



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.

# NEWSLETTER

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## TRAIN, TRAIN, RETRAIN, RETAIN!

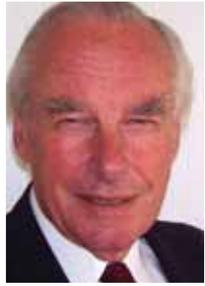


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# Editorial

## Great to Have This Input

It is a pleasure to be able to advise that putting this newsletter together was relatively easy. Some writers provide good material without any need for it to be solicited. Others respond positively and promptly to a request for an article. While some of the material is of an academic nature, the overall impression is more one of practical people – the sort of people we need to operate ships and to teach MET. While there is a place for a more academic approach, it is competence that is needed on board, coupled with an active, ongoing interest in industry developments.

Iman Fiqrie writes on the differences he's found between the firefighting techniques used on merchant ships and what he learned during his almost a quarter of a century of service as an officer in the US Navy. While he 'would rather not debate the merits of one service verses the other ... there is one area that continues to give me cause for reflection and that is firefighting!' He then describes seven ways in which they differ. While naval ships have larger crews than many merchant ships, reflection on these differences will help to improve firefighting on non-naval ships. In his 'Highlight' he asks 'Are You and Your Institution Having an Impact?'

Mahendra Singh, understandably, given his long service as a Chief Engineer, in his articles on lubricating oils and on watchkeeping, expresses concern about some former routine engine room practices being 'forgotten for quite some time'. With respect to watchkeeping he refers to watchkeepers listening to loud music and, for the engineers, 'the bad tendency not to move out of the control room and check things physically using the senses of smell, touch and hearing.'

Alan Loynd, Chairman of the International Tugmasters' Association, after commenting on the inadequate provision of specialised training for the people who operate modern, hi-tech, very powerful tugs, advises that the ITA is liaising with the Nautical Institute and other interested parties with a view to reaching consensus on a recognised system of tugmaster

training. He does not expect it to be an easy path to go down, but an essential one. In the meantime, even more powerful tugs are being brought into service.

George Oommen, in his article about 'The Gap - Taking a Critical Look at Modern Education and Making a Case for Extended Sea Time', sees lack of 'prolonged exposure to the required training' as a cause of gross errors in judgement and he lists some – chart corrections not done, parallel indexing not used, VHF calls not answered ... He also mentions the limitations and lack of understanding of OBE (Outcome Based Education). 'OBE looks good on the outside but it seriously lacks the ability to compensate for lower sea-time requirements.'

Richard Teo, fresh from helping to initiate the GlobalMET-TKF-MAAP program *Bridging the Gaps Between STCW Standards and Course Delivery* in the Philippines, advocates more Action Reflection Learning (ARL) in which learners are treated as responsible adults and teachers move away from the traditional teacher-centred approach to one that is learner-centred. 'The learning process is best carried out at the work place with colleagues, peers and the on-board "Leadership" in a structured and practised manner and then reinforced if necessary at the learning centre ashore ...' Yet we have a system that does it the other way round – more time on-campus and relatively short sea service to qualify!

The remaining article, the report by the Maritime and Port Authority of Singapore on the three collisions and oil spills during the first two month of the year is included because it very clearly underscores the urgent need to improve navigational safety in increasingly crowded waters.

Enjoy reading and thinking about these welcome, constructive articles on MET

*Rod Short*  
Executive Secretary

# 25 Years of Firefighting: Use of Thermal Imagers, Fire Boundaries and Communications

by  
**Iman Fiqrie Bin Muhammad**  
 (LCDR, USN ret)

Lecturer, Malaysian Maritime Academy

I retired from the U.S. Navy as a Lieutenant Commander (LCDR) with more than 23 years of honourable service in 2005; married locally here in Malaysia and subsequently joined Malaysian Maritime Academy in early 2007. As such, I'm constantly asked about the differences in the U.S. Navy and Merchant Marines. I would rather not debate the merits of one service versus the other, however, there is one area that continues to give me cause for reflection and that is firefighting!



**Figure 1 – Typical U.S. Navy firefighting team at the nozzle**

When asked about the differences between Navy and Merchant, the short of my answer is --not much, as when there's a fire onboard ship, the fire doesn't really care if the vessel is Navy or Merchant! Of course I'm aware people are most likely referring to topics dealing with IMO, STCW and such. As a lecturer and trainer in the Modular Offshore Safety Department (MOSD), there are several significant differences in the way firefighting is done in the Navy as opposed to merchant in general which come to mind that I wish to highlight-- I believe this is the responsible thing to do: (1) the use of the thermal imager to quickly assess the situation and gain synergy of firefighting efforts; (2) the additional person of the Attack Team Leader (ATL) along with the nozzle man and hose man, giving up close tactical insight and quick decision making capability at the source of the fire; (3) communications equipment built into the mask of the BA, multiple sound powered phone options, and installed cabling to allow the use of walkie-talkies below decks and throughout the ship; (4) the setting of primary and secondary fire and smoke boundaries, essentially quickly establishing containment of the fire; (5) the use of investigators and other personnel from firefighting repair lockers pre-staged forward, mid-ships and aft ran by a repair locker leader that implements trained firefighting TTPs (tactics, techniques and procedures); (6) the use of plotting in the stages of the fire and firefighting efforts using pictograms and message blanks from the scene and repair locker that backs up other communications; and finally, (7) the use of full PPE, i.e., flashhoods as in a real fire those up close and personal with the fire will most likely face extreme heat and temperatures.

