Performance, Outcomes and Results
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# *Global*MET
# NEWSLETTER

To promote, develop and support in the spirit of cooperation, the common interests of its members in all matters concerning the development and quality of maritime education and training.

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## Inside this Issue

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**W**e welcome a new column **"Short's Shorts"**; Rod's narratives of his life's adventures. You will not only enjoy his tales but also discover many learning outcomes from this "retired" (never, I say) forever young sea dog. We look forward to reading and learning from his tales.

Gan Boon Song's article on simulator instructors gives deep meaning actions in teaching and learning. Competency based learning applying outcomes based education was introduced indirectly to MET through model course 6.10. The "learner-centred" approach is advocated with learner participation (participative enquiry) and action reflection learning that truly embraces modern methods by andragogy and heutagogy. Both these methodologies are adult education based. These basic changes replace traditional pedagogy that is mainly a teacher centred, didactic, subject based rote methodology.

GlobalMET has facilitated CPD workshops for outcomes based education, and competency based learning (standards based methodology) in Manila for over three years now. Resistance to change is formidable amongst mariners in teaching roles who have been brought up by pedagogy that related to authoritative methods for children rather than adults. Simply this meant any major change from teacher-centred or full-on instructor-led learning, rote and regurgitation at a major(summative) examination was against the run of the tide. Assessments based on rigorous rubrics to measure attainment of the standard of competences was an unknown and unwanted factor. Grading with a minimum pass mark was favoured to the detriment of the STCW convention's standard based requirements that compelled the measurement of performance against industry standard criteria.

Meanwhile Iman's highlight on Learning Theories become urgent though we must not become confused with the term "instructors" and the implied didactic approach. We must remember that it is important that instructors if you must use the word are no longer the sage in a learner centred environment but this very important person is a key catalytic component in the learning space providing and facilitating the conducive learning environment described in Boon Song's article.

Capt Ng's reference to English grammar and English Second Language in MET learning spaces is critical in effective maritime communications. Although the industry recognises the English language as the lingua franca, it is not yet compulsory in many countries where bridge team synergies become fragmented due to misunderstandings and often improper use of the English language and expressions. English language and literacy (LLN) competence is a continuing issue even in native English language countries with many high school graduates.

Capt Sriram Rajagopal joins us with his contribution on challenges that face MET and some solutions. Particular attention is drawn to his comments on benchmarking with another training provider and the realisation of where opportunity for improvements could be made. This is one of the most important activities all organisations should practice in quality management and the assurance of the quality system in place. Benchmarking encourages the "learning organisation" culture, so important in organisational development. In the early 90s when the Australian Quality Training Framework was introduced, it was a highly effective way of ensuring we were training in accordance with the national qualifications standards framework. During the 90s, when I was QA Director at a prominent shipbuilder, as part of Singapore's shipbuilding quality systems, benchmarking was practised with other organisations. There were excellent outcomes.

The articles in this issue are supported by Richard Teo's concluding paper on learning management systems, LMS. It has become more urgent that MET institutions across the region, if not the world realise that subject based teaching syllabi do not meet the requirements for performance based standards of competence. Adult education methodology for competency based learning comprise the various needs to ensure that delivery of training programmes meet and fit the purpose of the qualifications. Therefor learning and assessment strategies must change from regurgitating mass information gathered from rote privileging examinations to standards-performance based outcomes that are facilitated through competency based education, training and assessment (CBETA) methodology. These outcomes (standards of competence) must be transferred effectively from trainer/teacher/instructor/facilitator to the learner in accordance with the correct volume of learning and doing satisfying universally agreed performance criteria. Needless to say the proper transfer of appropriate knowledge, skills and attitudes must be judged by validated well-designed assessment tools, by rubrics executed with strong consistent rigour and integrity. The teacher's role and the teacher performing well in empathising with the learner is how the learning outcomes are attained. The formal development and training for every maritime teaching staff is imperative if MET is to get out of its present predicament. Learning is a critical technology and all who aspire to facilitate learning must first master the praxis in educational technologies and the associated competences to facilitate learning.

For interested readers, WMU will be hosting a conference on maritime energy management. For more information, inquiries to conferences@wmu.se

Congratulations to Capt Radhika Menon from India. She will receive the IMO 2016 award for exceptional bravery at sea. A great recognition for Women in Maritime. Go to: http://shippingtribune.com/newsdetails.php?s_id=2182

**By** *Richard Teo*
Exec Secretary

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Members and their staff members are encouraged to submit their thoughts through authoring articles for publishing in our Newsletter. Articles should reach the Secretariat by the 1st Friday of each month. Publication usually will be in the 3rd week of each month. GlobalMET reserves the right to reject any article that may be deemed inappropriate for the promotion and well-being of MET.

# The Role and Importance of Simulator Instructor

Traditional concepts of seafarers' training were based upon theoretical teaching in the classroom followed by the practical training onboard ship. This concept has undergone profound changes due to economic and practical reasons. Simulator based training now offers an opportunity for replacing the in-service training of seafarers. The STCW Convention gives weightage to training conducted on a simulator.

Simulators offer a powerful way of teaching and learning – through better presentation of content, engagement of the senses and experiential learning.

This article aims to highlight the role and importance of the simulator instructor in ensuring the quality of simulator based training for seafarers.

An extract from IMO Model Course 6.10 (Train the Simulator Trainer and Assessor) on the role and importance of simulator instructor is summarized below.

## The simulator instructor

Simulation provides for more meaningful and higher learning styles. Apart from the *experiential approach* – where students play a central role in their learning, the trainer provides an opportunity to learn through an *inquiry approach* - raising questions and discussing the complex concepts (with trainer and peers), i.e., Socratic Method; an often ignored aspect of learning and training, i.e. "motivation of the students" can be meaningfully drawn and sustained through constructive feedback, reinforcement from the trainer during briefing and debriefing of exercises. The importance of the trainer's expectations from students is far less recognized, but nevertheless a determining factor for the overall performance of the students on simulators. Trainers who have high expectations from the students are able to derive better performance from the students.

