Evaluating English Syllabus for Maritime Vocational School: Towards Redesigning a New Syllabus[1]

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Abstract

The English syllabus provides the students at the Maritime Vocational Schools (MVS) with necessary Maritime English (ME) competence compatible with the International Maritime Organization (IMO) curriculum, or the Indonesian Seafarers Quality Standard System (QSS) Curriculum (adapted from the IMO, in an Indonesian context). The gap in the ME learning process which represents a crucial problem in the Indonesian MVS is the availability of a syllabus for the subject. This study aims to evaluate the existing ME syllabus from the 2013 Curriculum for the MVS. This evaluation seeks to discover whether the given syllabus fulfills the real demands of the workplace by comparing it with the competencies presented by the QSS Curriculum. The result of this evaluation is to redesign ME competencies according to the international maritime workplace requirements. Observations, questionnaires, and interviews regarding the English competencies used on board ship were utilized to gather qualitative and quantitative data. The results indicated that (1) the current ME syllabus is acceptable for six out of the eight competencies proven to be needed for deck officer class IV, and (2) a new ME syllabus consisting of fourteen ME competencies according to the 2013 curriculum, The results of a needs analysis in the maritime workplace is proposed.

Resumen

El plan de estudios de inglés de las Escuelas Profesionales Marítimas (MVS) brinda la competencia necesaria en Inglés Marítimo (ME) compatible con el plan de estudios de la Organización Marítima Internacional (OMI) o el Plan de estudios del Sistema de Normas de Calidad para Marineros de Indonesia (QSS) (adaptado de la OMI, para el contexto de Indonesia). La brecha en el proceso de aprendizaje de ME que representa un problema crucial en las MVS de Indonesia es la disponibilidad de un programa de estudios para la asignatura. Este estudio tiene como objetivo evaluar el plan de estudios de ME existente del Currículum 2013 para las MVS. Esta evaluación busca descubrir si el plan de estudios actual cumple con las demandas reales del lugar de trabajo comparándolo con las competencias presentadas por el Currículo QSS. El resultado de esta evaluación es rediseñar las competencias de ME de acuerdo con los requisitos internacionales del lugar de trabajo marítimo. Se utilizaron observaciones, cuestionarios y entrevistas sobre las competencias en inglés utilizadas a bordo del barco para recopilar datos cualitativos y cuantitativos. Los resultados indicaron que (1) el programa de estudios de ME actual es aceptable para seis de las ocho competencias que han demostrado ser necesarias para la clase IV de oficiales de cubierta, y (2) un nuevo programa de estudios de ME que consta de catorce competencias de ME de acuerdo con el plan de estudios de 2013. Se proponen los resultados de un análisis de necesidades en el lugar de trabajo marítimo.

Introduction

"English as a lingua franca" (ELF) has been broadly used in global communication. Considering this fact, the International Maritime Organization (IMO) has established that English should also be lingua franca in the maritime domain (Dissanayake, 2017). All seafarers should have the minimum standard of English competency according to IMO's Standards of Training, Certification, and Watchkeeping (STCW), for it affects the promotion and maintenance of working environments and safety of the crew, ship, cargo, and marine environment, ship-to-ship or ship-to-shore communication (Marselia & Hartono, 2017; Wu et al., 2016). This regulation does not cause trouble for native English seafarers; however, Indonesian seafarers consider English to be a foreign language, which is the main problem. Subsequently, Marcelia & Hartono (2017) stated that "the STCW 2010 requires the students to have a comprehension of satisfactory written and spoken English to explain charts, marine distributions, meteorological data, messages concerning ship security and operation, and satisfactory abilities to communicate with other ships and coast stations" (p.131).

Maritime English (ME) must be learned in the Indonesian Maritime Vocational Schools (MVS) to permit seafarers to communicate at sea. MVS need to equip the students with a certain English proficiency level for Maritime situations. ME proficiency consists of communicative competencies to develop seafarers' English proficiency to interact in the international maritime workplace based on STCW 2010. Furthermore, the ME proficiency in the Common European Framework of References for Languages (CEFR) level expected from seafarers who work as deck officers differs as described in Table 1.

[1] This is a refereed article. Received: 24 April, 2020. Accepted: 10 December, 2020.
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The Management & Operational Level Navigational Department	Level of CEFR for Language
Master	C1 Advanced
Chief Officer	B2 Upper Intermediate
Second Officer	B1 Intermediate
Third Officer	B1 Intermediate
Deck cadets	B1 Intermediate

Table 1: The CEFR Level of Deck Officer in Navigational Department. (Marlins, 2020).

