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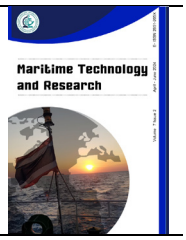

Research Article

Unveiling maritime English communication needs for seafarer: Strategic reformation for classroom instructional design

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Abstract

The significance of onboard maritime English communication has led to the need for innovation in language teaching strategies and instructional design. Indonesian seafarers have faced serious problems in joining ocean-going vessels due to lack of maritime English proficiency. This study attempted to capture the essential demands of Indonesian seafarers joining an ocean-going vessel for their communication techniques using maritime English, with the goal of having greater impact on the development of instructional design for the Indonesian curriculum. Semi-structured interviews were conducted with 14 Indonesian seafarers assigned to different ocean-going vessels of various sorts, sizes, and foreign flags. Semi-structured interviews were performed with three maritime English lecturers from different maritime education institutions in Indonesia. This study employed qualitative research by combining theory and using NVivo 12 Plus software as the coding method to understand and analyze data. The first finding indicated that operational maritime communication strategies, such as in routine and special-message communication like safety, distress, and urgency communications, were required to create communication patterns. The second finding denoted challenges faced by Indonesian seafarers in having maritime communication, such as unclear meaning resulting from improper word choices, different accents and pronunciations of the different socio-cultural backgrounds of the radio officers they spoke to, and sentence construction. The third finding revealed the focus of materials for each language skill for communication onboard. The whole findings implied that maritime-ESP teaching should be reformed with comprehensive education packages and instructional design, heading toward communicative competence to prepare cadets with the required needs of their future seafaring jobs.

1. Introduction

The role of Maritime English for communication onboard vessels is vital (Kurshubadze et al., 2022; Zarbazoia et al., 2022). It affects the safety of vessel operations (Bocanegra-Valle, 2010). Many marine incidents at sea have been caused by the improper use of maritime English in communication (Suhrab et al., 2023; Katarzyńska, 2020; Boström, 2021). Maritime English significantly impacts communicative competence, leading to effective onboard conversation (Fan et al., 2017; Ahmmed, 2020). Hence, an investigation of the use of maritime English, to gain an understanding of what genuine communication might occur onboard vessels, is required. The findings of this real-life inquiry will undoubtedly contribute to the currently maritime English teaching practices (De Castro, 2020).

Many previous studies have been conducted regarding the issues of maritime English. However, most of those discussions referred to the detrimental risks of its improper use, the strengths and weaknesses in implementing it for communication, and the prominent use of maritime English itself (Saray et al., 2021). On the other hand, no research has been conducted to investigate the actual needs of communication using maritime English in real-world vessel situations for Indonesians embarking on ocean-going vessels for work. It is believed that knowing the compelling need for maritime English for real onboard communication will impact the quality of maritime English teaching if its practice was well-accommodated (Kudryavtseva et al., 2021).

Several studies have expanded diverse ideas with the distinctive focus of marine English teaching approaches. Simbolon and Yusnita (2020) focused upon the need for managing proper material to teach maritime English. Fauzi et al. (2016) conducted research focused on assessment and found that it was supposed to be the most important part in teaching. Another research focused on the use of media to teach (Balderas & Losey-León, 2018). Haryani et al. (2023) finished their study investigating the frequency of use of standard marine language onboard and its function. In fact, for Indonesian deck officers, some challenges were still experienced when they worked on real voyages, accommodating the use of maritime English as the spoken language (Aeni et al., 2018; Al Amrani, 2019). The shortcoming in spoken language used to communicate by Indonesian seafarers was due to English being practiced in terms of English as a Foreign Language (EFL), in that it is rarely used except in classroom practice only (Aeni et al., 2017). Consequently, cadets must be able to speak English to facilitate their work and succeed in workplaces (Natsir & Saragih, 2022). Additionally, there were several drawbacks found in the practice of maritime English teaching in the classroom during academic training. Al Amrani (2019) argued that some English for Specific Purpose (ESP) learners may not speak English as their first language; therefore, their degree of proficiency should be considered. The bulk of these students are English as a Second Language (ESL) students, and many of them are EFL students who may below the average competency level required for greater employment options or academic study. As a result, a study to investigate the required needs of maritime English use for communication onboard for Indonesian seafarers is required, as it might affect the practice of effective maritime English teaching and help Indonesian seafarers to be well-prepared for their future careers.