As learning shifts from "teacher-centred" to "learner centred," the trainer role has become even more critical. The role of the trainer has now shifted from the sole voice of authority to the following roles:

## Role of the simulator trainer

1. **Facilitator** – the use of simulators does not remove the need for the trainer but undoubtedly forces a shift in the role from '*sage on stage*' to '*guide on site*'. The trainer must know when to intervene and when to leave the student alone, so as to encourage as much as possible experiential learning for the students.
2. **Dedicated teacher** – the trainer must realize that 'transfer of knowledge' is a process and not an event. 'One-off planning' is not sufficient – the trainer should do extensive, substantial planning at each stage keeping in view the various factors involved – objectives of the course, rank, number, background, etc., of the participants.
3. **Manager** – not merely repeating the same exercise but manipulating materials and activities to arouse interest and make it more direct and relevant for the participants.
4. **Flexible and Adaptable** – reappraise the methods, techniques, resources to meet multiple learning styles and match it to the common goals of the course.
5. **Learning strategist/organizer** – sequencing the information for facilitating learning.

6. **Guide** – aid the students in understanding the nature of satisfactory performance, establishment of correct responses, and avoidance of habitual errors. These and other elements can be achieved through personal interaction and communication skills like empathy, flexibility and adaptability.
7. **Motivator** – providing for Individual differences, giving positive and constructive feedback.
8. **Evaluator** – setting criteria and assessing performance, but helping in reinforcing desirable learning, providing encouragement, providing a yardstick to measure goals.
9. **Native Psychologist** – when trainers use their knowledge of both the subject and the way pupils understand the subject, the use of the simulator has a more direct effect on student achievement.

## Skills required of the trainer

As mentioned above, a highly sophisticated simulator system is wasted if it is supported by a poorly skilled instructor; whereas the skilled instructor can take even the most basic simulator and produce valid and effective training outcomes. This creates a need that the presence of certain pre-requisite qualifications and skill-set should be investigated to the relevant quality of simulator based training.

## General attitude towards teaching

Although a trainer is not expected to have all the answers to the questions which are put to him/her, they may lose credibility if they are not able to answer many of the questions put to them. Thus, being abreast with latest developments and changes in all aspects of the actual job for which the simulation has been designed, including professional, technological and legal aspects equips them to be the subject matter expert (SME); even more important if the training involves senior and experienced students, where students are more likely to show off their vast knowledge. It becomes vital for the trainer not feel daunted, have the necessary information readily at hand and lastly, able to receive knowledge if necessary.

## Operational experience/familiarization

Ability to apply specific computer skills – in particular those skills related to the type of hardware/software being used in the simulator; ability to operate projectors, video players, etc.

## Technical/Subject-related Knowledge

Ideally the trainer should hold at least the same qualifications as the students he are supposed to facilitate. Not only will it add to their confidence, but will also prove essential to getting the message across properly.

This becomes increasingly challenging the higher and more specialized the training becomes, making it more difficult for trainers not holding the same skill level. One can also say that without any seagoing experience it will be even harder to cope with all the routine items of the trade.

However, times as the be, domain-relevant skills and knowledge is considered to be the sole competency required from an

instructor. And, when one has a "Certificate of Competency" (COC) supported by sailing experience; it is easy to presume that students 'should' follow and approve the ideas, proposals or recommendations that the instructor believes in. But, what would you do if you designed an exercise in the most thoughtful manner and the students conduct it in some other manner missing the "big picture" that you had in mind?

How would you handle a debrief session where you wanted to educate them on some topic and students digress and pose "how", "why" and "what" on some other random topic?

Questions and issues like this clearly build a picture where teaching doesn't just involve re-iterating the text information or the running of animated Power-Point presentations.

The above discussion might be seen as minimizing the scope and importance of technical knowledge. But paradoxically, the "unstructured- learning -environment" makes it even more imperative for the instructor to be technically well-sound and abreast of all the latest developments. Also, the instructor should be aware and prepared for all that might emerge without notice and thereby work on it flexibly to help students have meaningful learning.

## Pedagogy and simulators

There is great importance for the simulator trainer to have a background or experience in teaching, learning theories and instructional techniques. This aids the trainer to:

▶ Facilitate the various instructor-led and student-led interactions
▶ Carry out briefing and debriefing in a safe learning environment
▶ Monitor events and know when to intervene/leave students alone
▶ Ability to connect objectives, theory and operational outcomes.

## Establishing trust as an aspect of training

One of the key elements to developing effective learning in students is establishing teacher-student trust! Considering the context in which the teaching and learning takes place on simulators, developing trust and building rapport are of paramount importance. The candidates entering the simulators bring along their knowledge and experience of working in real-life situations. This might give rise to "know-it-all" attitude or "just-a-video-game" notion among students.

To add more complexity, instructors spend a lot of time planning and 'structuring' the exercises on simulators and may fail to account for unpredictable events springing up; as the "operational part" of simulation exercise lies in hands of the students-- candidates may display defensive behaviour when they a difficult situation given to them.

Learning from constructive feedback, reflecting on one's own performance honestly and admitting one's mistakes, including instructors, highlights the importance of a good relationship between the instructor and student built upon trust and rapport.

## Formulation of rapport: building blocks for establishing trust

Establishing trust must start on day one and should continue to build throughout the programme. The trainer can make the students feel relevant and can strengthen their relationship with the students by using the following guidelines:

▶ As students walk in the room, greet them with a smile; you don't have to engage them in a lengthy conversation just a simple hello. This shows them that you recognize their existence and are glad to see them.
▶ The introductory class can be used as an "ice breaker" where the trainer can ask non-threatening questions. During breaks, or when you see students in the hallway, take a moment to ask how their day went or to ask what their plans are for the weekend. Try to find a balance between prying too much into their personal lives and being restrained and formal. You will need to see how comfortable each individual is and relate to them accordingly.

One of the surest ways to attract the attention of your students is to use them in your teaching. If you are giving an example of something, then use your student's names in the example. If you need some volunteers to demonstrate a concept, ask some of your students to help you. This not only helps students to want to be involved in your lesson, but it also helps the other students pay attention better when they hear or see their own peers in your exercise.

Lastly, before ending this article the author would like to stress that, no matter how sophisticated and expensive a simulator system is, the teaching results achieved are only as effective as how the trainer uses it!

**By**  **Mr. Gan Boon Song**
Senior Lecturer ALAM

# Why English Grammar should be Taught in the Classroom of a Maritime Institution (ESL – English as a Second Language)



On a few occasions, while passing the classroom corridors in my college, I had overheard students conversing in absurd and abominable English Language that had poor grammar, syntactic and semantic features. These students will become Captains, Engineers and maritime leaders of tomorrow and if they fail to communicate in proper English, the nation and the country's future will be jeopardized - as it is common knowledge that English Language is considered an universal language which is used in almost all aspects of life, including areas of scientific, commercial, technological, legal, literary development, and last but not least, a vital tool in maritime communication at sea.