To fulfill the seafarers' needs for their communication, ME should be a mandatory subject in maritime academies. Nevertheless, it is mentioned that both the graduates and the students perform poorly in oral and written English compared to students in other countries (Dirgeyasa, 2018). Hence, the graduates cannot successfully find employment since they are in competition with candidates from other countries (Directorate General of Sea Transportation of Department of Transportation, 2008). This issue might be caused by students' lack of motivation, an insufficiency of ME material, or an incompatibility between the material taught in school and the needs of the workplace (Dirgeyasa, 2018; Harlan & Johan, 2014; Majid et al, 2018). Therefore, ME materials should directly fulfill the needs of the workplace.

Indonesian MVS as the manifestation of Maritime Education and Training (MET) employ two curricula: the learning process of which is based on Indonesian Seafarers Quality Standard System Curriculum (QSS) and 2013 Curriculum. QSS is a specific curriculum established by the Minister of Communications, Minister of Education and Culture, and Minister of Manpower and Transmigration. It has distinct programs for different positions. For example, Deck Officer IV and Engineer Officer IV need different competencies in their work. This curriculum complies with the standardized IMO's STCW. Yet, the existing curriculum is applied generally in the sense that its prototype syllabus is used in all school subjects. Thus, there is no specific syllabus for ME. From 2013 to 2020, the 2013 Curriculum, which is issued by the Minister of Education and Culture, is standardized and used by all schools in general. This curriculum provides systematic syllabi for all courses required to be taught in Indonesian MVS, including ME.

The gap in the ME learning process which poses a crucial problem in the Indonesian MVS is the lack of a syllabus for the subject in question. The available ME syllabus does not refer to the official maritime regulation issued by IMO. For example, in Indonesian MVS, the ME competencies of the existing syllabus of 2013 Curriculum are not appropriate competencies for Deck Officer IV in the QSS Curriculum, which completely meets the regulation, but has no specific ME syllabus. Realizing this, the researchers investigated the current ME syllabus issued by the Minister of Education and Culture in the 2013 curriculum to reveal whether it meets IMO's STCW and the maritime workplace demands. The result of the evaluation is then used as the base for redesigning a new ME syllabus for Deck Officer Class IV (job position level for maritime vocational student graduates) which is compatible with IMO regulation.

Review of Literature

ME is English used as a tool for communication inside the worldwide maritime community in everyday schedules, contributes to commerce and to route security (Trenkner, 2000; Pritchard, 2002). ME is a mix of different subdomains according to the field or subject matter (nautical, logistics, technical, and legal) (Cole, Pritchard, & Trenkner, 2007). The purpose is additionally exceptionally wide, extending from maritime designing understudies, particular shipboard, and harbor discourse communities to oceanic secretaries. ME can be conceptualized as a recognized branch of English including such topics as route, marine building, marine communications, and ship's trade as well as diverse circumstances and settings (Pejakovic, 2014).

Pitchard (2000) suggests that "there are two approaches to the syllabus: the minimalist approach oriented to meet the minimum requirements of the STCW Convention 1978/1995, and the extended approach within which ME becomes a comprehensive educational subject" (p. 149). These two approaches of the syllabus can be used to fulfill the needs of English specific curriculum for Indonesia vocational schools (Sudarmo et al. (2016). Therefore, ME materials are designed using two approaches to fulfill the need for specific English materials and achieve the goal of mastering and applying the specific vocabulary of navigational maritime systems in written and spoken texts (Boshrabadi et al., 2015). Arini (2010) also adds that "students require ME materials for the four language skills: listening, speaking, reading, and writing to prepare their work in the international maritime workplace" (p. 17). The materials should provide students with the necessary language knowledge to use in the workplace so that the vocabulary taught is what they actually use in the workplace (Huong, 2018). Consequently, the two approaches must be used to design ME syllabus and materials to fulfill the need ESP materials for Indonesian maritime vocational schools.

Concurrently, Indonesian MVS use two curricula involving the 2013 Curriculum and Indonesian Seafarers Quality Standard System (QSS) Curriculum. The QSS is the minimum standard for seafarer's education and training programs which is the adaptation of the Standard Training, Certification, and Watchkeeping for Seafarers 1995 (Quality Standard System, 2003). The Standard Training Certification Watchkeeping for Seafarers 95 (STCW'95) curriculum is a curriculum that is amended to be STCW 2010 (IMO, 2011). The STCW 2010 curriculum consists of understanding charts, nautical publications, meteorological information, messages concerning ship safety and operation, and adequate skill to communicate with other ships and coast stations, which obliges the students to have written and spoken English ability (IMO, 1995).