More recently, due to their language skills, a small number of Indonesian seafarers have continued to work on leading vessels (Dirgeyasa, 2018). Several studies have reported that problems faced by international seafarers were due to communication competence (Mönnigmann & Čulić-Viskota, 2017). Hence, maritime English, as the essential language onboard, is required to be taught effectively during academic training to reach proficiency (Ismail et al., 2020). The needs investigation of required maritime English competence used by ocean-going seafarers is crucial. The results will not only elaborate what utterances, expressions, and other language competence are needed for onboard communication, including how to transfer it, but also help figure out the instructional design applied in the Indonesian maritime academy context. In consequence, the effective instructional design of maritime English helps to achieve cadets' maritime English proficiency.

Based on the research background elaborated previously, this current study sought to provide answer for the following questions;

1) What real maritime English communication competencies are required by Indonesian ocean-going seafarers in order to conduct safe external communication?

2) What challenges do Indonesian seafarers find regarding the use of maritime English for maritime communication during the ship voyages?

3) What material categories are needed to be learned based on each language skill?

2. Review of literature

In Indonesia, the issue of maritime language for maritime operations is critical; resulting from the categorization of English as foreign language, in maritime operations, maritime English is the

dominant language. Maritime English is a mandatory language to use for maritime communication (IMO, 2002; Trenkner, 2005; Bocanegra-Valle et al., 2012). Most Indonesian Maritime Education and Training (MET) institutions have been working to provide programs for improving seafarers' English competency in the framework of proper maritime English teaching. However, the results have been unsatisfactory (Sari & Sari, 2020).

Many previous studies have explored the importance of maritime English for onboard communication. However, this current study is differently focused to fill the gap of investigating the maritime language needs of Indonesian ocean-going seafarers that will definitely have an impact in reforming Indonesian classroom teaching and instruction in the maritime English classroom. To provide the discussion session with some relevant theories, there will be two topics to discuss in this part; maritime communication at sea, and Maritime-ESP teaching in the Indonesian context.

2.1 Maritime communication at sea

Among all activities onboard, communication has a fundamental role. Commonly, in ocean-going vessels, there are many mixed crews, recruited from different countries, with different first languages or mother languages, and different ways of their communication with different accents and registers. English has become the most suitable language to apply, as a lingua franca (Molt, 2006). The International Maritime Organization (IMO) has issued maritime English through Standard Marine Communication Phrases (SMCP) as the corpus-based language to standardize all languages onboard vessels (Jurkovič, 2022). In consequence, communication activities, both onboard and in external communication, should not violate the convention issued. SMCP is generated as a standardized guide in the form of a marine language corpus (Dževerdanović-Pejović et al., 2022). As SMCP is the core of marine communication, all communication based on SMCP is fundamental in practice (Boström, 2021; Trenkner, 2005).

Onboard and external communications, as two types of communication at sea, have different purposes in their usage (IMO, 2002). Both are classified and used in different situations and purposes. Onboard communication is much applied for communication, like in situations of using standard helm orders, communication among crews on watchkeeping duties, checking supplies, cargo handling procedures, reporting events from past voyages, making communication with passengers, or communication among crews on procedures of bunkering (Haryani et al., 2023). On the other hand, external communication is commonly applied making communication with different vessels (ship to ship) and different stations (ship to shore) or vice versa, from shore to ship communication (Bocanegra-Valle, 2011; Rodinadze et al., 2020). Both communications play pivotal roles in securing ship operations.

2.2 Maritime ESP in the Indonesian context

A number of authentic studies have claimed that maritime English belongs to the category of English for Specific Purpose (ESP), in which the language for communication aboard is governed (Cole et al., 2007; James et al., 2018; Zhang & Cole, 2018; Barus & Simanjuntak, 2023). This highlights activities of teaching in language and maritime domain topics (Haryani et al., 2023). All the sets of materials address the seafarers' future needs of marine language, both for onboard and shore communication. The specific language usage is characterized differently from any other languages.

The teaching of maritime English in Indonesia follows the curriculum framework of Standard Training Certification and Watchkeeping (STCW) Manila Amendment 2010. Further, IMO Model Course 3.17 is used as the standardized teaching guideline for maritime English at all MET across countries. This curriculum is a part of IMO's goal to provide an education and training guideline for effective communication. It purposefully ensures the securing of navigation safety, as well as of eliminating primary human errors leading to catastrophic accidents at sea (Frolova, 2020). However, the teaching implementation among countries could be different due to the nature of English for

communication language among civilians. Under the Directorate General of Sea Transportation of the Indonesian Ministry of Transportation, the Indonesian government manages each MET institution to manage education and training properly through seafarer's Quality Standard System (QSS) (Khosiyono & Priyana, 2021). The duration of learning in maritime vocational or Diploma III reaches a maximum of 126 credits. Maritime English teaching is divided into theoretical domain (around 13 hours) and practical domain (around 107 hours), with a maximum of 126 hours given during four semesters, or two years of studying.