All of the aforementioned are critical and significantly aid in the process of detection, containment and extinguishment of a fire in a timely manner-- mitigating the chance of the spread of the fire and potential catastrophe; the aforementioned appear not to be practiced in merchant shipping industry as I've witnessed to date. Most discussions usually revolve around this not being

the Navy and something to do cost, etc.; 4,000-5,000USD for a thermal imager as compared with millions of dollars worth of potential damage and loss of life without a thermal imager-- the return on investment (ROI) appears to be a "no brainer"? Figure 2 gives a small glimpse of what can be seen right away upon entry into the fire hazard by the ATL.



**Figure 2 – Sample thermal imager views of hot spots, personnel and flames**

As for the use of thermal imaging in U.S. Navy firefighting efforts, this tool and asset has been in use in the Navy for more than twenty five years now that I've personally witnessed onboard both submarines and surface combatants; it saves lives and excessive damage to ships! People are our most important asset and prime consideration!

The statistics when a fire breaks out onboard vessels suggests that damages will be significant if not a total loss. The additional team member in the ATL can manage, communicate, direct efforts, troubleshoot fires, hot spots and downed personnel; the thermal imager is a pivotal tool in that process; having used one or two during training, I can personally attest to that. One argument against usage is that merchant ships don't use them, talk about them so why use them in training? As it is with many innovative topics in MET, e.g., e-learning, institutions could better lead rather than lag innovation by multiple decades; Michael Porter's Five Forces Model discusses internal and external forces that institutions and businesses should be doing to help them continue to be a going concern (stay in business) well into the future and also well worth the read; firefighters should come to MET to "sharpen the saw", revalidate and become rejuvenated in lieu receiving the same information 20 plus years dated. Waiting for the Marine Department, ship owners, etc., to tell MET to innovate isn't leadership as I've learned it in the U.S.Navy!

In summary, people wonder what it takes to be world class - well this article just discussed much of that, however, I'm under no illusion that this short article will be palatable, acceptable or adopted by the merchant service as cause for direct change, but again, felt it compulsory to share seafaring experiences across disciplines with firefighting from a U.S. Navy perspective given that fire is indifferent as to Navy or Merchant. I've listened for several years now, facilitate the merchant view and believe I can articulate the merchant TTP quite well. The first step in any potential way forward is to first understand to other's point of view as well as your own! Then, all things are possible!

## Lubricating Oil Analysis

By Chief Engineer Mahendra Singh



It is a good practice that lubricating oils in use on board in various machinery be sent to the laboratory for analysis every 3 - 6 months as prescribed in the Instructions and Procedures Manual of the shipping company. All Lub Oil suppliers now provide testing kits which we must ask for and make use of.

On board test of Lub Oil should be carried out for water percentage and viscosity and the Chief Engineer should preferably conduct these tests jointly with the Third Engineer.

Analysis of scraped oil from cylinders is also an on board test which myself with the Third Engineer carried out jointly on mv Liberty Sea in 2007 but I must confess that we did not get any uniform convincing results, partly due to our unfamiliarity with the equipment and largely due to unsatisfactory collection of samples by both of us together.

Good and clean collection of samples from correct points is the key to success.

Most of the Lub Oil suppliers give instructions with the stickers to be affixed at the sampling points but, whatever you do, unless you collect samples together with the junior, the results will not be of any benefit. Two things the Chief Engineer must do with the junior engineer: filling of the Oil Record Book and Collecting the Lub Oil samples.

Caring for Lub Oil in circulation should be done very passionately. We were taking over mv Pooja from a Hong Kong Chinese crew and the old Second Engineer of that good vessel always ('always' he told us) engaged turning gear after Finished with Engines is rung and turned the engine a few turns with Cylinder Lubrication for

maneuvering kept "ON". You need lot of self discipline to be able to keep doing this every time.

The extent of cylinder lubrication is a matter of judgment. Check the under piston spaces before these are cleaned. Calculate the cylinder oil consumption during performance testing of the engine and keep it just a little more than prescribed in the manuals. After cleaning of the under piston spaces, check the piston rings through the manifold. When you increase the cylinder lubrication after the cylinder overhaul, do not forget to revert back in steps. In many cases this has been forgotten for quite some time. We must understand that there are other factors which also effect liner wear such as starting air not being dry or scavenge temperature maintained too low.

The Lub Oil transfer pump is the least used pump on the ship and yet it is in the survey schedule whereas viscotherm is not. No body bothers about drainage of the moisture from the main engine air coolers. Now there is no time, but earlier we used the Lub Oil transfer pump to draw out dirty oil from the main engine sump bottom. We should keep the ME sump level sufficiently high in the case of oil cooled pistons and regularly replenish with fresh oil on a monthly basis (about 1000ltr in a 500 plus running hour month). We must take care that no water leaks into the sump from leaky manhole door joints or from holed crankcase breather pipes on deck. This, normally, is a neglected item.

