

## **Birth MarTEL - Developing Standards for Maritime English for Safer Seas**

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It is acknowledged by all concerned that effective knowledge of English at sea and in ports is a must for all seafarers responsible for safety and security of the ship, its crew and its passengers. Yet as evidenced by recent reports, articles and papers particularly accidents reports by major and reputable investigation authorities that the standard of English of some seafarers is so bad that they have difficulty communicating not only between themselves but also with agencies outside the ship (Alert, 2007).

Investigations into the human factor regarding disasters at sea, which focused on communication behaviour according to Trenker (2007) revealed that one third of accidents happen primarily due to insufficient command of maritime English. He reported that in VTS (Vessel Traffic Service) controlled areas for instance, poor communicating of relevant factors contribute up to 40% of collisions involving the human element, most of them caused by failures in radio communication even in routine conversations, but some also through face-to-face communication deficiencies.

The studies by Trenker (2007) is in line with the authors own findings (Ziarati, 2006). A review of some 300 accidents revealed that standard of English of seafarers is one of the two main causes of accidents and incidents at sea and in port (Ziarati, *ibid*). What is so alarming is that while accidents at sea and in ports are decreasing, accidents due to human failure, particularly due to poor standards of English by seafarers are on the increase (MarTEL, 2007, Ziarati. 2009).



**MarTEL Partnership** from right to left: Capt. Marco Otolini (Glasgow College, UK), Dr Osman Turan (Strathclyde University, Scotland), Bahar Tugay (Berke Marine, TR), Capt. Taner Albayrak, (TUDEV Institute, TR), Tomaz Gregoric (Spinker, SI), Capt. Heikki Kovisto (Satakunta University, FI), Professor Dr Reza Ziarati (General Coordinator, TUDEV, TR and Chairman of C4FF, UK) – Project coordinator, Capt. Hilde Kjerstad (Tromso University, NO), Capt. Yanusz Uriasz (Szcecin University, PL), Dr Martin Ziarati (C4FF, UK) – Project Manager, Nesrin Gulsaran, Serhan Sernikli and Tezer Ulkeatam (TUDEV, TR).- the latter is the Chair of the MarTEL Taskforce at TUDEV.

Trenker (2007) reports 80% of all SOLAS vessels are presently crewed with multilingual personnel who, for diverse reasons, are frequently unable to render the maritime English skills required. It has been argued that in order to improve management, operation and/or support

on board vessels, the amount of paperwork in the form of procedures, leaflets, questionnaires, e-mails and checklists are on the increase, stating that all have come about in response to an earlier accident or incident at sea or in ports.

To improve the standard of Maritime English IMO in 2001, introduced SMCP Standard Marine Communication Phrases. The aim was to get around the problem of language barriers at sea and to avoid misunderstandings which can cause accidents. The question often asked is SMCP used at sea? (Alert 2007). The problem is that IMO does not carry out inspections to see if STCW is correctly implemented let alone monitoring the implementation or usage of SMCP at sea or its effective application.

While SMCP has provided a sort of survival kit, it only includes the essential safety related communication events where spoken English is required. IMO in introducing SMCP neglected two very important considerations. The need for competence in English language by all seafarers and a means of monitoring and measuring this competence, and second, that without competence in English language and reliance on memorising SMCP, when emergencies do occur psychology plays an important role viz., if these marine communication phrases are not learned in a context of English language environment, then at the time of panic, there are no assurances that they are recalled correctly and this has been observed in several recorded accidents (Ziarati, et al, 2009). Valerie Short states that while STCW95 contains guidelines to watch keepers stipulating that standards of English of seafarers should be 'adequate' (whatever this means!) for general OOW duties, yet she notes that the STCW code does not provide indications of English proficiency levels to be achieved.