Currently, the graduates of maritime vocational schools receive opportunities to work in sea transportation services, port administration affairs, shipping company management, merchant ships, passenger ships, and maritime educational institutions. Therefore, proficiency in ME is highly needed. Developing a standard ME syllabus is one way to meet the requirement that students have high ME proficiency. Therefore, the existing ME syllabus should be examined to discover if it meets the standard in the international maritime workplace.

Methodology

Research Design

This is a qualitative descriptive study aiming to discover deck officers' needs and expectations to determine the required competencies they need. This is done by evaluating the existing ME syllabus and, if necessary, redesigning the ME competencies list to make it more appropriate to their real workplace demands and the Indonesian QSS. The study was designed to primarily describe the profile of the respondents and the competencies they need in the international maritime workplace. For this study, the qualitative research method enabled the researchers to obtain data about ME competencies in the international maritime workplace through observations of the deck officers while performing their duties in their work on passenger vessels, a questionnaire with Human Resources Development (HRD) and deck officers, and interviews with deck officers. The participants in this study were chosen randomly; they agreed to participate in the study voluntarily and ethical approval was obtained in their workplace. These processes resulted in the identification and classification of needs in the maritime workplace. In addition, the quantitative methodology was used to elicit frequency counts and percentage distributions of the profile of the respondents and the competencies they needed in the real maritime workplace. The evaluation of the existing ME syllabus was based purely on the HRD and deck officer evaluations and a report of their evaluations, which is a limitation of this study.

Locale of the Study

The study was conducted in two shipping companies and on a passenger vessel in Indonesia. The two Indonesian shipping companies were Meratus Lines Shipping Company and Pelni Shipping Company while the passenger vessel was Lawit ship belonging to the Pelni shipping company

Participants and Procedures

Participants of this study were seven respondents: three respondents from the HRD of the shipping companies and four deck officers on the Lawit ship of the Pelni Shipping Company. Specifically there were two HRD staff of Meratus Lines Shipping Company, one HRD staff of Pelni Shipping Company, a Deck Officer Class II, a Deck Officer Class III, a Deck Officer Class IV, and a Radio Officer on the Lawit ship of the Pelni Shipping Company. The respondents consist of two females and five males. All of the respondents had at least five years of work experience with different educational backgrounds.

Participants	Age	Educational background	Gender	Work Position	Years of working
Respondent Q.1	30	Bachelor of Psychology	Female	HRD	7
Respondent Q.2	32	Bachelor of Industrial Engineering	Male	HRD	9
Respondent Q.3	35	Bachelor of Maritime Applied Science	Male	HRD	12
Respondent Q.4	32	S2 Maritime Science (Navigation)	Male	Deck officer II	10
Respondent Q.5	30	D3 Nautica	Male	Deck officer III	8
Respondent Q.6	30	D3 Nautica	Female	Deck officer IV	7
Respondent Q.7	27	Bachelor of Electrical Engineering	Male	Radio officer	5

Table 2. Participant's general information

Data Collection Instruments

The study was descriptive. The instruments used were observation, a questionnaire, and an interview. The questionnaire was adopted from QSS syllabus competences of Deck Officer Class IV based on the IMO's Curriculum since their competences must align with the IMO's Curriculum. The observation was carried out with all deck officers of Lawit ship of Pelni Shipping Company. In this study, non-participant observation was used to examine activities at the maritime workplace. It took the researchers four days to observe ME communication used by the seafarers on board ship. The observation results were written as notes.

The questionnaires were administered to seven respondents: three respondents from HRD of two shipping companies (PT Meratus Line and PT Pelni) and four respondents of deck officers of a passenger ship Lawit ship of Pelni Shipping Company. The interviews were conducted with four respondents who were all deck officers of the Lawit ship of Pelni Shipping Company.

Data Analysis

As mentioned before, this study aimed to determine the competencies needed for seafarers, particularly, Deck Officers Class IV through the analysis of the result of the questionnaires and the interviews. Thus, this study covered qualitative data methods. To analyse the data, the results of triangulation were used to redesign new ME competencies. Creswell (2012) confirms that "triangulation combines the strengths of one type of method and neutralizes the weaknesses of the other to enrich the investigation" (p. 536).