As a consequence of the VGP legislation of the USCG, the use of environmentally acceptable Lub Oil in all oil-sea interface, such as for wire ropes, bow thrusters, rudder bearings and stern tubes will come into use on board. Similarly, improved on-board test equipments will also come in the market and we must keep pace with new developments.

## Tugmaster Training (or the Lack Thereof)

By Captain Alan Loynd



Captain Alan Loynd is a seafarer and former salvage master who is currently chairman of the International Tugmasters Association. He is also a former Captain Superintendent of the Tuvalu Maritime School and now runs a marine consultancy in Hong Kong.

For their size, modern tugs are among the most powerful and sophisticated vessels afloat. They come in a variety of configurations – tractor, ASD, conventional, rotor tugs etc. – and their control systems are complex and varied. They operate in close proximity to other vessels, and often in very crowded waterways, so you would expect there would be some specialised training for the people who operate them, but you would be wrong.

The reality is that anyone with an appropriate certificate can be thrown onto a tug and sent off to escort, berth and unberth seagoing ships with no special training whatsoever. Decent operators and well-regulated ports would never countenance this, of course, but sadly there are plenty of ports and plenty of operators who see nothing wrong in doing so.

It should also be obvious that sophisticated vessels need well-trained crews to operate them to their full potential, yet in many ports the only form of training is of the ‘monkey see, monkey do’ variety, where the bad habits of one generation are passed on to the next, and nobody knows enough to change the system.

Members of the International Tugmasters Association (ITA) have seen numerous examples of port authorities, pilots and tug companies which do not know how to get the best out of their tugs, or even how to operate them safely and effectively.

In addition, harbour tugs can often be operated by people holding only a local certificate of competency, and some of these are so basic that they do not prepare the holders to face the sort of high-level scrutiny they will encounter after an accident. Many tugmasters have only limited knowledge of the Collision Regulations, the use of radar and other aids, navigation in fog, interaction forces or many of the other challenges they will face, yet when things go wrong they are judged by the standards of the finest legal and professional brains available.

The situation is particularly worrying because there are now some excellent competence-based training programmes available, and some very realistic tug simulators, yet the people who invest in these forms of training are probably the ones who need it the least.

In debating these problems, members of the ITA have tried to consider the realities of the situation. Marketing hype may claim almost magical properties for a particular design, but as operators we think we are in a good position to comment upon the strengths and limitations of most of them. Anyone who believes all the claims is doomed to disappointment, so there is a need for operators and users to understand the advantages and limitations of each tug type. To select a tug that is fit for purpose requires a careful study of manoeuvrability, visibility from the wheelhouse, ergonomics, towline type and towing points, and a host of other factors which will determine the most suitable design for a particular port or task. Sometimes, it may even be necessary to compromise in order to select a design which will perform a variety of tasks well.

To select the most suitable tug is complex and to purchase good tugs is expensive, yet having devoted so much time and money to acquiring the vessels, it is depressing how few owners devote even a small proportion of their budget to training their crews to operate the new vessels effectively. Why should they, when most

tugs are too small and too local to be covered by STCW or any international regulations?

There are some encouraging signs, however. The United Kingdom is introducing MSQ-based (vocational) tug certificates, and although these will not include a requirement for tugmasters to demonstrate practical tug handling ability, it is a good start.

In addition, the UK Port Marine Safety

Code requires ports to adopt best practices. Ensuring they have suitable tugs with qualified crews would seem to be a form of best practice, but the Code does not specifically mention it.

The ITA would like to go even further. We would be happy if STCW-type regulations were introduced specifically for the towage industry, and specifically for the various tug configurations and the various tasks which tugs perform. We favour a Formal Towage Endorsement which includes both theoretical and practical training, and prepares tugmasters for the hazards they may encounter.

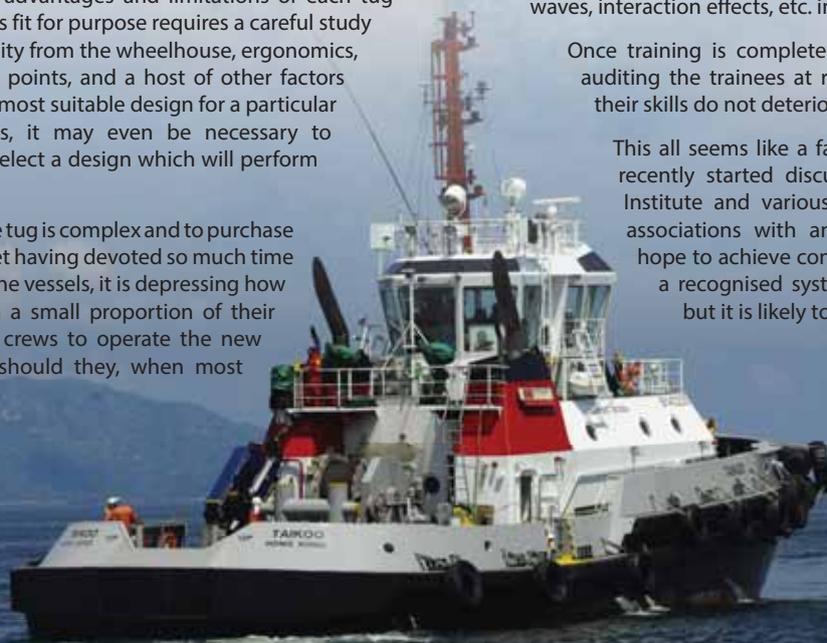
Theoretical training could include topics such as:

