. Conclusions

The notion of having standards in English language is not new, however, establishing standards for maritime English should be considered innovative. Developing standards for each class of seafarer and targeting skill/competencies needed for each class underpinned by a unit of study which could be used as a guideline and a benchmark for improving existing English preparation programmes or developing new ones. All current partners have been involved with development of preparatory English programmes for cadet officers and some have been involved in general English programmes for undergraduates as well as post-graduate students and three have been developing and running short Maritime English Programmes for industry. Several silent partners are either an awarding body or are associated with an awarding body accrediting existing conventional English preparatory programme, ranging from 3 to 6 months of study. Some have been offering short English programmes for industrial updating and for remedial purposes.

The rapid prototyping method for development of standards should also be considered innovative. The content of tests is relying on existing material as well as material on general English language training for standards such as TOEFL and IAEELTS, although the theoretical aspects of these tests will be replaced by vocational and skills-based content. IMO also has extensive range of material on maritime English (SMCP) which is being incorporated in the underpinning study unit for the intermediate standard. The standards and the associated study units, not only would be useful to partners, but also to the contracting organisation which is one of the leaders in the maritime education partnership MarEdu (www.mardedu.co.uk). The MarEdu partnership began as a result of the Leonardo project (SOS, 2005-07), involving three of the partners in the existing consortium. The partnership is composed of the leading nautical colleges in several European countries. The MarEdu membership is supportive of the proposed projects and intends to promote the MarTEL standards..

There is a definite need for these standards and a huge market for them. The establishment of test centres and the provision of testing services are expected to lead to saving lives, reducing injuries and minimising financial losses.

Acknowledgement Authors would wish to thank Piri Reis University for support and encouragement in preparing this paper, the staff at the MarEdu in the UK and all MarTEL partners particularly the members of the MarTEL Working Party based in Piri Reis University.

7. An invitation

The intention of standardising and harmonising the process of testing for maritime English language competency cannot happen without active support from representatives of maritime education and training providers and the wider maritime community.

Piri Reis University would wish to invite all academics and industrialists participating at this conference to join the MarTEL team and help to respond to the identified and the compelling need to promote a high level of working maritime English language skills throughout the EU's shipping industry.

6. References

1. Ziarati, R., "A report on IMO MSC 82 to IMarEST", for consideration to Technical Affairs Committee, IMarEST news, 2007
2. Ziarati, R., "Safety At Sea – Applying Pareto Analysis", Proceedings of World Maritime Technology Conference (WMTC 06), Queen Elizabeth Conference Centre, 2006.
3. IMO (2005),), cited in www.imo.org/human element and www.itu.edu/new/acad/tuzla/safety
4. Ozhusrev, T. E., Uzun, S., and , Ziarati, R., "Generic Remote Communication Systems for the Factories of the Future", Proceedings of ICCTA 2003, IEEE, Alexandria, Egypt
5. IMO, 'Casualty Statistics and Investigations – Very Serious and Serious Casualties for the 2001', February 2004.
6. R Ziarati, 'Maritime and Training – A way forward', confidential report to Turkish Maritime Education Foundation, July 2003.
7. IMO, 'sub-committee minutes', 12th session, 2004 (and 13.01.2005, www.imo.org/human element and www.itu.edu/new/acad/tuzla/safety)
8. S Torkel, cited in Turkish Shipping World, ISSN. 1301-5907 October 2004.
9. NTNU Report, 'Training in risk prevention and vessel safety for the coastal fishing sector', Community Vocational Training Action Programme (1995-1999) NORAY – Contract no. E/99/1/061291/PI/I.1.1.b/FPI.
10. R Ziarati, 'Safety On Sea (SOS)', Leonardo Project 2005-2007, No: TR/05/B/P/PP/178 001.
11. UK Department for Education and Employment Report, 'EUROTECNET, 37 - Factory of the Future – Development of Human Resources' Vocational Training & Innovation in Europe, EUROTECNET Project Case Studies, 1995.