Results

Evaluation of 2013 Curriculum's ME Syllabus

This research used three techniques to gather the research data: observation, a questionnaire, and an interview. The observation was conducted over four days on the Lawit ship of Pelni Shipping Company. This observation was focused on deck officers working on the ship and their on-board activities, particularly activities involving the use of English. The result lead to the conclusion that the working activities of a deck officer require frequent contact with English. Speaking and listening skills are used the most, while, reading and writing are observed in document reading and report writing. Specifically, listening and speaking skills were needed when the deck officers communicated (1) with other ships or docks, particularly, when the ship was sailing near the country's borders, and (2) with foreign passengers. Reading and writing skills were needed when (1) deck officers read how to operate tools and devices on the ship, and when (2) they wrote the identification signs on the ship devices (map, navigational system, radar, and radio). This latter occupation showed that to be able to work well with the devices, deck officers need to understand and at least be familiar with the vocabulary related to their environment.

Written English was also needed for the deck officers when writing up their reports. All deck officers regardless of the job position need to report their work activities and job responsibilities while on board ship. A navigator records the ship position frequently and other deck officers complete regular forms and documents; all the forms are in English. Reading skills are also important for the deck officer to understand maritime regulations and documents which are mostly written in English.

Besides the observation, the questionnaire was also utilized to collect the research data. The questionnaire was composed of two sections. The first section consisted of Yes/No Questions listing the competencies presumably needed in the maritime workplace adopted from QSS syllabus for Deck Officer Class IV. There were ten competencies distributed in 40 sub-competencies, the results of which are shown in Table 3.

No.	Competencies	Sub-Competencies	Yes	No
1	Plan and conduct a coastal passage and determine position	*Navigation Ability to determine the ship's position by use of (1) land marks, (2) aids to navigation, including lighthouses, beacons and buoys, and (3) dead reckoning, taking into account wind, tides, currents and estimated speed*	7	0
		Thorough knowledge of and ability to use navigational charts and publications, such as sailing directions, tide tables, notices to mariners, radio navigational warnings and ship's routing information	7	0
		Reporting in accordance with the Guidelines and Criteria for Ship Reporting Systems	5	2
		Ability to operate safely navigational aids and equipment commonly fitted on board the ships concerned	6	1
		Knowledge of the errors and corrections of magnetic compasses	6	1
		Ability to determine errors of the compass using terrestrial means, and to allow for such errors	6	1
		Knowledge of auto pilot systems and procedures and change over from manual to automatic control & vice versa; Adjustment of controls for optimum performance	7	0

		Ability to use and interpret information obtained from shipborne meteorological instruments	4	3
		Knowledge of the characteristics of the various weather systems, reporting procedures and recording systems	7	0
		Ability to apply the meteorological information available	6	1
2	Maintain a safe navigational watch	*Thorough knowledge of content, application, and intent of International Regulations for Preventing Collision at Sea*	7	0
		Knowledge of content of the principles to be observed in keeping a navigational watch	7	0
		Use of routing in accordance with the general provisions on ships' routing	7	0
3	Respond to emergencies	*Precautions for the protection and safety of passengers in emergency situations*	7	0
		Initial assessment of damage	7	0
		Action to be taken following a collision or a grounding	7	0
		Emergency steering	7	0
		Arrangements for towing and for being taken in tow	7	0
		Rescuing persons from the sea	7	0
		Assisting a vessel in distress	7	0
		Appreciation of the action to be taken when emergencies arise in port	1	6
4	Respond to a distress signal at sea	*Knowledge of contents of the IMO International Aeronautical Maritime Search and Rescue manual (IAMSAR)*	6	1
5	Manoeuvre the ship and operate small ship power plant	*Knowledge of factors affecting safe manoeuvring and handling*	6	1
		The operation of small ship power plants and auxiliaries	4	3
		Proper procedures for anchoring and mooring	5	2
6	Monitor the loading, stowage, securing, and unloading of cargoes and their care during the voyage	*Knowledge of safe handling, stowage, and securing of cargoes including dangerous, hazardous, and harmful cargoes and their effect on the safety of life and of the ship*	7	0
		Use of the International Maritime Dangerous Goods (IMDG) Code	7	0
7	Ensure compliance with pollution prevention requirements	*Knowledge of the precautions to be taken to prevent pollution of the marine environment and anti-pollution procedures*	7	0
		Anti-pollution procedures and all associated equipment	6	1
8	Maintain seaworthiness of the ship	*Ship stability* *Working knowledge and application of stability, trim and stress tables, diagrams, and stress-calculating equipment*	7	0
		Understanding of fundamental actions to be taken in the event of partial loss of intact buoyancy	2	5
		Understanding of the fundamentals of watertight integrity	3	4
		Ship construction *General knowledge of the principal structural members of a ship and the proper names for the various parts*	5	2
9	Prevent, control, and fight fires on board	*Knowledge of fire prevention*	6	1
		Ability to organise fire drills	7	0
		Knowledge of classes and chemistry of fire	6	1
		Knowledge of fire-fighting systems	6	1
		Knowledge of action to be taken in the event of fire, including fires involving oil systems	6	1
10	Operate life-saving appliances	*Ability to organise abandon ship drills and knowledge of the operation of survival craft and rescue boats, their launching appliances and arrangements, and their equipment, including radio life-saving appliances, satellite EPIRBS, SARTs, immersion suits and thermal protective aids*	7	0
		Knowledge of survival at sea techniques	7	0