- Capabilities and limitations of the specific tug to be trained for
- Tug stability (basic theory)
- Ship manoeuvring capabilities and limitations and forces working on a ship (all basic theory)
- Tow line handling and tow line care
- Safe and effective communication procedures
- Safe speeds for passing a towline near the bow or stern
- Safe approach procedures
- Interaction
- Safe escorting speeds
- Safe procedures during restricted visibility, squalls etc.
- Lessons learned from accidents
- Emergency procedures
- Dealing with equipment failures and breakdowns

Practical training would put these lessons into effect, but the trainers would need to be highly experienced in the specific type of tug, and fully conversant with its advantages and limitations. They would also need to be skilled trainers, of course. In addition, simulators used for tug master training should be carefully validated to ensure that they represent the real world situation, such as with respect to tug and ship manoeuvring models, the effect of wind, current, waves, interaction effects, etc. in the best possible way.

Once training is completed, we favour a system of auditing the trainees at regular intervals to ensure their skills do not deteriorate.

This all seems like a fairly tall order, but the ITA recently started discussions with the Nautical Institute and various professional bodies and associations with an interest in towage. We hope to achieve consensus and move towards a recognised system of tugmaster training, but it is likely to be a long, hard road.



## The Gap - Taking a Critical Look at Modern Education and Making a Case for Extended Sea Time

By  
**Capt. P. George Oommen**

Head, Nautical (Pre Sea)  
 Malaysian Maritime Academy (ALAM)



### Introduction

Various industries world-wide contend that their new employees are not ready to do the job and the 'Maritime Industry' is no stranger in making such criticism. A good number of people in the industry claim that maritime schools are not doing enough to address the problem. Is this accusation justified? Is the cause of the problem stemming from poor training on board or poor training ashore? Or, do we need to look at the way human beings are viewed by 'technocrats'? This paper aims to look at the issue of 'competency gaps' identified amongst newly minted officers and the reasons for it.

Pedagogically speaking, it would seem that we have the right formulas in place to produce the required professionals. However, there are too many 'pedagogues' in education who impose fixed methods to teach. That in itself suffocates 'critical thinking' not only amongst students but also some teachers. Only the brave would dare to abandon pedagogy espoused by 'pedagogues'.

### Identifying the problem

The gap – what is it? An apparent inability to perform tasks that the certificates of competency (C.O.C) declares, that individuals are able to do. Chart correction not done, Parallel indexing not used, VHF calls not answered, Pilot books not corrected, Temporary & Preliminary corrections done in pen – these gross errors in judgment are not due to a lack of training but a lack in *prolonged exposure to the required training* and in many cases it is purely a neglect of duties that the officer knows, have to be carried out and that, is due to fatigue.

What is needed is competency, what is provided is the framework for the competency (good though very idealistic) and the gap is not necessarily poor training but inadequate exposure. A 60 year old Master can mentor a cadet till he attains the required competency without the '*idealistic*' elements of today's teaching methods. If the Master was offered a mate from a nautical college, he would prefer to have his mentee as the 3rd officer even if he is without a CoC, - although the rules will not allow him to do so. This is not to belittle the efforts of maritime colleges but to press home the point about getting *sufficient practical exposure*.



### Literature Review

When engaging with the seafarers (junior ranks) of today, there is an absence of an appreciation of what was covered during their earlier years at the maritime schools and the sea. A critical look needs to be taken at the way modern teaching and learning is done.

'Outcome based education' (OBE) is not the cure for all the malaise that affects the various industries today. It is a formula that has limitations. Most obviously, it cannot compensate a lacuna in practical exposure. A vast group of trainers worldwide have claimed that today's teaching methods can create the professionals the industry needs. If this contention is really true, we would not be having complaints about today's maritime professionals. The fact that Global Met and SeaDrive 13 felt the need to address the gap is testimony to the failure of OBE.

'Mastery learning' and OBE (a variation of 'mastery learning') which have been around for decades and is the base for today's teaching method has failed to do what it claims it can do - teach '*Higher Order Thinking Skills*' (HOTS). However, the unfounded implications are that the teachers have misunderstood 'ML' and 'OBE'. The gap is not new, the gap existed long ago but it has become wider, with shortened practical exposure.

*Wilhelm Wundt*, was a psychologist who theorised that man is 'devoid of character' and their minds, mere apparatuses that respond to stimuli (James F. Tracy, 2012). To classify an individual as 'devoid of character' is to consider us as robots, as these do not have character. Robots are under the control of its manufacturer. Robots operate within perimeters decided by its programmer. Under this assumption, your thoughts are established by pedagogues and not any other possible sources that are considered desirable. OBE raises the spectre of who decides on the *values, attitudes and beliefs* (Phyllis Schlafly 1993). Humans do respond to stimuli. However, they are capable of more than just responding to it. They are able to judge things from a higher vantage point than what modern education presumes.

'Critical thinking' is the ability to use all *available knowledge* within one's self to provide solutions in any situation that he or she comes into. A person with critical thinking is able to rationalise things. It would be good to consider that not all knowledge is good. Some of them we definitely can do without. Under the current system, we have 1 year at the college, 1 year at sea and finally, 1 year back at the college before sitting for written exams and the orals. We had OBE at all these stages. The gaps still show.