To date the response to poor English competences has been reactive and IMO practice as has been the case in the past have been often a response to specific disasters, see for instance, SOLAS, MARPOL, etc. The interest in Maritime English was renewed in a recent meeting of IMO MSC 2006 meeting when the UK delegation supported by several other countries warn the Committee of severe consequences if action is not taken to remedy the poor standards of Seafarers' English. There were discussions at the workshop meetings at the event that what is needed is to develop a set of comprehensive standards for Maritime English and provide a means of assessing English proficiency level of seafarers. The assessment system should also test the English skills and not maritime knowledge of a seafarer. It should be a vocational in nature and unlike conventional testing system should be skilled based with not too much reliance on grammar. There was a strong feeling that English should be taught in the context of maritime English as suggested by Loginovsky (2002).

### **Birth of MarTEL**

In response to the IMO MSC 2006 call by the UK delegate in 2007, C4FF (UK) with support from TUDEV (TR) and a number of MET institutions and progressive enterprises in several EU countries instigated a project called MarTEL

MarTEL is a set of standards for Maritime English. The proposed standards are expected to make seas and ports safer and save lives and to improve the quality of live on board vessels through improved communications. The standards include three assessment phases, ranging from Elementary to Upper-intermediate/advance in Phase I, English Tests for given skills for Deck and Marine Engineering Officers of Watch in Phase II and English Tests, again for given skills, for Senior Deck and Marine Engineering Officer in Phase III.

MarTEL is no a tool set to solve problems but a pro-active approach to avoiding problems in the future, hence a Newtonian approach. It overcomes the limitations of SMCP and removes

the need to use standards such as IELTS or TOEFL as these are not designed for seafarers' requirements. Unlike IELTS or TOEFL, MarTEL is a vocational approach and relies on the languages skills needs of different types and ranks of seafarers.



MarTEL, abides by the findings of an earlier EU funded Leonardo pilot project that, there is no language called 'Maritime English' and that competence in English Language is only attained if developed in the context of English language. Maritime English is the vocational element of the English Language for seafarers and should be treated as any other ESP (English for Special Purposes). This concept agrees with findings of arguments presented by Loginovsky (2002). MarTEL also clearly identifies the English Language needs of each type and rank of seafarers, setting English proficiencies levels at three different phrases. MarTEL embraces SMCP and incorporates additional content which has been emanated from the study of some 700 accidents. MarTEL, places less reliance on conventional English Language tests such as IELTS, TOEFL, etc. The latter standards are developed for academic studies. Most Merchant Navy Officers come through vocational routes. Furthermore, IELTS, TOEFL do not distinguish languages skill needs, of different types and ranks of officers and they do not embrace SMCP. One very important attribute of MarTEL is that it is about the Maritime Test of English Language and not English Language test of Maritime knowledge. MarTEL, takes the arguments of all scholars and researchers in the field of English language competency requirements at sea. The development of MarTEL Standards necessitated the views of Catherine Logie (2007) to be taken into consideration. She is of the opinion that Maritime English training at METs lacks the following:

- Time allocated to Maritime English
- Up-to-date resources integrating Maritime English content with the Communicative Approach to language training.
- Time to develop practical skills of listening and speaking (with priority given to learning terminology).
- Exam systems evaluating spoken competence.
- A standardised qualification for Maritime English trainees and trainers.
- Opportunity for Maritime English trainers to update their knowledge of both subject content and methodology.



**A Maritime University of Szczecin student taking the test**

MarTEL, offers Test at three different levels/phases:

- Phase 1 - Upper intermediate/Advance
- Phase 2 - Officer of watch – Deck
  - Officer of watch – Marine Engineers
- Phase 3 – Senior Officer – Senior Deck
  - Senior Marine Engineers

Each phase contains a standard (test) supported by a set of study guidelines and each having a series of study units, language skills and skill levels for each type and rank of officers. In Phases 2 and 3 these skill needs are clearly identified which are based on the outcome of some 700 accident investigations. Each phase has been tested and evaluated in several countries involved with the MarTEL project. The outcomes of the EU funded MarEng (2205-07) has been included in the MarTEL study units and the findings of MarEng Plus (2008-2010) will be included in MarTEL standards.

The two Maritime English project teams currently funded by EU, viz., MarTEL and MarEng Plus have agreed to cooperate and this is expected to strengthen the products being developed within the two projects.