My colleagues had informed me that there are many different approaches in the teaching of English as a Second Language, the more preferred choices are the Natural Approach and the Communicative Language Teaching, but both approaches do not really emphasize the necessity of teaching grammar in the classroom. These approaches champion the development of communicative competency and neglect the development of grammar as students are taught on how to use the language and not on how to learn the language correctly.

Allow me to use the analogy that - when grammar is not properly taught in the classroom, it is likened to baking a beautifully looking cake but then the cake lacks taste, flavor, content, style and essence. Satirically speaking, if a sophisticated structure

or building were to be constructed over a weak foundation, it would be "courting" trouble, as its building blocks are not integrated into a robust fabric that can withstand the erosive forces of nature and very soon, ugly cracks and flimsiness will surface. My point of argument is that, even though a young sea-going Officer may be able to display communicative skills in different social settings, he or she may not possess the requisite knowledge and understanding of grammatical rules, tenses, phonology, semantics and language morphemes.

We all know very well that language is all about communication, whether on land or at sea, whether in speech or in writing. The objective of learning grammar is for students to be able to apply correct grammatical rules that can consciously or subconsciously ensure language accuracy when indulging in meaningful conversations or in formal writing, while at the same time, achieving their communicative goals and intentions between the sender and receiver – very much so these days when the shipboard crew consists of nationalities who come from different corners of the world.

In very simple terms, the reason for learning formal grammar in a maritime college is to indicate to the student on how an English sentence is formed correctly and how effective parsing of sentences can assist us in the expression of meaning, intent and its aesthetic value – very much so when an Officer is required to give out clear navigating instructions.

Grammar is multi-dimensional in formulation and function and when a student who is not taught grammatical rules, he will not know the full meaning of "verb tenses" and when to use them correctly, accurately, appropriately, effectively and meaningfully in communication. Can you imagine a ship's Engineer mis-communicating with an engine crew with regards to opening an overboard discharge valve or overhauling the pistons of the main engines!!!

We cannot deny the fact that a certain amount of grammar can be acquired through the use of the Natural Approach and the Communicative Language Teaching, where students can learn

grammar subconsciously without any teaching instructions. But then, this communicative ability does not ensure academic proficiency in other areas such as the ability to evaluate, critique and synthesize information, or participation in an advanced report writing, complex problem solving sessions and research writing.

Now that the significance of grammar is established, the question still remains as to how grammar should be taught. There is also another school of thought that vehemently rejects the textbook grammar and argued that it should not be taught at all because it does not facilitate or improve a student's competence onboard the ship as it is not representative of real-life settings and everyday situations. It has been acknowledged that when grammar is taught as a set of rules inside the classroom, these students should be able to activate this "learned knowledge" outside the classroom effectively when communicating with others under different environmental settings.

Undoubtedly, I am of the opinion that grammar should be taught to the students in the classroom, but with newer and more practical methodologies or approaches that take into account the students' age, educational background, past training, prior knowledge and future usage requirements. The lecturer can consider employing educational tasks that are theme-based, project-based or context-based to stimulate student's interest, interaction and discussion. These approaches attempt to involve the students in using English in an active way that can promote analytical thinking and teamwork – which are necessary ingredients for shipboard survival.

When the learning activities take place in pairs or in the form of group work which require co-operation and collaboration, these students will then be encouraged to practice grammar language functions in an exciting manner. So instead of learning grammar in isolation, meaning in the classroom only, consideration should also be given on the use of the Natural Approach and the Communicative Approach that can make use of real life



FOR A FAIR SELECTION EVERYBODY HAS TO TAKE THE SAME EXAM: PLEASE CLIMB THAT TREE
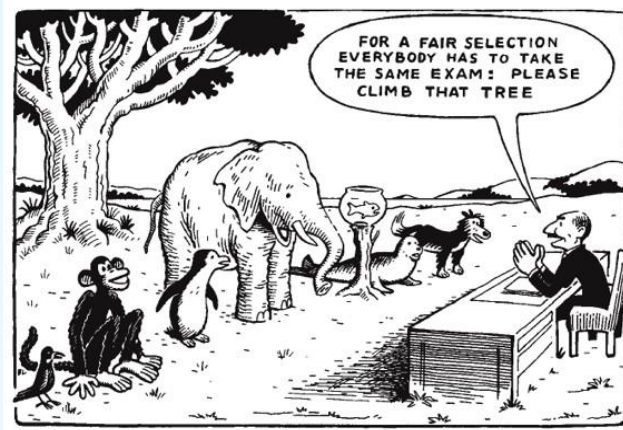
simulations and situations which can promote interesting, meaningful and interactive ship-like activities.

If grammar is not taught in the classroom, there will come a time when these "cadet" students will one day become lecturers themselves and they will have little clue on form, meaning and use of grammatical items and also the proper understanding of the syntax of English grammar. It has often been commented that a person who can think well, is normally a person who can also write well when he or she possesses "grammar sense". Hopefully, someday in the near future before my retirement, I would be able to hear students conversing in impeccable English with correct grammar and tenses as I walk down the classroom corridors, I will then be convinced that our society is in safe and trustworthy hands, as these "cadet" students will form the next generation of young professional seafarers who would be capable enough, at least linguistically and syntactically, to sail the mythical Seven Seas and five oceans with pride and charisma.

**By** **Capt. Ng Yew Hong**
Lecturer, Malaysian Maritime Academy

## Must Know Learning Theories for Training Professionals

**Highlight**

by
**Iman Fiqrie**

Whether facilitators like it or not, think it's too much to learn or "don't have the time for it" – it's essential they have more than a working knowledge of learning theories as these are the tools that may well determine if learning objectives are transformed into learning outcomes! The following learning objectives provided only scratches the surface for required learning theories and are taken from the ATD Learning system for discussion:

Learning Objectives:

- Explain David Kolb's four basic learning styles.
- List the four elements of Ned Herrmann's brain-based approach, and briefly explain each.
- Summarize the visual, audio and kinesthetic (VAK) model.
- Explain why it is important for instructors to understand the various intake methods described in the *VAK model* when delivering training.
- Describe Howard Gardner's 10 multiple intelligences.
- List the seven preferred learning modes outlined in the *perceptual modality* model.
- Define *characteristics of adult learners (CAL)* and *chain-of-response (COR)* from Patricia Cross's adult learning model.
- Explain the purpose of *accelerated learning (AL)* techniques.
- State three key principles of AL.
- Summarize Silver and Hanson's learning style inventory and how it applies to training delivery.
- List two factors that may affect the speed at which adults learn.
- List two considerations for identifying training and presentation styles.
- Discuss one type of tool used to determine learning style preferences and how it is applied.