*"OOWs automatically call the master if they see a light when they're on watch. You might expect to have this in restricted waters, low visibility or tricky conditions. But alas, we're talking about routine, deep sea, clear weather and on first sighting".*

*Dr. Chris Haughton (2013)*

The scenario above is typical today. The officer has gone through 3 years of training with ML/OBE methods. He was supposed to have applied the rules of the road (R.O.R) and thought rationally with all the training provided. The certificate of competency declares that he is able to handle the situation but it proves otherwise. This has been happening for not ten or twenty years but for much more. To handle a situation such

as above, the affective domain needs to be enhanced and that enhancement can only be effected more successfully through prolonged exposure to practical knowledge. It has got to do with confidence building and confidence building has got to do with time. Fear is in the affective domain - The taxonomies have not been helping here and will not help. New Officers of watch (OOWs) over the years have been in a state of fear. When one is in a state of fear, basic knowledge goes out of the window & common sense fails.

On board surveys reveal a lack of confidence amongst many of the recently commissioned officers. Companies have returned to having fourth and junior third officers. Seniors feel that youth today have been pushed through the regime too quickly without really mastering the skills to man the ship (Ship Talk Survey 2009).

OBE has been considered as a failure in nations such as the United States, South Africa and Australia (Phyllis Schlafly 1993/ Bert Olivier 2009/Australian Conservative 2013). Mariners claim to be a different breed of people- A breed of people that challenges norms and tests boundaries. This being the case, it would seem odd that we conform too much for our own good as far as educating seafarers are concerned. Seafarers pride themselves at solving issues at sea by ingenuity but that ingenuity has been developed by being out there for long years. Theory cannot compensate for what is lost in practical training.

Dwelling a little deeper into OBE principles would reveal that traditional exams are not part of the system (Phyllis Schlafly 1993). This would mean that choosing between candidates for our institutions would be difficult. Students who have the potential to develop to higher levels will have their wings clipped all in the name of progressing together.

Progressing together sounds good but the standards set are 'dumbed down'.

### Conclusion

There has been a call to enhance mentoring on board. Among the most important reasons for trainees to go on board besides getting hands on experience, is to be mentored by experienced personnel. The contention here however is that one year will not give you enough mentoring opportunities. A ship only plying between anchorage & port for one year will give a poor array of elements to be tried, tested and mentored on. There will be no opportunity to plan and monitor an ocean going voyage. With extended sea-time, there will be an opportunity to go on different types of ships and routes. If there was a missed chance on board the first ship, the next vessel should be able to provide it. Extended sea-time would allow trainees to make mistakes in a controlled environment - there will be ample time to make up for mistakes. Most of all, *character & confidence* building which are vital for a man's make up can take place.

OBE looks good on the outside but it seriously lacks the ability to compensate for lower sea-time requirements.

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## Highlight

### Are You and Your Institution Having an Impact!

by  
**Iman Fiqrie Bin Muhammad**  
(LCDR, USN ret)

Lecturer, Malaysian Maritime Academy

As professionals, we should try to strive to have an impact on the discipline with which we serve—be it Marine Engineering, Nautical Studies, Oceanography or basket weaving! By writing scholarly articles and engaging in research to ranked journals, attending prestige conferences, etc., the institution's "Impact

Factor" can be determined utilizing resources like Web of Science <http://thomsonreuters.com/scholarly-scientific-research/>. According to Web of Science, its Journal Citation Reports (JCR) "supports a **systematic, objective review** of the world's leading journals. Using a combination of **impact and influence metrics**, and **millions of cited and citing journal data points...**" — see for yourself; ([http://wokinfo.com/products\\_tools/analytical/jcr/](http://wokinfo.com/products_tools/analytical/jcr/)).





## Outcome of Investigation Findings into Marine Incidents and Measures to Enhance Safety of Navigation in Singapore Port Waters and Singapore Strait

Following the three collision incidents<sup>[1]</sup> resulting in oil spills which took place in the Singapore port waters and Singapore Strait early this year, the Maritime and Port Authority of Singapore (MPA) conducted investigations to determine the causes of the incidents. MPA also formed a Safety Review Committee (SRC) to review the overall system of navigational safety in Singapore's port waters and Singapore Strait. Members comprised experts from MPA, Ministry of Transport, the local academia and shipping industry.

### Key Findings

The findings of the investigations showed that human error and poor judgement of the situation was the main cause of the three collisions. There was lack of situational awareness of the bridge teams, including the pilots, although MPA's Port Operations Control Centre (POCC) had provided advisories and warnings of the traffic situation to the bridge teams. The bridge teams also did not make use of all available means at their disposal, such as the Automatic Identification System (AIS), Automatic Radar Plotting Aid (ARPA), Radar, and Electronic Chart Display and Information System (ECDIS) to avoid the collisions. Appropriate disciplinary actions will be taken against the members of the bridge teams, including the pilots, for contravening the relevant regulations.