There are several papers and workshops in several major maritime events in September and October 2009 before the launch of MarTEL in November 2009. This includes a paper for IAMU 2009 (Ziarati, Koivisto and Uriasz, 2009), a paper in IMAM 2009 (Ziarati, R., Ziarati, M., and Calbas, 2009), a workshop in IMEC 2009 (Sernikli and Sihmantepe, 2009), a paper in IMLA (Albayark and Ziarati, 2009), a paper in Bridge 09 (Ziarati, R., Ziarati, M., and Calbas, 2009) and a paper in IMEC 2009 (Albayark and Ziarati, 2009). A abstracts of these papers and workshops are attached for reference.

## References

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**See attached for accepted papers for publications.**

# **International Association of Maritime Universities**

## **IAMU 2009 Assembly**

### **Development of Standards for Maritime English – The EU Leonardo MarTEL Project**

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#### **Abstract**

This paper reports on the progress of the EU funded Leonardo project MarTEL which concerns the development of a set of standards for Maritime English for application in Merchant Navy education and training programmes for cadet officers and officers of various types and ranks. The standards are based on transfer of innovation from existing English language standards and maritime English model courses such as International Maritime Organisation's (IMO) Model course 3.17 and the IMO's SMCP (Standard Maritime Communication Phrases, 2001). Recent reviews by several IMO member countries had identified that 'there is a compelling need to promote a high level of working maritime English language skills' for merchant navy officers.

The standards were developed at three different levels referred to as Phases 1, 2 and 3. Phase 1 standard applies to level of Maritime English proficiency required for entry onto Merchant Navy cadet officer programmes for both Deck cadet officers and Marine Engineering cadets officers. Phase 2 is in two parts, Part 1 concerns the standard of Maritime English competency for Deck Officers of Watch and Part 2 relates to competency level for Marine Engineering Officers. Phase 3 is for Senior Officers and again sub-divided into two part, Parts 1 and 2, one for senior Deck officers and one for senior Marine Engineering officers.

Each standard has its own set of study guidelines and underpinned by a comprehensive study unit. While the guidelines are to prepare the candidates for a test at given level (Phase), the Study Unit is a knowledge-base of content for each phase.

All phases include active skills i.e. Speaking, Listening and Writing. The content for standard is based on active learning and on maritime terminology and usage with less emphasis on grammar. All standards for Cadet, Officer and Senior Officer Levels (Phases) will have different weights on different skills and different proficiency requirements at different ranks and duties.

## IMAM 09

# Improving Safety at Sea and Ports by Developing Standards for Maritime English

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**ABSTRACT:** The work reported here shows how communication failures can be addressed through removal of existing deficiencies in the training of the seafarers in Maritime English. EU funded Leonardo MarTEL project is addressing this deficiency through development of standards for Maritime English. The strength of the MarTEL Project is that it takes into consideration the language skills as well as the competency levels in each skill needed for each type and rank of seafarer. One important aspect unique to MarTEL is that it is ‘Maritime Test of English Language’ and not an ‘English Test of Maritime Knowledge’. The research reported in this paper has been used to underpin the development of standards for Maritime English within the MarTEL Project.

**Keyword:** Maritime English, MarTEL Standards, Safety at Sea, Communication Failures

# Bridge 2009

## Developing standards for Maritime English

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**Abstract** - Recent research has demonstrated that while the reduction of accidents has been substantial over the last 10 years, the number of accidents caused due to human error is actually increasing.

The accidents are often sub-divided by those caused by human error, poor design or equipment failure. However, the number of accidents due to human error is shown to be by far greater than those caused by poor design or equipment failure. Furthermore, the accidents due to communication and linguistic mistakes are reported to be one of the main causes of accidents and incidents at sea.