The ATD Learning System, p233. ASTD Press 2013

# Short's Shorts: First Coaster Voyage
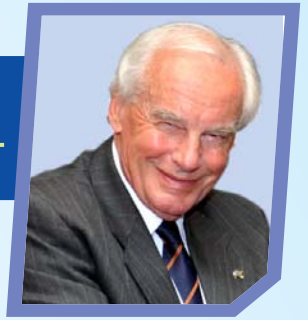
My home was in Opotiki in the eastern Bay of Plenty in New Zealand, where I went through primary and secondary schooling. It is a coastal town, then of 2000 residents, which, because of unsurfaced road access, was serviced by small cargo vessels from Auckland, approximately 24 hours away. I spent a lot of my spare time swimming on the beaches and in rivers. I had the use of a small dinghy that my grandfather built. At the beginning of 1951 when I was fourteen I enjoyed my first experience of crossing between Wellington and Lyttelton on the ferry 'Hinemoa', when I attended a Boy Scout gathering to mark Christchurch's centenary. Upon returning, I was advised that I had been selected as a member of the NZ Contingent to attend the World Scout Jamboree in Austria in August. We travelled across the Pacific in the New Zealand Shipping Company's 'Rangitane' and returned to Sydney on Orient Line's 'Otranto' and then came across to Wellington by the Union Steam Ship Company's 'Monowai'. It took six months and I returned determined to go to sea.

In January 1953 at the age of sixteen I was working in my grandfather's grocery shop in Devonport in Auckland, employed mainly in the store, but occasionally serving customers when my aunt or uncle took a break. I had obtained the school certificate so had said goodbye to school. I was looking for a cadetship. With the NZ Shipping Company and other 'home boat' companies, but there were few opportunities in these British companies for someone from New Zealand. My father heard that the Union Steamship Company of New Zealand was re-introducing an apprenticed-cadet scheme and made enquiries. I sent in the application papers and one afternoon he telephoned me to say that I would need to be ready to join a ship in two weeks time.

The thought of having to travel by bus for a whole day to my home didn't appeal, so I went across the harbour to the wharf in the port of Auckland used by the Northern Company. The 'Waiotahi' was alongside. She was a 33 metre wooden coaster of 208 gross tons, designed to service ports like my hometown of Opotiki, which were built on rivers with a sand bar at the entrance. They could only be entered at high water and the depth over the bar was sounded from a launch that came out to meet them. The 'pilot' boat would guide the ships, similar to 'Waiotahi', in and out. The pilot service was handled by the Mokomoko's, a Maori family, a member of the family being master on the ship 'Clansman' at the time, which serviced Whakatane, a slightly larger town along the coast to the west. They discharged a general cargo from Auckland and on the return voyage they usually carried pastoral products and timber. The bar to the river entrance was in the open Pacific, so there were often delays due to weather. Capt Gash who was on board was familiar with me and I was pleased when he said he would take me when they sailed for Opotiki the following day.

We did, the weather was calm and I prepared for a pleasant trip of approximately 24 hours at 6 to 7 knots. My gear was stowed and I slept in the room at the after end of the ship used by the master, deck officer and engineer for relaxing. The crew of six had their own accommodation in the focsle. I recall spending a lot of time on the bridge talking to the newly appointed mate, who had just joined the Northern Company after being Chief Officer in Shaw Savill and Albion ships. He commented on the contrast, which he 'endured' because he'd met a Kiwi girl. I subsequently met many out of the 'home boats' who had left the British company and joined ships under the NZ flag because of meeting NZ girls.

The next morning the weather was different. It was blowing hard from the north-west causing us to roll and pitch. The master advised the Northern Company that he intended to shelter under the lee of Whale Island, off Whakatane. He was however aware of my presence on board and the need to get me ashore, as it could be a couple of days before the weather abated enough to get into Opotiki. After lunch in the shelter of Whale Island he decided to put into Ohiwa, a harbour with a deeper entrance about half way between Whakatane and Opotiki, but which wasn't a port. 'Waiotahi' rolled and pitched as we went in and I was seasick, but within a few minutes we were inside and proceeded to anchor. From the lifeboat I was landed on the extensive mudflats, carrying a duffel bag and a suitcase. And it was raining lightly.

Feeling tired from a lack of sleep the previous night, I trudged across the mudflats, where I used to gather cockles, and eventually knocked on the rear door of a farmhouse. After explaining the situation to the farmer's wife, I telephoned my father who said it would take about an hour for him to drive out and pick me up. I enjoyed talking to the farmer's wife, but then the rain stopped and I started walking along the road towards Opotiki until my father picked me up half an hour later.

A week later I said farewell to my mother and sister and travelled back to Auckland with my father. I was interviewed by the Auckland manager of the Union Company, signed indentures – 'you shall not visit houses of ill fame' - and was signed on the 'Komata', a cargo ship of 3,500 tons gross, running between New Zealand, Australia and Fiji. My career in the shipping industry had begun.

**By** | **Rod Short**


Waiotahi, Tuhoe and Toa


Komata

# Challenges for Maritime Education and Training, and Possible Solutions

Today, more than perhaps ever in the past, we face severe challenges in the field of maritime education. However, as Benjamin Franklin said, "Every problem is an opportunity in disguise". Hence, rather than be daunted by them, we should all try to address them by working together. This article attempts to make a humble beginning doing just that. The first step is to identify these challenges. The next step is trying to come out with solutions.
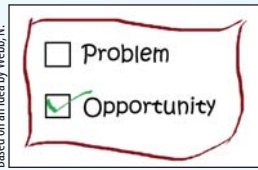
**A problem is an opportunity in disguise
- Benjamin Franklin**

The challenges that we, in the field of Maritime Education and Training face together are numerous, and it would be simply impossible to try and list all of them in this article. Indeed, this article does not claim to do so. What this article will try to do is to start the discussion, by describing some of the challenges that we face. Do note that in this article, I use the terms teacher, trainer and instructor interchangeably.