The SRC also reviewed the overall regime of navigational safety in Singapore's port limits. The SRC found no significant increase in the number of incidents between 2007 and 2013, nor was there apparent correlation in the occurrence of incidents and growth in vessel movements in the Singapore Strait or port waters. The number of incidents over the last few years remained low and averaged about 0.012 and 0.016 per 1,000 vessel movements in the port waters and Singapore Strait respectively. The existing systems and procedures put in place by MPA have helped to keep the incident rates low.

### Key Follow Ups

Notwithstanding, the SRC recommended adopting the following key measures to further enhance the safety of navigation in the port and in the Singapore Strait:

i. Instilling a strong safety culture

MPA should work with the industry to develop an integrated safety management framework to drive the overall efforts to promote a strong culture of safety awareness, including

the conduct of regular safety briefings to the shipping community.

ii. Enhancing communication and information sharing

PSA Marine should enhance the information sharing between pilots and ship masters, including the timely dissemination of passage plan to the ships. There should also be procedures for its pilots to follow when communications failure occurs between the pilots on converging ships, or between the Vessel Traffic Information System (VTIS) and their ships.

iii. Improving safe passage in high risk areas

MPA's VTIS should consider providing more active advisories to vessels navigating at high traffic density areas in the port of Singapore and in the Singapore Strait. MPA should also work with the shipping community to ensure ship masters are present on the bridge when their ships are transiting critical areas in the Singapore Strait.

To implement the above measures and ensure efforts are sustained, MPA will form two working groups:

i. The MPA-PSA Marine Safety of Navigation Working Group.

ii. The MPA-SSA (Singapore Shipping Association) Safety of Navigation Working Group.

MPA will also be shortly launching a Safety Campaign with the shipping community to raise the level of awareness on navigational safety. It will also review and improve navigational safety in critical areas such as key fairways and pilot boarding grounds.

### Shipping Community Briefed at the Navigational Safety Dialogue Session

MPA organised a dialogue session this morning with the shipping community to update them on the investigation findings of the incidents, and measures to enhance the safety of navigation in the Singapore Strait and Singapore's port waters. More than 150 representatives from the shipping community attended the dialogue session, including shipowners, ship managers, ship charterers and shipping agents, who have direct channels to convey the safety messages to the ship masters and officers.

MPA Chief Executive, Mr Andrew Tan said, "MPA places a strong emphasis on the safety of navigation and takes a serious view of

any incidents in Singapore waters. Moving forward, we will work more closely with all our industry partners to review our safety management procedures and implement additional measures to enhance navigational safety. We will also not hesitate to take appropriate actions against those who infringe our safety regulations."

Mr Patrick Phoon, Chairman of the Safe Navigation and Environment Committee of the Asian Shipowners' Forum and President of the Singapore Shipping Association (SSA) said, "We welcome the efforts taken by MPA and the Safety Review Committee to look at the causes to these incidents holistically. The SSA will work closely with MPA to implement the recommendations from the Safety Review Committee to enhance navigational safety within our port waters and the Singapore Strait."



**Capt M Segar, Assistant Chief Executive (Operations) MPA, speaking to the shipping community at the dialogue session**



**More than 150 representatives from the shipping community attended the dialogue session.**

End of Release. Singapore, 29 May 2014

[1] The three incidents were:

29 January 2014: Between Fei He, a China-flagged containership, and Lime Galaxy, a Hong Kong-flagged chemical tanker.

30 January 2014: Between NYK Themis, a Panama-flagged containership and a barge, AZ Fuzhou that was towed by tug "AZ Carnation"

10 February 2014: Between a Liberia-flagged containership Hammonia Thracium and Panama-flagged chemical tanker Zoey.

## Good Watch Keeping

By **Chief Engineer Mahendra Singh**



In a recent report, it was mentioned that a bridge watch keeper was not paying attention even when the visibility was not very good; he did not call the master and he himself was busy in listening to loud dance music on his mobile phone. Masters generally do not object strictly to the use of mobile phones while on duty for the fear of getting un-popular. They want to be in good books of their junior officers.

In engine room watch keeping, the bad tendency is not to move out of the control room and check things physically using the senses of smell, touch and hearing. In many cases they tend to over protect themselves vis-à-vis noise protection and therefore miss many fault indications. It is desirable to wear ear protection but this is more necessary while working near the turbochargers and other such machinery producing shrill sound that irritates rather than wearing it all the

time and at places where intensity may be normal.

There is a marked tendency of not seeing the boiler water level from local position but only from remote glass in the engine control room. That is why the practice of blowing through the gauge glasses has almost vanished.

We read too much discussion regarding use of heavy fuel oil and diesel oil. It is true that environmental concerns must be addressed but 1% Sulphur fuel (Low) is quite okay in almost all SECA areas and 0.1% LSGO good enough on berths in these areas. There is no point in discussing endlessly if the cut off date should be 2018 or 2020; let this work for say 5 years and in the meantime devote attention to good maintenance. For, example, if you keep your injection viscosity 13-14 Cst at the injector, things will be reasonably okay but if you actually check, half of the

vessels may not be having Viscostherm working

properly. It was pointed out earlier that this equipment be made part of machinery survey but no action yet from IACS. They are doing a very good job, beyond doubt, but they must also pick up good suggestions raised through GlobalMET news letters. LT and HT temperature controllers for engine cooling water, steam dump condenser controller should also be included in the continuous survey of machinery items. In recent past, while sailing on some older vessels, the control of LT temperature (central cooling) has been taking most of our time. Such operational difficulties are not revealed to the class surveyor but he himself must try to unearth the problems faced on board by interviewing the crew and checking the log books.

