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**ENHANCING PRODUCTIVITY IN MET BY
MEASURING LEVEL OF KNOWLEDGE
ON STCW 2010 MANILA AMENDMENTS
AMONG ACADEMICIANS IN A MARITIME
UNIVERSITY, PHILIPPINES**

Sarinas, Brian Gil S.*; Balayo, Neptali C.; Gellada, Lorna D.

John B. Lacson Foundation Maritime
University
Philippines

Abstract. This study delved into the level of knowledge on STCW 2010 Manila Amendments as a way to enhance productivity in maritime education and training (MET) among academicians specifically Master Mariners and Chief Mates of John B. Lacson Foundation Maritime University-Arevalo, Iloilo City, Philippines during the first semester for school-year: 2014-2015. The instrument was adopted from Solas et al. (2013), revised, and underwent content validity. Results showed that generally, Master and Chief Mates had very high level of knowledge on STCW 2010 Manila Amendments. Furthermore, there was no significant difference in the level of knowledge on STCW 2010 Manila Amendments among Master and Chief Mates. Since these academicians have high level of knowledge on STCW 2010 Manila Amendments, this can be a first step to enhance productivity in teaching maritime education and training (MET) such as high board exam performance and skillful seafarers. Furthermore, these academicians must always update themselves since they are vectors of information and they are at the front line in producing competent seafarers.

***Corresponding author**

Phone: (033) 336 07 21

e-mail: bg_sarinas@yahoo.com.

1 INTRODUCTION

Seafarers play an important role in maritime industry. The International Maritime Organization (2010) divided them into three levels, namely, management level, operational level, and support level.

As we all know, seafaring is a profession where accidents are inevitable. That is why, the competence of seafarers is the most crucial factor to consider for safety of the crew, ship operation, and environment (ISF and ICS, 2011). The standards of competence among seafarers are highly stipulated in the IMO Convention on Standards on Training, Certification and Watchkeeping (STCW) for Seafarers. However, in 2010 during a diplomatic conference, the Manila 2010 Amendments were adopted to ensure that the STCW Convention and Code are applicable to seafarers in enhancing their seafaring skills through adequate trainings (IMO, 2010; ISF and ICS, 2011). In the Manila 2010 Amendments, the nine key new trainings requirements based from ISF and ICF (2011) are: changes to competence tables, leadership and teamwork, training record books, mandatory security training, refresher training, tanker training, new seafarer grades and certification, medical standards, and prevention of unsafe alcohol use (.05% blood alcohol level or .25 mg/L alcohol in the breath).

The other amendments include the number of rest hours from 70 to 77 hours and 10 resting hours in 24 hours period (ISF and ICS, 2011), marine environmental awareness training, training to cope with pirate attacks, training on polar waters, and training for operating Dynamic Positioning System (STCW Online, 2011).

Chae (2014) discussed the challenges of STCW Manila Amendments to the Far East and suggested solutions such as joint on-board training center, joint Asia maritime e-learning systems, methods to reduce workload, ship inspection burdens and determine mandatory minimum safety manning standards in a safe way, technical cooperation fund to installation of training equipment, and clarify vague terminology of STCW Manila Amendments.

This study aimed to determine the level of awareness of academicians specifically Masters and Chief Mates of JBLFMU-Arevalo on STCW 2010 Manila Amendments and to find out if there is a significant difference in the level of awareness on STCW 2010 Manila Amendments between Masters and Chief Mates of JBLFMU-Arevalo during the first semester for school-year 2014-2015.

2 METHOD

2.1 Purpose of the Study and Research Design

This survey aimed to determine the level of awareness on STCW 2010 Manila Amendments among academicians specifically Master and Chief Mates at JBLFMU-Arevalo during the first semester of school-year 2014-2015.

2.2 Respondents

The respondents of this study were the academicians specifically the Master and Chief Mates of John B. Lacson Foundation Maritime University-Arevalo. Complete enumeration was used to collect data from the respondents.

2.3 Instrument

The instrument was adopted from Solas, Erdao, Pangulong, Valdez, and Villanueva (2013) on STCW 2010 Manila Amendments. This was revised and underwent content validity from experts. The responses were "Highly Aware," "Fairly Aware," "Moderately Aware," and "Unaware."

2.4 Data Collection

Once the questionnaires were answered by the Master and Chief Mates, data were recorded or tallied for descriptive and inferential analyses.

2.5 Data Analysis

The following descriptive and inferential tests were used:

1. Mean was used to determine the level of awareness on STCW 2010 Manila amendments:

<i>Mean Scale</i>	<i>Description</i>
3.44 to 4.0	Very high (Amendments are fully mastered)
2.83 to 3.43	High (Amendments are very satisfactorily mastered)
2.22 to 2.82	Moderate (Amendments are satisfactorily mastered)
1.61 to 2.21	Low (Amendments are fairly mastered)
1.0 to 1.60	Very low (Amendments are poorly mastered)

2. Standard deviation was used to get the homogeneity of the responses.

3. Mann-Whitney U test was used to test for the significant difference of the level of awareness on STCW 2010 Manila Amendments when respondents were classified according to Masters and Chief Mates set at .05 level of significance.

3 RESULTS AND DISCUSSION

The level of awareness of Masters on STCW 2010 Manila Amendments is “very high” which means that they had fully mastered the Amendments.

On the other hand, Chief Mates exhibit “very high” awareness except for the statement, “Each tanker man category will have two levels: Basic (currently called assistant) and Advanced (currently called person-in-

charge)” which is “high” which means that they had a very satisfactory mastery of the Amendments.

However, when taken as a whole group, academicians exhibited “very high” awareness except for “Electro-Technical Officer and Electro-Technical Rating were established, particularly in the passenger ship industry, in contribution for career development and improve the flexibility of roles on-board” which is “high”. Table 1 show the results.