## 1. Good Quality teachers

The paucity of good teachers is not unique to the maritime field alone. However, the issue in the maritime sector is not that there aren't any good qualified and experienced seafarers, but rather, that many of them might prefer to put their time to better use by sailing on board ships, where they can earn sometimes thrice the amount.

It would not be fair to find fault with teachers in thinking so either. Teaching is not a selfless act of charity. Trainers and teachers too have families to support and lives to live. While this gap in income exists in other professions too, its extent is much larger in the maritime sector.

This often results in trainers who are seafarers who do not wish to continue sailing due to personal or family reasons and not trainers who are good at training.

One possible solution to this is by paying teachers well. However, as Katzenbach and Khan discovered in a 2010 Forbes, money is only one of the motivators for people to deliver good quality work. Other motivators may include a better work life balance, better and safer work conditions, less hectic routines, the ability to have Sunday offs, better work colleague
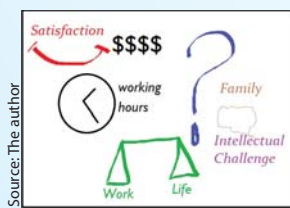
**Motivators for trainers**

sand work bosses and so on. One of my seafarer colleagues took up a teaching job so that he could spend more time with his family, and be with them every evening. He recounted that he used to burn out after working nonstop, day after day for eight months on ship. However, as hours at his training institute started to get longer, he began to question his decision.

It is up to the employer to discover the motivations of each teacher, and try to address them. This can create a mutually respectful and symbiotic beneficial relationship between the training institute and its teachers.

Admittedly, some MET providers do have a good feedback mechanism. However, this is one aspect where we can all improve.

## 2. Experienced teachers

Maritime education is not usually academic – it tends to fall into the category of vocational education. Hence, experience is an important criteria in this field. The fact that practices (for example: those related to cargo work) and conditions (for example, those related to navigational traffic) differ remarkably worldwide only makes this experience all the more important.

A survey conducted by the author among maritime students in a certain seafaring country found that only 24% of their maritime teachers had any experience sailing in cargo ships. Most of the teachers had only sailed on inter-island ferries. However, these teachers were teaching their students about practices related to cargo work that occurred primarily in far off foreign countries. Many students commented such teaching was

not relevant to current practices on board ships, a truth that the students realized only when they started to visit ports and saw cargo work practices first hand in these ports and on ships.

A survey of 49 students in a different seafaring country yielded similar results. While their teachers had sailed on cargo ships, their experience had got out dated, and what they were teaching in school was no longer practiced on ships. What was of even more concern was that what was being practiced on ships was simply not discussed in the maritime school and training centers.

The trainers lived in a state of ignorance, not due to any fault of their own, but because there was no system of addressing this. Some of my friends who are trainers have confessed falling into this trap, and all they can do is try to address these by reading dull issues of nautical magazines. MET providers would benefit by subscribing to as many maritime magazines and journals as possible. A question we need to ask is how many do so.

A 1996 study by the Center for Public Education reiterated a fact that most of us have always believed in – teacher quality counts, and is among the most important influences on what a student learns. I was reminded of this during a Simulator instructor's forum conducted in Baltimore, in which one experienced instructor remarked that "it is the teacher who counts most – and not the quality of the simulator alone. A good teacher can make learning occur even with a less advanced simulator, but not vice versa. Sadly however, more effort and resources are devoted to obtaining the best simulator, rather than to address teacher's needs".

Systems are urgently needed to address this, else the gap between what we teach and what is relevant in real life will keep growing.

Maritime trainers are powerful agents who can bring about change. We must empower our trainers and do all we can to help them.

## 3. Lack of research

In any industry, decisions with far reaching impact are only taken after careful thought based on prior research. A number of far reaching decisions are taken in the maritime industry too. However, the lack of research in the maritime industry is worthy of lament. For example: There has been much talk about the use of online learning for seafarers for a few years now. However, there is no research that gives clear information on how many seafarers actually have access to internet on ships.

During a recent post graduate class that I gave to a group of European students aspiring for a career in shipping, this issue came up. When asked their views, an overwhelming 97% of the students were of the opinion that seafarers had access to internet when on board ships. The remainder 3% were seafarers who had sailed on ships. Ironically, it is those 97% who will be tomorrow's ship owners, members of the ministry of transport, charterers and people who will authorize or recommend such online training in their shipping companies.

This was just one example, but there are so many more. There is no research related to what students want in a maritime training course. I was often reminded of this by my more academically inclined colleagues while teaching at a prominent university in the United Kingdom. They could not find any credible research on a vast number of maritime topics, and hence often had to depend on a poorly written article ten years old, or had to simply confess lack of data.
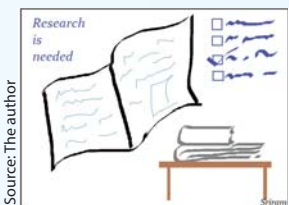
**The maritime profession urgently needs good quality research**

As a result, company training institutes often continue to teach what they believe must be taught, while wondering why more and more seafarers are electing not to take training courses in their vacation. Similarly, there is no published research on the issues related to ECDIS, though it is widely accepted that there are indeed a number of issues. The little that one hears is either anecdotal, or based on what ECDIS manufacturers say. This is a severe limitation in our industry.

GlobalMET has taken a first step to address this by instituting a research head under the direct aegis of its directors and members. Anyone who wishes to pursue this angle and carry out or collaborate on maritime research is welcome to contact the author of this article.

## 4. The need for more/better textbooks

Often, there are two complains that one hears from seafarers and maritime students – Either that there are no books for certain topics, or that the information in books that do exist has become largely out dated and irrelevant.

For example, even today, there are just a handful of books that describe the *practical* aspects of carrying different bulk cargo. The few books (which can be counted on the fingers of one hand) tend to have barely a few paragraphs for each cargo – certainly insufficient for a Chief officer who will be loading iron ore for the first time in his life in Tubarao (Brazil), despite having been at sea for a decade.

The above is not an anomaly – I was recently asked by a ship's Chief Officer about the *practical* issues related to the loading and carriage of Bauxite cargo. His ship was loading at Weipa, a port he had not heard of. Weipa is a small port in Northern Australia and has among the largest bauxite mines in the world. The books that he was trying to refer to (in vain) were vastly outdated.