# Action Learning – A Brief Understanding and Application in Maritime Education & Training

By Capt. Richard Teo FNI FCILT MAICD



## Introduction

When I was asked to write an article for the Newsletter, I realised I did not have any outstanding or interesting tale to tell nor any academic paper to present. There have been many technical and sophisticated innovations in maritime technology, ships' designs and specialised transportation in recent times. No matter how much importance we place on new innovations, ships, equipment and aids to assist the mariner at sea in the various functions and roles on board ships, the industry invariably suffers from lesser priority in the continuous professional development and progressive professional expertise of the people who serve and work on ships, the mariners. Some five decades have passed since I made my first voyage. Sadly, the reality is that very little has advanced in the way we recruit, develop, educate, train and sustain the quality of mariners. If anything, we seem to have backslid, bar a few simulation advances and less than exciting nor very productive off-site programmes. I believe in a greater emphasis on continuous professional development- CPD, praxis and lifelong learning. I will express a few pointers on Action Learning for MET to assist the mariners' learning.

## Maritime Education & Training - MET

Due to the enormous and diverse multi-cultural environment of the maritime transport and related industries in the supply chain, MET has not been consistent with the needs and demands of developing and educating mariners. It is generally practised and acknowledged by vessel/ship operators that the business of shipping has priority over the people who move goods across the oceans on ships directly growing and sustaining the business. A negative culture like this is not acceptable, nor encouraged in most organisations and industries where the human resources and work force are appreciated and recognised to contribute substantially to the wellness (health) and wealth of the businesses. This negative culture influences the manner in which ships are manned and crewed by the majority of ship operators. Crewing costs inadvertently face the axe whenever there is a down turn. This culture also fuels sub-standard provision and supply in the crewing and manning industry, contributing to unhealthy competition, cheap under trained crewing and oversupply by some supplier countries. Generally, there is a perceived drop in quality of skills and workmanship on many ships.

The STCW 1978 code presented an opportunity to improve the development, training and sustainability of seafarer knowledge, skills and competences. A further intervention by IMO (STCW 1995 amendments) instituted Competency Based Education Training & Assessments, CBETA. This was an innovation in learning and assessments strategies to improve the standards for training and benchmarking competences (performance standards) of seafarers. Most OECD countries had begun instituting CBETA for their Technical and Vocational Education Qualifications frameworks due to shortfalls in the trades and technical workforces in the push for their knowledge economy. The training for seafarers did not embrace CBETA, in its entirety preferring in the majority of institutes to continue with traditional pedagogy with the teacher-centred delivery of courses. This likelihood fuelled and enforced the "reproduction of information, privileging examinations learning" (Koo 2013). Professor Koo's study, literacy in education indicated this trend as being caused by top-down transmission of knowledge.

## Adaptation of Action Learning

**Action Learning**, involves working on real problems, focusing on learning and actually implementing solutions. It is a form of learning by doing.

This short article reveals that in the maritime industry, experiential development and training have become quite neglected in favour of cramming Information, privileging examinations learning. It will delve briefly into the way we can actively develop the mariner by action learning (Revans 1998, 2011). Action Learning, AL is a vital component in Competency Based Education, Training & Assessment, CBETA, where learners actually gain knowledge and skills, developing these into the competencies that are required or mandated in industry standards of workmanship, such as the STCW Code 1978, as amended. This is not a new concept as it is embedded in the Code as mandatory sea-time. This sea-time is a work based learning and practice period where each and every mariner working towards their respective Certificate of Competency, CoC, must learn, develop knowledge and skills to perform in the positions on board competently from Cadet to Master and/or Chief Engineer. Yet surprisingly Maritime Education & Training, MET proponents, industry and regulators have chosen to neglect this component and divest this activity to landed facilities, which try to emulate and replicate the actual performance requirements on board ships by simulation (a replication that still has a long way to go to provide sufficiency in the outcomes for competency) and cramming (memorising and rote) for written and orals examinations. This cramming, it is argued does not necessarily produce competent mariners. Feedback shows that most of these learnings are soon forgotten on re-joining the fleet. Why is this so?

Learning involves doing and action learning enables us to best master whatever unknown challenges appears by working and learning at the work place with others who seek to triumph in the same way. The learning process is best carried out at the work place with colleagues, peers and the on-board "Leadership" in a structured and practised manner and then reinforced if necessary at the learning centre ashore with the proper use of competency based education, training & assessments methods.

In this article, I will refer to Reg Revans work and the later follow-up by other prominent researchers and educators. Revans pioneered action learning at the coalmines of the National Coal Board in UK, then the largest employer in the world in 1945. Here he had to write the training and educational plan for them. Revan's law (Erik 2005) states, "For an organisation to survive, its rate of learning must at least be equal to the rate of change in its environment". Many other countries engaged him to provide learning projects including the National Health Authority in Belgium. Since then Action Learning is used across the world for continuous development of employees by prominent firms like GEC, Motorola, ICI, Texaco, Prudential just to name a few.