Table 3: The results of maritime competencies adopted from QSS Syllabus (Quality Standard System, 2003, pp.116-132)

The analysis of the first section of the questionnaire shows that on 37 sub-competence items, more than 50% of the respondents gave positive answers and that the three sub-competencies that were given negative responses were *1) appreciating the action to be taken when emergencies arise in port, (2) understanding fundamental actions to be taken in the event of partial loss of intact buoyancy, and (3) understanding the fundamentals of watertight integrity*. Sub-competence (1) is part of a "respond to emergencies" competence. This competence in particular is composed of eight sub-competencies in total. One sub-competency gets the lowest positive answer rate in which only one respondent gave "yes" as the answer; the other seven sub-competencies received the highest rate of positive answer (all seven respondents answered 'yes'). Therefore, the "respond to emergencies" competence is still needed.

Two sub-competencies (ship stability and ship construction) are part of the competence of maintaining a ship seaworthy. This competence consists of two parts: ship stability (three sub-competencies) and ship construction (one sub-competence) . The rest of the sub-competencies of ship stability which are working knowledge and application of stability, trim and stress tables, diagrams, and stress-calculating equipment

was considered needed by the respondents (all respondents gave 'yes' as the answer). However, if the three sub-competencies of this part are summed, fewer than 50% of the answers indicated that the ship stability competence is not particularly needed in the maritime workplace. Regarding the second part of this competence, which is ship construction, only five respondents out of seven answered "yes". Therefore, this competence is still needed. Thus, the researchers conclude that the first part of "maintain seaworthiness of the ship" competence, which is ship stability, is not needed according to the respondents whereas the "ship construction" competence is needed.

Other sub-competencies consist of eight competencies consisting of 37 sub-competencies with more than 50% receiving a positive answer. Based on the respondents' answers, the researchers deduce that those eight competencies are needed in the maritime workplace:

- plan and conduct a coastal passage and determine position (navigation, navigational aids and equipment, compasses, automatic pilot, and meteorology),
- maintain a safe navigational watch, respond to a distress signal at sea,
- manoeuvre the ship and operate small ship power plant,
- monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage,
- ensure compliance with pollution prevention requirements,
- prevent, control, and fight fires on board, and
- operate life-saving appliances (Quality Standard System, 2003, pp.116-132).

These competencies were used to rearrange the ME syllabus.

An open-ended question of the second part of the questionnaire focused on gathering information on ME. The answers varied for the question, "According to the competencies, what ME competencies are needed by Deck Officer Class IV?" A respondent for the first question suggested that English for navigation and ship safety were specifically needed. She also believed that a seafarer should be able to understand all kinds of maritime regulations (IMO, MARPOL, ISM-Code, and ISPS Code) which are written mostly in English. This suggests that a seafarer should master at least adequate English skills.

In addition to working on a ship, seafarers need to write their resumes or curriculum vitae. Seafarers use English when some companies might require them. One respondent said that he had to write a resume or curriculum vita to get a job on the ship:

> *I wrote a curriculum vita when I applied for a job on the ship. My problem is I still lack to write a CV in English. Therefore, I ask my friend to translate my CV from Indonesia to English. Furthermore, CV is one of the important materials in teaching ME.*

Moreover, in terms of useful ME competence as a deck officer in the international workplace, the respondent stated that understanding training (safety training and fire training) and medical assistance procedures are important. English is particularly needed when one ship must communicate with other ships. In line with the answers of respondents to the fourth, fifth, sixth, and seventh questions, English for inter-ship communication is crucial. Additionally, respondents to the sixth question believe that seafarers should be able to understand IMO regulations which are written in English and ME in general. Meanwhile, respondents of the seventh question stressed that understanding basic training procedures and Global Maritime Distress Safety System (GMDSS) is essential.

The findings of this study have to be seen in the light of the limitations as the evaluation of the existing ME syllabus is based purely on the Human Resources Development and deck officers' own reporting of their evaluations. Therefore, the findings do not cover all ME competencies in the international maritime workplace. It can be perceived that those responses provided by the questionnaire respondents felt the need for general English and ME. For the aims of this research, the researchers will not analyse the answers related to general English. This research targets redesigning ME syllabus and general English material will be more or less embedded in the learning process. As a consequence, some answers which include understanding and mastering English grammar, pronunciation, skills, TOEFL/TOEIC test, and the Marlins test will be eliminated. The Marlins Test is the official English proficiency test for every cruise line in the world (Marlins, 2021).