This has been an issue for a number of bulk cargoes, where in the current text books refer to older classifications of cargoes and not the newer Classes A, B and C in the IMSBC code. To top this, ships officers who have already carried bauxite may be aware that bauxite has a potential to liquefy, however this is not specifically addressed in the *IMSBC Code*, since it is still only classified as a Group C cargo. We were again reminded of this danger due to the tragic incident of *MV Bulk Jupiter* in January 2015.

The lack of internet on ship (this information is only covered by a few P&I websites), and a reluctance to ask the office all their doubts (*"What will they think of me? …That I do not even know my job?"*) is what drives ships officers to pore over the few books that they have in the technical library. Many a time, the latter unfortunately tells them little.

Similarly, there is not a single book that truly explains the practical aspects of bills of lading and letters of indemnity. The text books give the politically correct version ("LOIs do not have any value in a court of law and should not be accepted"), however, as masters on bulk carriers and general cargo ships will testify, LOIs are the norm in most cargo discharge operations.

## 5. Budgets and expenses

This is an issue I often hear from the faculty as well as heads of MET providers. Low budgets for training means lesser resources are available for providing training. Often, what suffers most is the quality of training.

This is especially true in today's world of shipping, where owners are truly crunched on funds, and the Baltic index hits new lows daily. Training is considered an expendable expense by many entities, and suffers when profit margins are low. However, it could alternately be argued that today, more than ever, there is a strong need for good training.



Source: OSBM, North Carolina budget and management

For example: one ship owner found that he was encountering a high amount of losses while carrying steel coils. In one case, the losses were close to $ 200,000. A MET provider convinced him to try making his seafarers undergo a two training on the carriage of steel coils. As a result, he saw an immediate drop in cargo claims with officers who had undergone this training. Thus, well trained seafarers can save money for the ship owners by implementing good efficient practices on board.

Some issues related to budgets can be addressed by using more innovative methods of training. For example: a simulator is a good aid for navigation training (and indispensable for ECDIS training). However, especially where experienced seafarers are involved, experiential discussion based training can prove to be more useful. One instructor who I met was able to capitalize on the navigation experiences of his students (mostly experienced officers) by asking them to relate their own navigation near-misses. In a few minutes, the classroom was abuzz with ideas and each officer then related his/her experiences.

Rather than simply let this go, the instructor gently guided the discussions towards the relevant sections of the company's SMS, IMO requirements and industry guidelines and they were able to have a healthy discussion on the practical application of bridge and navigation techniques.

Later, the students and the instructor admitted that this class was among the most useful training sessions that they had attended.

## 6. A need to justify one's existence

This might ring a bell of familiarity with many maritime education and training providers, especially those who are part of in-house training in shipping companies. Training divisions often have to justify their presence, as their benefits are not always easily discernible and apparent. This is for good reason – training prevents accidents and incidents from happening. How can one *prove* what *could* have happened? In other industries, the benefits of training, especially safety related training are clearly demonstrated through research carried out, comparing injury and accident statistics before and after training.

However, in the maritime industry, we have no such publicly available research. Thus, heads of training divisions have to continuously justify their presence, as many ship owners and managers look at training as a cost and not as an investment. The fact that we are passing through what looks like the worst recession in the past three decades only makes matters more difficult. There is a strong need for a unified voice from the MET community for this, and better research that can prove the benefits of training.

## 7. Limited interaction with trainers from other institutes

During my interaction with maritime education providers, I have found most trainers very much interested in improving the quality of the training they provide. Each of us can learn a lot from other trainers, not just in the style of delivery (each of us has a unique style that we have perfected over the years), but also in techniques of classroom management, facilities in training centers, etc. However, few trainers have the opportunity to visit other training institutes, either as a student (which would be ideal) or as a visitor.

I recollect one of my friends who has been teaching over a decade being pleasantly surprised at the positive ambience at a fellow training center (let us called it "A") located just a few kilometers away, but which he had only just visited for the first time. He confessed to me that till then, he sincerely had believed that the training establishment where he taught was indeed the best in all respects. It was only after his visit to "A" that he realized how many ways his training center could improve further. My friend was impressed with the effect this positive ambience had on the quality of education, which he could easily see. He confidently made a few suggestions to his higher ups, some of which were at the end of the day implemented. Thus, such visits can have a beneficial impact on the MET provider as a whole. Being part of communities such as GlobalMET is the first step towards achieving this. One looks forward to more involvement between all of us trainers.

## Some concluding thoughts

I am sure there are many more challenges that we face, and there is a good possibility that I may have missed out on many. This is a topic with a large scope. If you feel strongly about any other challenges, do let me and the editor know and we can write about this. Most importantly, do share your opinion on how these challenges can be resolved and addressed.

If you would like to get involved in any of the research projects that GlobalMET conducts, or have any ideas for new research, do let me and the editor know and we can work something out.

## About the author

*Captain Sriram Rajagopal is a senior QHSE and Training superintendent with Anglo Eastern Ship Management with 25 years' experience in the maritime profession. He has offered to coordinate research for GlobalMET. He shares a passion for teaching and research, has taught seafarers worldwide including India, Australia, Philippines, Ukraine, China and the UK and is a contributing author for the latest edition of Nautical Institute's flagship publication "Command". He can be reached on "rajagopals@angloeastern.com".*

By   Capt. Sriram Rajagopal

# What is a Learning Management System (LMS)?

*Concluding from the last issue;*

## Key takeaways

Competency based education, training and assessments(CBETA), outcomes based education (OBE), competency standards, standard operating procedures(SOP), quality management systems (QMS), pedagogy, andragogy, heutagogy, digital disruptions, innovative disruptions, learning management systems (LMS), learning organisation.

## The LMS

The LMS is designed to help organisations manage their learning and their learners. How this is done is varied depending on the types of learners being served, the goals of the organisation and the developmental training programmes for all members and staff of the organisation. Then there is the special role of learning institutions that must ensure their clients receive the best practice learning for the various intended qualifications.

In MET, all learning and training programmes prepare the learner for certification and licensing under very strict regulatory requirements. The ultimate goals are to ensure learners become competent to the minimum standards prescribed under the IMO standards for seafarers training and certification (STCW Convention 1978 as amended) for maintaining watches at sea and to perform correctly and competently at all times in all weather and conditions at the work place. The work place for mariners is mobile and has its own management, administration, commercial interests and applications. It will travel the world, serving its clientele in the most efficient, profitable means and manner within its control and the operators' objectives.