**Action Reflection Learning (ARL)** was developed from Revan's work at MiL Institute (<http://www.mil institute.se/en/>) in Sweden and later USA and UK.

People learn from practical, real life situations more than in any other way. There is nothing more effective for personal learning than oneself getting to grips with and being responsible for sorting out a concrete dilemma. We learn infinitely more from putting our own words on what we do than from what we hear others talk about. The point with ARL, Action Reflection Learning, is to acquire an attitude towards and method for "thinking and cogitating" upon your own concrete experiences and attempt to draw conclusions that can be carried forward into new situations. ARL is to experience, reflect upon and generalise from, that is to say three phases of one common process...

Source: MiL Institute



MiL philosophy includes the following:

There are sixteen elements to ARL:

1. Taking ownership for one's learning
2. Just in time intervention
3. Linking
4. Balanced Task/Learning
5. Guided reflection
6. Feedback
7. Unfamiliar environments
8. Exchange of learnings
9. Appreciative approach
10. Safe environments
11. Holistic involvement of the individual
12. Learning and personality styles
13. Coaching one on one
14. Sequenced learning
15. Learning coach
16. Five system levels

These sixteen elements are then imbued with the ten learning principles:

1. Relevance – learning is optimal when the focus of the learning is owned by, relevant to, and important and timely for the individual
2. Tacit knowledge – Knowledge exists in the individuals in implicit, often unaware forms; it is often under – or not fully utilised and can be guided through guided introspection.
3. Reflection – the process of being able to thoughtfully reflect upon experience is an essential part of the learning process, which can enable greater meaning and learning to be derived from a given situation
4. Uncovering, adapting and building new maps and mental models – the most significant learning occurs when individuals are able to shift the perspective by which they habitually view the world, leading to greater understanding (of the world and of the other), self-awareness and intelligent action
5. Social learning – social interaction generates learning
6. Integration – people are a combination of mind, body, feelings and emotions and respond best when all aspects of their being are considered, engaged and valued.
7. Self-awareness – building self-awareness through helping people understand the relation between what they feel, think, act and their impact on others, is a crucial step to greater personal and professional competence.
8. Repetition and reinforcement – practice brings mastery and positive reinforcement increases the assimilation.
9. Facilitate learning – a specific role exists for an expert in teaching and learning methods and techniques which can help individuals and groups best learn.
10. Systemic understanding and practice – we live in a complex interconnected, co-created world and in order to better understand and tackle individual and organisational issues, we have to take into account the different systems and contexts which mutually influence one another and effect these issues.

Some of the benefits of Action Learning and Action Reflection Learning are:

**Individuals** benefit from:

- Having the opportunity to reflect
- Practising the postponement of judgement, providing an opportunity for new connections and answers to arise
- Receiving support and challenge in relation to specific issues
- Being held accountable for actions and their impact
- Setting goals, developing options and taking action that would not have been possible working on their own
- Learning to listen carefully, ask powerful questions and offer ideas, without telling others what to do
- Learning about group dynamics and how to contribute effectively within a group.
- Adult andragogical learning principles (Knowles 1984) apply and Learners are treated as responsible adults and learn and practice as adults

Source Erik (2005)

**Organisations** benefit from:

- Staff who can listen to, and work with, others
- People who take responsibility for their actions and the impact of those actions

- New perspectives on real issues - often leading to breakthroughs on long-standing issues
- Enhanced confidence to bring about change
- Greater self-awareness
- A clearer understanding of how learning occurs
- Reduced stress

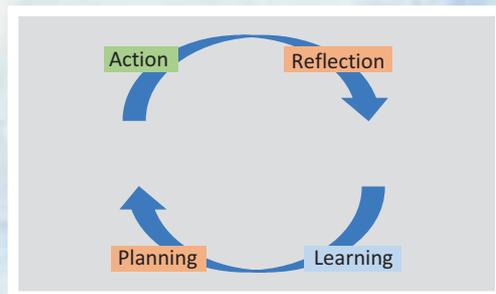
Learners are treated as responsible adults and in this regard traditional pedagogy (child education) gives way to andragogy (adult education). The learning and doing must be self-managed to a high degree of discipline and teachers move away from a teacher-centred hierarchy to the learner-centred environment, where they facilitate the transfer of knowledge and skills to a fellow team player.

### TKF Workshop Manila March 28 to May 2, 2014 at MAAP

A workshop based on ARL was successfully conducted recently in Manila for stakeholders in MET. The recent TK Foundation sponsored workshop at MAAP in Manila, received representatives to discover, identify and analyse the gaps in competencies of mariners from stakeholders comprising 12 member institutes plus the National MARINA. A comparative study of the STCW code and current industry needs was made. These shortfalls were identified through collaborative and participatory inquiry activities engaging Action Reflection Learning (ARL). The participants then wrote learning and assessment strategies to bring forward and recommend the actions required to ensure that the MET standards and the administration of the issue of marine qualifications would be world class. This would then assist the Nation on the recognition of Philippine qualifications that would halt the EU- EMSA derecognition threats. The second and final phase of this programme will include the Intervention Policy and Strategies for inclusion in the National Curriculum for MET, to be presented to key stakeholders in November 2014.



### An Action Reflection Learning Set



Adapted from Revan's Action Learning Set

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