The researchers conclude that there are ten ME competencies needed in the maritime workplace that will be processed for the further analysis. Those competencies are the need to (*1) read maps and navigation, (2) understand ship safety standards, (3) compose or write necessary documents to apply for a job, (4) understand training procedures (safety training, fire training, basic training), (5) understand the procedure*

of giving medical assistance, (6) comprehend and respond to distress signals, (7) understand inter-ship communication, (8) understand maritime regulations, (9) understand maritime registers, and (10) practice completing Marlins test.

Four participants were interviewed, all of them deck officers of KM Lawit of PT Pelni of the Indonesian Shipping Company. They were asked to answer two main questions: (1) whether or not the needed workplace competencies are in line with IMO minimum standard competence of seafarers, and (2) what English competencies are needed by a deck officer in the workplace. All of the respondents gave positive answers to the former question. This implies that they consider that IMO regulation on seafarers' competences fits the demand of the workplace.

Conversely, the answers to the latter question are quite varied. They only agreed on two points regarding the needed English skills in maritime workplace: (1) inter-ship and radio communication and (2) ship devices understanding. Respondent I.1 stressed the communication aspect. He believes that English is particularly needed when a ship must communicate with other ships, especially, those of other countries. Relatedly, respondent I.2 considered English for inter-ship communication is principally needed. He elaborated that ship officers are required to master listening and speaking skills for the purpose of communicating with other ships. However, the other two skills (reading and writing) were not taught. Reading and writing were also needed in order to understand ship-related documents. He added that English maritime material should be in line with Standard Marine Communication Phrases (SMCP):

> *I think SMCP is important to communicate in the ship, for example to communicate between ship to another ship, radio officers, and communicate between deck officers.*

Respondents I.3 and I.4 provided slightly different answers. They affirmed that English mastery was essential to understand ship conventions, manuals, GPS, AIS (Automatic Identification System), and radio communication. Therefore the results of the interviews suggested that ME is required in three areas: inter-ship and radio communication, document reading, and ship devices understanding. However, the second point, document reading, will not be examined further here since it is a part of the reading skill which will not be taught separately or formulated as a distinct competence item since it is embedded in the materials of every competence.

The result of the observation, questionnaire, and interview were used as the base in evaluating the current 2013 curriculum syllabus of ME issued by Indonesian Minister of Education and Culture. In this syllabus there are eight basic competencies: (1) describing the main parts of ship in speech and writing, (2) asking for and giving personal data, (3) describing the crew roles and routines on board, (4) describing job responsibilities on board, (5) giving instructions on ship's navigation, (6) explaining various drills on-board ships, (7) describing procedures in emergencies, (8) communicating in an emergency situation at sea. These competencies are presented to the student in one academic year (two semesters).

These competencies were then compared to the points considered important to be taught in ME course according to the results of our study. The comparison of competencies is taken from the 2013 curriculum syllabus of ME and is applicable in real-life work conditions for deck officers.

No	2013 Curriculum	Observation	Questionnaire 1 (QSS)	Questionnaire 2	Interview
1	*Discussing names of the main parts of a passenger vessel in speech and writing*	*Operating ship appliances*	*Maintaining seaworthiness of the ship (ship construction)*		*Classifying ship parts*
2	*Demonstrating asking for & giving personal data*			*Writing necessary documents of job application*	
3	*Distinguishing crew roles & routines on board passenger vessels*				
4	*Classifying job responsibilities on board*	*Report writing on work progress*			
5	*Analyzing instructions on board ship*		*Planning and conducting coastal passages and determine position*	*Reading maps and navigation*	
6	*Demonstrating various drills on-board ship navigation*			*Understanding training procedures (safety, fire & basic training)*	

7	*Discussing human behavior in emergencies*				
8	*Demonstrating communication related to crowd & crisis management in emergency situations*		*Respond to emergency Respond to distress signals at sea*	*Comprehending and responding to distress signals*	

Table 4: Comparison of the 2013 curriculum's ME competencies to observation, questionnaire, and interview results

The Table reveals that six out of the eight competencies listed in the ME syllabus of the 2013 curriculum match English competencies needed in the maritime workplace as mentioned by the respondents in the interview and questionnaire. The first competency in the 2013 curriculum shows that the students need to acquire familiarity with the main parts of the ship. In the QSS syllabus, which was used as the base in formulating the questions in questionnaire, part 1, it is stated that the students should understand the principal parts of a ship and the proper names of the various parts in the "maintain seaworthiness of the ship (ship construction)" competence. Respondents of the interview also stressed that a seafarer should be accustomed to ship devices including GPS, AIS, and radio communication. Those two competencies correspond to the 2013 curriculum of ME competence (1). Therefore, this given competence is indeed needed in the maritime workplace.