This paper concerns aspects relating to human error, particularly those aspects originating from 'communication issues'. The focus is how seafarers are taught to communicate using 'the language of the sea' which is English. Communication problems is considered on a macro basis and is evaluated by taking into consideration its underlying reasons such as cultural problems, linguistic problems, fatigue, psychological problems – such as stress, pressure, etc. - , misapplication of rules, organisational problems, teaching and training-of-trainer practices, etc. It is interesting that, at a recent IMO Maritime Safety Committee competence in Maritime English was once again highlighted to be a major issue. (IMO MSC, 2006)

The work reported here shows how communication failures can be addressed through removal of existing deficiencies of Maritime English Language training practices and by encouraging improvement in assessment practice through, for instance, the developments of standards for Maritime English. The strength of the programme of research reported here is that it has taken into consideration the language skills as well as the competency levels in each skill needed for each type and rank of seafarer.

Special references are made to the work of EU funded Leonardo MarTEL Project partnership in developing standards and supporting study units for Maritime English.

**Keyword:** Maritime English, Safety at Sea, Communication Failures, Accidents at sea



## IMEC 21 WORKSHOP 2009

**TITLE** : FUSION OF CONTENT AND SKILL IN MarTEL STANDARDS

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### Workshop Activity Abstract:

MarTEL (Maritime Test of English Language) is an on going European Leonardo Da Vinci project which is intending to establish European standards for Maritime English. Since the commencement of the project in November 2007, it has evolved into a multi-layered structure with a thorough approach to achieve the project objectives. As the project is in the final stage of its development, it is supported not only by its original founding partners but also by several new maritime institutions, some in the EU and some outside of it.

Starting point of MarTEL was to create standards in testing Maritime English (MarE) of three groups of seafarers, namely; the would-be cadets of maritime academies (Phase 1), graduates of these academies and the officers of junior rank (Phase 2) and the seafarers of senior level who are captains, chief engineers, pilots and other high level port authorities (Phase 3). Today, the project also aims to create some sort of standardization for teaching of MarE by way of designing “study guidelines” and “study units” for each of its phases.

The workshop intends to focus on the second phase of MarTEL which is regarded as the core of the project. In this phase, MarTEL brings a new approach to the testing of MarE as it upholds the language element above the maritime knowledge. It distinguishes between the level of skills for different type and rank of officers and the assessment is based also on criterion referencing. MarE is expected to be taught in a maritime context. It is designed as a “skill based” test which assesses the English proficiency of the test taker in maritime context. But when it comes to the studying or preparing for the test, the approach becomes content based, the topics of maritime knowledge move in and the language element seems to loose ground.

In this workshop, answers to the following questions are discussed:

1. Do content based study and skill based testing contradict each other or are they complementary for Maritime English competency?
2. What can be the optimum skill and content allocation in MarE for each class and rank of officers?
3. Can the study guidelines for the MarTEL tests be used as “the guidelines for trainers’ training” in the future?
4. How MarTEL standards at this level/phase could be improved?

## IMLA 09

### ENCOURAGING RESEARCH IN TRAINING INSTITUTIONS

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#### Abstract

Education and training are vital to the development and success of today's knowledge society and economy. The EU's strategy emphasizes countries working together and learning from each other while the EU education and training policy underlines that knowledge, and the innovation it sparks, are the EU's most valuable assets, particularly as global competition becomes more intense in all sectors under the hardships of the global economic crisis.

EU's Education and Training 2010 work programme integrates previous actions in the fields of education and training at the European level, including vocational education and training under the Copenhagen Process, and links up to the Bologna Process, which is crucial in the development of the European Higher Education Area.

Leonardo da Vinci Programme which is part of the European Commission's Lifelong Learning Programme (LLP), funds a wide range of actions, notably cross-border mobility initiatives; co-operation projects to develop and spread innovation; and thematic networks. Innovation projects have always been at the core of the Leonardo da Vinci programme. They aim to improve the quality of training systems through the development and transfer of innovative policies, contents, methods and procedures within vocational education and training.

TUDEV, being the leading MET provider of Turkey which is fully complying with the EU accession programme, has been developing innovative MET solutions since 2005 under the EU LLP.

This paper intends to inform participants about TUDEV's past, present and future innovative projects under EU LLP and other research programmes to encourage future research collaboration which might be of interest to any IMLA member MET Institution.