Table 1 Level of Awareness on STCW Manila 2010 Amendments Among Master, Chief Mates, and When Taken as a Whole Group

Statements	Master Mariner			Chief Mates			As a Whole Group		
	Mean	Description	SD	Mean	Description	SD	Mean	Description	SD
1. The STCW 2010 Manila Amendments are applicable to all seafarers starting January 1, 2012.	3.67	Very High	.71	3.86	Very High	.38	3.75	Very High	.58
2. There is a need for deck officers to be competent in the use of Electronic Chart Display and Information System (ECDIS) and for engine officers to be able to operate pollution prevention equipment.	4.0	Very High	.00	4.0	Very High	.00	4.0	Very High	.00
3. In order to increase substantial competence of deck and engine officers, requirements related to leadership, teamwork, assertiveness training and managerial skills must be taken.	3.67	Very High	.50	4.0	Very High	.00	3.81	Very High	.40
4. It will be mandatory for all deck and engine rating trainees to demonstrate competence through the use of on-board training record books with completion to be supervised by officers responsible for the on-board training.	3.78	Very High	.44	4.0	Very High	.00	3.88	Very High	.34
5. All seafarers are required to provide evidence of appropriate level of competence in basic safety training (survival, fire fighting, first aid and personal safety) every five years to maintain their standards of competence throughout their careers.	4.0	Very High	.00	4.0	Very High	.00	4.0	Very High	.00
6. Seafarers who hold certificates of proficiency in survival craft, rescue boats and fast rescue boats, and advance fire fighting will have to maintain their level of competence every five years.	3.89	Very High	.33	4.0	Very High	.00	3.94	Very High	.25
7. The following subjects will be added to Personal Safety and Social Responsibilities (PSSR): communication, control of fatigue, and teamwork.	3.56	Very High	.53	3.57	Very High	.79	3.56	Very High	.63
8. There are comprehensive trainings in oil, chemical and gas tanker operations at both basic and advanced levels.	3.56	Very High	.76	3.57	Very High	.79	3.56	Very High	.73
9. Each tanker man category will have two levels: Basic (currently called assistant) and Advanced (currently called person-in-charge).	3.67	Very High	.71	3.43	High	.98	3.56	Very High	.81

Statements	Master Mariner			Chief Mates			As a Whole Group		
	Mean	Description	SD	Mean	Description	SD	Mean	Description	SD
10. Extensive trainings and certifications for the new grades of Able Seafarer Deck and Able Seafarer Engine are unfolded to enhance navigational and engine watch rating requirements.	3.78	Very High	.44	3.86	Very High	.38	3.81	Very High	.40
11. Electro-Technical Officer and Electro-Technical Rating were established, particularly in the passenger ship industry, in contribution for career development and improve the flexibility of roles on-board.	3.56	Very High	.53	2.0	Low	1.15	2.88	High	1.15
12. Medical fitness standards and requirements for certification are developed to aid seafarers on health concerns.	3.89	Very High	.33	3.86	Very High	.38	3.88	Very High	.34
13. For prevention of unsafe alcohol use, there is a specific limit for seafarers drinking liquor of 0.05% blood alcohol level or 0.25 mg/L alcohol in the breath.	3.67	Very High	.50	4.0	Very High	.00	3.81	Very High	.40
14. Seafarer's minimum rest period in any seven-day period is increased to 77 hours from 70 hours.	3.44	Very High	.73	3.57	Very High	.53	3.50	Very High	.63
15. Seafarers must now have at least 10 hours rest in any 24 hour period.	3.77	Very High	.44	4.0	Very High	.00	3.88	Very High	.34
16. It is mandatory to maintain records of each individual seafarer's rest hours which will be checked during Port State Control inspections.	3.56	Very High	.53	3.71	Very High	.76	3.63	Very High	.62
17. Seafarers holding STCW certificates issued prior to January 1, 2012 will have to meet the new requirements, including refresher trainings, in order for their certificates to be revalidated beyond January 1, 2017.	3.56	Very High	.53	4.0	Very High	.00	3.75	Very High	.45
18. By January 1, 2014, all seafarers will have to be trained and certified with security-related matters which include anti-piracy elements and to know the operations during security-related emergencies and contingency procedures.	4.0	Very High	.00	3.86	Very High	.38	3.94	Very High	.25
19. The training that will need to be refreshed by an approved method are: Proficiency in Survival Craft and Rescue Boats, Advanced Fire Fighting, Basic Safety Training, Fast Rescue Boat, and Medical Training.	3.67	Very High	.50	3.86	Very High	.38	3.75	Very High	.45
20. The included three levels of security training in the amendments are: Level 1 – Security Awareness, Level 2 – Person with Security Duty, and Level 3 – Ship Security Officer.	3.66	Very High	.50	3.43	Very High	.53	3.56	Very High	.51
Grand Mean and Standard Deviation	3.72	Very High	.45	3.73	Very High	.37	3.72	Very High	.46

Note: Means, descriptions, and standard deviations are interpreted horizontally. Legend: Very high – 3.44 to 4.0; High – 2.83 to 3.43; Moderate – 2.22 to 2.82; Low – 1.61 to 2.21; and Very low – 1.0 to 1.60.

4 CONCLUSIONS

This study concludes that academicians specifically Masters and Chief Mates generally had very high awareness on STCW 2010 Manila Amendments. This could be a link in enhancing productivity in maritime education and training (MET) such as high board exam performance and skillful seafarers.

Furthermore, there was no significant difference in the level of awareness on STCW 2010 Manila Amendments among Master and Chief Mates.

It is recommended that professional instructors must update themselves of the STCW 2010 Manila Amendments since this is the guide of seafarers in attaining competency in seafaring profession.

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