Any reference to general training that does not meet up to the prescribed performance standards in accordance with competency based education, training and assessments (CBETA) in an outcomes based education (OBE) environment must be scrutinised carefully. The correct interpretation of the learning that must be delivered and assessed must effectively provide the learning outcomes that satisfy the standards of competency. This effectively means delivery and development of each competency or skills sets that make up the competency must at least comply with,

1. The dimensions of competence
2. Stages of learning and developing competency
3. Provide the correct volume of learning i.e. knowledge and practice content to fit the purpose
4. Ensure knowledge and practice content fits the desired performance encompassing the psychomotor domain to demonstrate capability and ability in accordance with the performance criteria for the respective determined standard of competence
5. Ensure each affective performance is performed with the correct attitude in the various determined applications and conditions of the work place
6. Ensure assessments meet the rules of assessment and critical evidence collected meets the full performance criteria at all times



**Figure 1 - An LMS will be able support an organisation's HR Capital & training and development sector**

7. Monitoring and recording, updates, upgrades and maintenance of the competences for the prescribed and determined qualifications in accordance with regulatory requirements of the maritime industry and associated industries
8. A national/international repository may be incorporated in the system
9. Anything less than the above constitutes a failure in the LMS.

This brings us to a critical learning development in MET as we interphase into the digital age and innovations that accompany the sudden on-rushed digital disruptions in learning, doing and professional practice of seamanship and navigation. These disruptive innovations become trendy and perhaps even dangerous as we begin to navigate in unknown or murky waters for the average seafarer and most distractedly, the MET teachers, trainers, instructors, mentors and facilitators of learning. These people now have to rapidly update, upgrade, modernise and become "experts" in MET. This is an entry into another dimension of situational awareness that is not being properly handled, particularly the development of the MET educator and facilitator, both organisational and the individual. More importantly is that these teaching professionals are still in infancy when providing modern educational needs in outcome based education and competency based learning. It is only in the last 10 years (less in many jurisdictions) or so that MET has begun moving from traditional knowledge based pedagogy to competency based andragogy and outcomes based education. These disruptions encourage the use of latest information technology (IT), media based learning (heutagogy). However, these disruptions have also had the tendency to create short cuts, insufficient diligence and rigour in methodology for delivering courses of training that lack well-designed evidence-based assessments tools and methodologies. These shortfalls will not satisfy competency standards that must be measured by standard performance criteria. Many are still subject oriented without identifying the required volume of learning and praxis to attain the requisite performance in accordance with the agreed competency standards. Choosing a well-designed LMS to ensure an organisation can operate and provide development, training and assessments and the administration thereof effectively, efficiently with integrity is vital.

A well-structured LMS can assist an organisation to manage its operations. In Fig 1, it shows how a maritime organisation can manage (minimum) its workforce and keep them well developed and trained within a continuous improvement system.

It is imperative that with so many vendors out there selling their off the shelf systems that MET does not fall into the marketeers' rush dragging the MET industry into their market place in the guise of constructive disruptive innovations for MET and the greater industry.

## Disruptive Innovation

So let's take a look at what disruptive innovation means to us.

With reference to Harvard Business Review, HBR's article on disruptive innovations, it states that despite broad dissemination over the last twenty years, the theory is misunderstood and vendors flood the market with digital programmes to prospective customers who really also don't know better.

Most MET institutional customers are looking for a "cheaper and quicker" way to provide training. They will be sucked in at a very high rate of knots by the slick marketeers. An easy market, as many do not know how sophisticated CBETA and OBE is and the slick marketeers very quickly customise their LMS (without depth) to meet the needs by manipulating the language. To date only the very well informed have purchased models of an LMS that meets CBETA and OBE. Many LMS software exist in the guise of electronic learning methods and/or e'Learning. The disruptive innovation has taken off. Some will learn from their mistakes and eventually reach a reasonable model but many others will not succeed and cause confusion. Results may become detrimental to the profession.

Just to recapitulate, disruption describes a process whereby a lesser company or organisation with fewer resources is able to challenge established incumbent businesses or processes. Entrants that prove disruptive begin by successfully challenging those overlooked areas
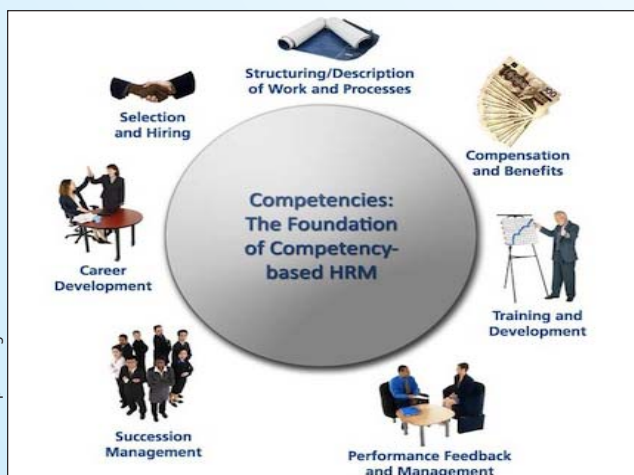
or segments, gaining a foothold by delivering services or goods that replace other established ones. It may or may not work for everyone. When mainstream customers start adopting the entrants' offerings in volume, disruption has occurred.

We have seen this happen (off site) with simulators, inter-active video and web based programmes replacing (on site) real-time experiential learning on ships and institutions i.e. face to face facilitation, instruction and hands-on work-based learning. These digital learning programmes are also on board ships(work-places), replacing the mentor, coach and experienced senior officer. Feedback report drops in competence of seafarers and you wonder why? The innovative disruptions are in place, good and bad. Only the MET industry can oversight these issues and problems. Many will ignore them. Many will not know what to do.