The similar conclusion is applied to 2013 curriculum competence (2). This competence points to the necessity of comprehending relevant expressions for giving and asking for one's personal data. The personal data here may be one's basic information (name, address, and date of birth.), educational background, or work-related information. No competence matches this depiction in QSS syllabus. However, one particular questionnaire respondent stated that the students of MVS should be competent at composing a resume, in which personal data must be included, to apply for a job. Thus, competence (2) is to be preserved in the ME syllabus competence list.

The 2013 curriculum competency (3) about describing the crew roles and routines on board have no matching competencies either in the observation, questionnaire, or interview result. As a matter of fact, the competency in question has a rather similar topic with competency (4) about job responsibility on board ship.

According to the elaboration of the syllabus, competency (5), which is "analysing instructions on board ship", is confined to navigational instruction. This competence matches the competence listed in QSS syllabus: plan and conduct a coastal passage and determine position. This competence is determining ship position, including understanding the work of navigational system. Yet, there are some points included in the subject area on this particular QSS syllabus competencies which are excluded from the 2013 curriculum syllabus competence: understanding the work of radar, compasses, automatic pilot, and possessing meteorology ability. The importance of this competence is also supported by the result of questionnaire part 2. A respondent stated in the answer to the open-ended question in the questionnaire that a seafarer should understand and know how to read a map and shipchart . Therefore, analysing instructions on board ship is one of ME competencies that is needed by the students of maritime vocational schools.

The competency (6) drill or training regarding various aspects of the ship is considered to be important; thus, it is included in the 2013 curriculum syllabus. There are seven drills featured in the given syllabus: abandon ship drill, fire drill, man overboard drill, oil/chemical spill drill, enclosed space entry procedure, flood, collision, and grounding drills, and emergency steering drill. There is no answer related to drills or training from the interview result and in the QSS syllabus (questionnaire part 1). Nevertheless, trainings have been mentioned by respondents in the open-ended question in questionnaire part 2. The respondents stated that a seafarer needs to understand the training procedures including general safety training, fire training, and basic training. The answer matches strongly with the competence description provided in the 2013 curriculum syllabus. Discussing human behavior in an emergency is proven to be unnecessary competence according to the data analysis results. Yet, the next competence which is also about emergency related competence is deemed to be needed competence for a seafarer.

On the whole, there are six competencies of the 2013 curriculum syllabus of ME that were reported as important for seafarer-to-be MVS students according to interview and questionnaire respondents. The other two competencies that have no support from the respondents can actually be merged into another competence that has a similar topic. However, there are still competencies considered to be important and needed in the maritime workplace for a Deck Officer Class IV that have not been inserted in the 2013

curriculum syllabus of ME. Thus, as the next step, the researchers will redesign the syllabus to accommodate those remaining yet necessary competences.

Discussion

The components of a syllabus must accord with the goal of the learning process. If the components in the syllabus are inappropriate, the desired goal of the learning process will likely not be achieved (Khan, 1999). Accordingly, ME learning will attain its target, which is providing the students with materials that meet the demands of the workplace, if the syllabus accommodates items that are in line with the said demands.

ME syllabus of the 2013 curriculum is in agreement with workplace needs since six out of the eight competencies (75%) presented in it deliberately meet the demands of the workplace. Yet, in fact the syllabus cannot accommodate all of competencies deemed to be important by a seafarer, particularly, a Deck Officer Class IV, according to the respondents' and researchers' observation. Thus, the researchers suggest redesigning the given syllabus to offer more complete materials for the maritime vocational school students.

There are at least eleven competencies extracted from observation, questionnaire, and interview results that have not been featured in the 2013 curriculum syllabus (see Table 5). Those competencies are regarding safe navigational watch, manoeuvring the ship and operating a small-ship power plant, monitoring the cargo handling, complying with pollution prevention requirements, preventing and responding to fire on-board, operating life-saving appliances, understanding medical assistance procedures, communicating between ships, understanding maritime documents, being familiar with maritime register, and completing the Marlins test successfully.