12. Videotel, 'The Importance of on Board Training and Assessment under STCW '95', Videotel Productions, 2001.
13. V A Loginovsky, 'Verbal Communication Failures and Safety at Sea', Vol. 2, No.2, December 2002.
14. Pourzanjani et al, 'Maritime Education and Training (MET) in the European Union: How Can Maritime Administrations Support MET', Vol.2, No. 2 IAMU Journal, December 2002.
15. Schröder et al, 'The Thematic Network on Maritime Education, Training Mobility of Seafarers (METNET): The Final Outcomes', Vol. 3, No. 1, June 2002.
16. Zade et al, 2002, 'Maritime Education and Training (MET) in the European Union: How Can Maritime Administrations Support MET', Vol.2, No. 2 IAMU Journal, December 2002.

BIBLIOGRAPHY

1. OECD, 'Workshops on Maritime Transportation', OECD Report, Paris, November 2004.
2. AB Komisyonu, 2003 yili Turkey ilerleme Raporu Muktesebat Uyum, Bolum, 9 Tasimacilik Politikasi, <http://www.ikv.org.tr/turkiye-abguncel/muktesebat-2003.htm>.
3. Leonardo da Vinci Compendium of Projects, Community Vocational Training Action Programme: NETOSKAR – 2003, 'A Method for Continuing Development of the Competence of Sea Personnel', Project number: FIN-03-F-PP-1600016
 SMDSM – 'Training Maritime Students through Open and Distance Learning for an Open Certificate in the New Global Distress and Security at Sea Systems', Contract number 1044
 Collaborative Maritime Knowledge management and Training Systems – 2004, Contract number: LV/04/B/F/PP-172014
 GETQUALITY – 2006, 'Seafarer Certificate Forgery: The threat undermining the Quality Training', Contract number: LV/06/B/F/PP-172004
 FISHTRAIN, 2001, 'Pathways to Vocational Training for Workers in the Fisheries Sector', Contract No. EL/01/B/F/PP;
 CIVILPROFNAVY, 2001, 'Re-Training and Re-Integration of Officers of the Navy and the Deep Sea Fishing Fleet Transferred to Reserve or Laid Off', Contract No. LV/01/B/F/PP;
 ORION, 2001, 'Virtual Learning Environment in Environmental Science, with on-line re-useable Interactive Modules for remote users in Marine Pollution and Ecology', with self-learning language package in four languages, Contract No. EL/01/B/F/LA-114443;
 HIICOSS II, 2002, 'Harmonising and Improving Instruction in Communication and Safety at Sea II', Contract No. F/02/B/F/PP-118007
 HIICOSS, 1999, 'Harmonising and Improving Training in Communication and Safety at Sea', Contract No. N/97/1/33008/PI/I.1.1.b/FPC;
 SAS, 1999, 'Development of a new training module on safety management for cruise ship crews', Contract No. CY/98/2/06327/PI/II.1.1.b/CONT;
 NETOSKAR, 2003, 'A Specialist Network for Development of Competence Evaluation Method on STCW 95 Functions at Maritime Sector', Contract No. FIN/03/B/F/PP-160016;
 SECURITAS MARE, 2001, 'Development of Education and Training for Sea and Land Based Personnel for Crisis and Emergency Management in Connection with Sea Casualties', Contract No. S/02/B/F/PP-127010;
4. Pourzanjani et al, 2002, 'Maritime Education and Training (MET) in the European Union: How Can Maritime Administrations Support MET', Vol.2, No. 2 IAMU Journal.
5. Schröder et al, 2002, 'The Thematic Network on Maritime Education, Training Mobility of Seafarers (METNET): The Final Outcomes', Vol. 3, No. 1.
6. Urkmez, S., 2005, 'Seafarer Shortages - Report to the chamber of Shipping'.