**Key Words: MET Programmes, innovation, research projects**

## IMLA 09

### Developing an Effective Maritime Education and Training System- TUDEV Experiment

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#### ABSTRACT

The purpose of maritime education and training (MET) is to supply manpower for the shipping industry. Furthermore, it aims to establish the fundamentals of the seafarer's discipline. MET covers a wide spectrum of training institutions which range from those delivering short-time courses to post-graduate studies. The ship, core element of the shipping, operates worldwide in a multinational, multicultural and multifunctional environment. To facilitate working in such a complicated environment, the seafarers must be trained taking into account the entire aforesaid environments, taking into consideration, all international standards and related regulations.

The commonly agreed principles in establishing an effective MET are based on some of the following considerations:

- Application of Internationally recognized standards including STCW
- Cooperation with accrediting, awarding and licensing authorities as well as MET institutions worldwide
- Meeting local requirements
- Close cooperation with shipping industry to meet their requirements
- Adopting new education and training technologies into MET
- Updating programmes to cover new requirements and technologies applied to shipping industry
- Providing continuous education for industrial updating
- Covering all stage of MET to achieve continuous education
- Balancing and matching academic studies and on board training taking into consideration licensing authorities.

In the last decade, Turkish shipping industry has shown a rapid improvement in the number and quality of her fleet which necessitated a requirement for improving the MET system in Turkey. To achieve this mission, with international cooperation and support from European Union projects, the Turkish Maritime Education Foundation (TUDEV) and the Turkish Chamber of Shipping (TCS) initiated a programme in 2003 based on unlimited watch officer training. The encouraging results led to further enhancing of MET by establishing the first Turkish Maritime University - "Piri Reis University".

Piri Reis University has been established to support the maritime industry, to cover all aspects of the MET, and offers a range of maritime study programmes - graduate to postgraduate levels.

**KEY WORDS: MET, Maritime Standards, Navigation Engineering Programmes, Nautical Science Programmes, Maritime Education and Training**

## IMEC 21 - 2009

### EVALUATION, ASSESSMENT, AND TESTING IN MARITIME ENGLISH: MEASURING STUDENTS' COMPETENCE AND PERFORMANCE

#### (MarTEL-Maritime Test of English Language)

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#### Abstract

It is no secret anymore to anyone in the water transportation sector that the weakest link is the communication problem in the maritime context. In the past, very successful attempts took place which contributed a lot on the learning/teaching aspect of Maritime English. A recent EU Leonardo Project MarEng was also great success to enhance these efforts. However, there are no international or European standards yet for the evaluation, assessment and testing in Maritime English to measure students' competence and performance.

To cover this gap, MAREDU (TUDEV–CFF) has instigated a major Leonardo Project MarTEL (Maritime Test of English Language) in 2007 which the first phase will be completed by September 2009. MarTEL intends to be the unique solution to improving the Maritime English competency of seafarers. MarTEL solution contains a series of study units supplemented by a set of tests in Maritime English. The intention is to teach English in a Maritime context therefore as well as providing a sound framework for teaching of English; MarTEL helps to motivate to learn English in the context of the profession. A new and standardized method of delivery and assessment of Maritime English competency will help to reduce the extremely high percentage of accidents and incidents at sea and in ports, and virtually save lives.

Last year TUDEV became advisory partner of new Leonardo Project MarEng Plus which aims to improve the usability and widen the user group of the web-based Maritime English Learning Tool MarEng. This has provided a great opportunity for both project groups to establish close coordination and cooperation. During the last partner meeting of MarEng Plus in May 2009, partners agreed on future possible co-operation between two projects for joint valorization and dissemination. Considering the number of partners in both projects (32 in total), this will be an historical episode if succeeds. This paper intends to inform participants about MarTEL and possible co-operation with MarEng Plus. IMEC will be an excellent platform to discuss outcomes and to invite other interested groups to join these exciting and worthwhile projects.

**Key Words: Maritime English, Testing, Study Units, EU Leonardo Programme**