Questionnaire 1 (QSS)	Observation	Questionnaire 2	Interview
Maintain a safe navigational watch		*Understanding ship safety standard*	
Manoeuvre the ship and operate small ship power plant			
Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage			
Ensure compliance with pollution prevention requirements			
Prevent, control and fight fires on board		*Understanding training procedure (fire training)*	
Operate life-saving appliances			
		Understanding the procedure of giving medical assistance	
	Communicating with other ships, docks, and passengers	*Understanding inter-ship communication*	*Communicating via inter-ship and radio*
	Reading documents	*Understanding documents/regulations*	
		Understanding registers	
		Practicing Marlins test	

Table 5: Additional competencies from observation, questionnaire, and interview results

These eleven competencies are then merged with the competencies that have already been listed in the 2013 curriculum syllabus, eliminating unnecessary competencies, adding new crucial competencies, and combining competencies that are similar (refer to Table 6). The results of the study arrange fourteen competencies for the new redesigned ME syllabus for Deck Officer Class IV.

Identifying names of the main parts of a passenger vessel	*Demonstrating inter-ship communication*
Demonstrating asking for & giving personal data	*Identifying language related to anti-pollution procedures and all associated equipment*
Classifying job responsibilities on board	*Identifying language used to maintain a safe navigational watch*
Identifying various drills on board ship navigation	*Identifying language related to fire prevention, control, and fighting fires on board*

Identifying instructions on board ship (Determining ship position)	*Identifying procedures in handling emergencies and responding to distress signal*
Identifying language used to manoeuvre the ship and operate small ship power plant	*Identifying language related to life-saving appliances*
Identifying language used to monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage	*Identifying language related to the procedure of giving medical assistance*

Table 6: New competencies of ME for Deck Officer Class IV

There are two competencies in the original 2013 curriculum syllabus that are eliminated: (1) distinguishing between crew roles and routines on board passenger vessels and (2) discussing human behavior in emergencies. There are two reasons behind the removal. The principal reason is lack of support from the observation, questionnaire, and interview results which suggest that these two competencies are not particularly needed in the real workplace. Additionally, they share a similar topic with other competencies in the same syllabus. For example, distinguishing crew roles can be merged with classifying job responsibility competence since they cover the same topic which is what seafarers do on board ship with regard to their respective job positions. It is for this reason that competency of discussing human behavior in emergencies should not be separated from competency of crowd and crisis management in emergency situations.

Eight additional competencies are added to the new redesigned syllabus based on the result of observation, questionnaire, and interview; six of which are extracted from the questionnaire part one which is the adaptation of QSS syllabus for Deck Officer Class IV. Concerning the last three competencies listed in Table 6 (document reading, ME register, and Marlins test competences), even though they are deemed to be important by the respondents, they are not included as new competencies in the redesigned syllabus. This exclusion is due to the fact that document reading is definitely part of the reading skill which is delivered throughout the learning process regardless of the competencies. Furthermore, ME register competencies which relate to vocabulary enrichment and Marlins test competencies are also taught in the learning process. Consequently, there is no need to separate ME competencies in the syllabus.

Conclusion

Results indicate the following: (1) the ME syllabus of 2013 Curriculum does not particularly meet the workplace demands; (2) there are additional competencies which are not included in the 2013 Curriculum syllabus; (3) there are fourteen competencies formulated for the new redesigned ME syllabus which hopefully meet the demands of the workplace.

This research can used as the base in composing an ME syllabus which, in turn, can be used as a guide for formulating ME learning materials for the classroom context. That way, it is hoped that the students who will be deck officers in the future learn necessary ME competencies which match international workplace demands. This research also paves the way for other researchers and practitioners to design ESP syllabus based on international workplace needs.

Acknowledgments

This research was supported by Indonesian Endowment Fund for Education from the Indonesian Ministry of Finance.

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Appendix 1

Abbreviations

AIS : Automatic Identification System

CEFR : Common European Framework of Reference for Languages

GMDSS : Global Maritime Distress Safety System

IMO : International Maritime Organization

ME : Maritime English

MET : Maritime Education and Training

QSS : Quality Standard System

STCW: Standards of Training, Certification and Watchkeeping

Appendix 2

Interview Protocol

RESPONDENT IDENTITY

Name:

Education:

Institution:

Job Position:

Institution Address:

Phone Number:

1. What maritime English competences did you learn at school?
2. What kind of materials did you get during maritime English course at school?
3. Do the materials of maritime English you have learned at school fulfill the workplace demand as a deck officer? If they do not, what material topics should be given?
4. What is the most useful maritime English competence to be owned to be able to do well in working as a deck officer in the international workplace?
5. Do deck officer's competences state in IMO regulation on minimum standard competence of seafarers match the needed competences in the real workplace?
6. What English competencies should be possessed by a deck officer?