In this digital age – internet of things IOT, the industry has indirectly empowered the learner to self-manage and self-determine his/her learning whilst at sea. What many do not understand is that for this to happen, learners must first realise responsibility and accountability, learn to learn and discover what their appropriate learning style(s) is/are. One size does not fit all but at institutions, teachers and facilitators must ensure that prior to sending off their protégés to sea, they must facilitate the skill of learning to learn and how to be responsible learners first.
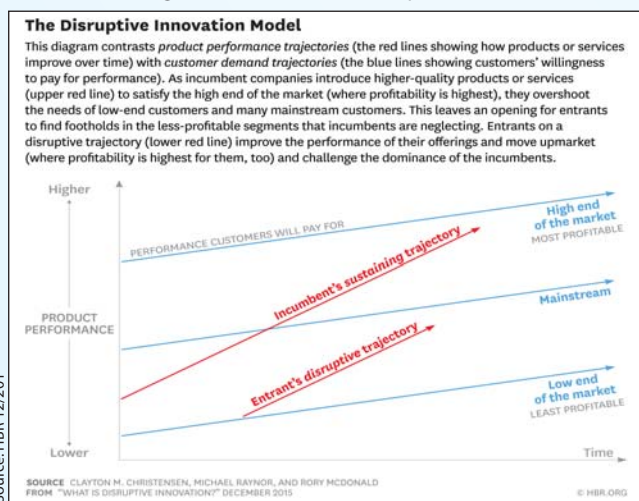
### The Disruptive Innovation Model

This diagram contrasts *product performance trajectories* (the red lines showing how products or services improve over time) with *customer demand trajectories* (the blue lines showing customers' willingness to pay for performance). As incumbent companies introduce higher-quality products or services (upper red line) to satisfy the high end of the market (where profitability is highest), they overshoot the needs of low-end customers and many mainstream customers. This leaves an opening for entrants to find footholds in the less-profitable segments that incumbents are neglecting. Entrants on a disruptive trajectory (lower red line) improve the performance of their offerings and move upmarket (where profitability is highest for them, too) and challenge the dominance of the incumbents.

Source: HBR 12/201

**Figure 2 - Disruptive Innovation Model**

### Mistakes

To avoid making too many mistakes let's look at one of the Needs Analysis models below. The analysis will address at least the following information

1.  What type of learners? It is imperative you don't subscribe to training programmes that don't suit your purpose or standards
2.  Who will you be training? Some categories include
    a.  MET learners only.
    b.  Are they high school students preparing for matriculation or an academic degree.
    c.  Mixture leading to both professional licensing and baccalaureate degrees
    d.  Work force – how, when, why etc.
    e.  What is your Learning environment and learning spaces?
3.  How many learners?
4.  Frequency of training?
5.  What is your current technological infrastructure?
6.  What branding?
7.  Hierarchal management system or otherwise?
8.  Sign in/out policy
9.  How many portals?
10. What are your current training and assessment procedures, processes and tools? Note that it must be andragogy per CBETA/OBE standards based, learner centred and not knowledge based, wholly instructor led as in most LMS structured courses. This connotes intensive adherence to standards based delivery and assessment methodologies (validated) that demands the "Full Monty" on rigour and rubrics that goes beyond minimum pass marks. It is imperative to have fulfilment of the universally agreed performance criteria with the full range of conditions to satisfy. These assessments must be backed by universally agreed critical evidence not by some one's secret questions and marks awarded.
11. What are your plans for the future?
12. What will be your Content Management System design?

13. What sort of mobile devices support needed?
14. Will you be selling your training content (e'Commerce)?
15. Learning content – do you design your own? Sampling dry runs….

Make your decisions based on at least one needs analysis model. Add or exclude any other points to consider. Your LMS should at least have the following features:

**BRANDED LEARNING EXPERIENCE**
Brand with your organisation's colours, logo and images to ensure that users feel an immediate connection.

**USER DASHBOARD**
The user dashboard allows users to see a holistic view of their learning. A progress bar provides an enrolment snapshot including assigned learning and status of enrolments. Users can be rewarded with badges on completion of learning.

**ENHANCE YOUR LIBRARY**
House all your different types of learning.

**INTEGRATION WITH HRIS (HR INFORMATION SYTEM) AND ENROLMENT AUTOMATION VIA FTP (FUNCTIONAL TRAINEE PROGRAM)**
You can sync payroll information into your human resource management system. Business rules can be applied to automatically enroll learners into courses based on their user roles.

**MANAGE USERS AND LEARNING**
You can view all users, the learning that they have been assigned and the status of that learning. You can also assign and approve learning with just a few clicks.

**SEARCH FOR AND REQUEST LEARNING**
You can search for courses by using keywords or tags. This allows you to locate and request learning and for managers to be notified of learning requests.

**REPORT ON LEARNING**
Creation of custom reports with a variety of parameters to view what is important for your organisation. You can then export these reports in a PDF or Excel format.

**VIEW LEARNING TRANSCRIPT**
You can view learning transcripts for your team, your division or for your entire organisation, including the status of all learning events.

**CAPTURE EXTERNAL OR BLENDED LEARNING**
Create and assign external learning, for example workshops and face-to-face events, as well as external certifications. This allows you to have a central location for all learning items for easy tracking and reporting.

### Preliminary Conclusions

Nothing in the above list is omitted in your paper driven quality management system. Your LMS in software format will replace your hard copy paper driven documentation. Is this what you want? If so start the process.

Learning is a critical technology. Start using technology to help you?

### Further Reading

www.accordlms.com Buying an LMS. Accord LMS.

www.talentlms.com What is an LMS/Definition and Uses – Talent LMS (2016)

Christensen, Raynor & McDonald (2015). What is Disruptive Innovation? HBR 12.2015

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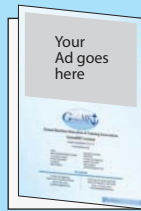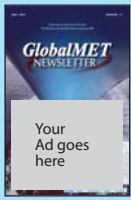
### Author

Capt Richard Teo FNI FCILT MAICD
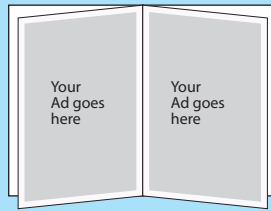MSc MIM GDBus BTeach/Voc Ed-Adult Dip(QA) TAE, Reg. Teacher

**By**  **Capt. Richard Teo**
FNI FCILT MAICD

# Global Maritime Education & Training Association

# GlobalMET Limited

Australian Company Number 103 233 754

www.globalmet.org

Chair:
Capt Pradeep Chawla
Anglo-Eastern Univan Ship Management
23/F, 248 Queen's Road East
Wanchai, Hong Kong

Executive Secretary:
Capt Richard Teo
P O Box 106, Burnie 7320
Tasmania, Australia
richteo@gmail.com

## Secretariat

1070 Tower B1 Spaze I-Tech Prak
Sector 49 Gurgoan 122002 India
Tel 91 124 45525 56/57
secretariat@globalmet.org