The challenging problem is portrayed due to the EFL context of English in Indonesian English language teaching. The EFL context makes English language learning for Indonesian cadets harder, especially for the purpose of enhancing cadets' communicative competence or skill. Different ways of English language acquisition, different cultures, and different demography have affected English language learning success. On the other hand, maritime English teaching belongs to the ESP category; therefore, lecturers of maritime English should have better strategies to teach. Lecturers should be creative in order to better develop maritime English instructional design, which is proper to the needs of Indonesian seafarers with their nature of English language acquisition. In fact, the appropriate maritime English instructional design especially for enhancing cadet's communication skill for the context of Indonesian cadets has not yet been properly developed. The curriculum is already governed, but the creativity and innovative instructional design for maritime English teaching particularly to develop the communicative competence of the cadets is still required. Focusing the instructional design on the usage of SMCP, as stipulated in the IMO Model Course 3.17 curriculum, as the content to improve the communicative competence of the cadets could be a sensible option.

3. Method

3.1 Research design

In attempting to identify the needs of maritime English competencies for communication by Indonesian seafarers joining ocean-going vessels, qualitative research was set as the study design. Employing NVivo 12 Plus software as part of Computer Assisted Qualitative Data Analysis Software (CAQDAS) as the coding tool, deep interpretation and thorough coding of the collected real data resulted in trustworthy descriptive analysis of the study (Weish, 2011). This study used semi-structured interviews as the instruments to gather the required data. Experts were assigned to assess the construct validity and reliability of the instrument prior to usage. The data were construed into major categories and themes. A method of inductive coding was implemented in which prevalent phrases were color-coded and shown with their frequencies. As a result, the appropriateness of the language use, the specificity, and the accuracy of measuring the contribution to answer the research questions could be ensured.

3.2 Respondents and research setting

This study engaged 14 Indonesian seafarers who were working on different ocean-going vessels as the respondents. They had been working on different types of vessels and were of different ranks with different numbers of years of experience. They had had different navigational route worldwide. Some areas of their seafaring routes were likely in eastern Mediterranean areas such as Egypt, in the eastern Caribbean, around the African continent, for instance in the south and west of Africa, in European countries such as Russia, Spain, Denmark, around the Australian continent, around the American continent, such as Brazil, and in Asian waters such as Japan, Korea, China, Singapore, and Qatar. The respondents commonly moved from one country to another, different country, or other areas of waterways. These fourteen seafarers met the needed criteria to be the respondents in this research and could provide valid data required to answer the research questions. The following **Table 1** describes the demographics of the respondents in this study.

This study also interviewed three maritime English lecturers from distinguished maritime education and training institutions as supplementary data in order to provide comprehensive

information on the current language teaching activities and conditions. They agreed to be part of the study under the condition of their identities being kept private.

Table 1 Information of Indonesian ocean-going seafarers as the respondents.

NO	Initial Name	Vessel Name	Vessel Type	Voyage Line	Year
1	MFM	MV. VC	General Cargo	Spain, Denmark, worldwide	8
2	AMHP	MSC U- VI	Container	South Africa, UAE, Qatar	6
3	IK	MV. CQ	Bulk Carrier	Worldwide	5
4	SAH	MV. SI	Bulk Carrier	Worldwide	7
5	NR	MT. RB	Oil Product tanker	Worldwide	5
6	TAS	KS. 3	Oil/Chemical Tanker	Korea, China, Taiwan	8
7	PKB	MV. L.	Bulk Carrier	Worldwide	7
8	ASP	MV. I	Container	Worldwide	4
9	DKPD	MV.WTS	Passenger	Eastern Caribbean	6
10	AK	MV. XSP	Bulk Carrier	Worldwide	5
11	DSA	MT. JN CAM.	Oil/Chemical Tanker	Worldwide	7
12	AA	MT. DB	Oil tanker	Russia-Korea	7
13	MHS	MV.SL.	Bulk Carrier	Australia, Brazil, Korea, China	8
14	WN	Ro. PR	Passenger	Indo-Singapore	7

3.3 Instruments

The researcher employed semi-structured interviews to attain significant responses for the set of research questions. The interviews were conducted via one-by-one Zoom meetings for 20 to 30 minutes each, adjusted for the respondents being on officer on watchkeeping (OOW) duties. There were six interview questions used, and they were validated by two language experts. The validation was done by considering the questions alongside the existing maritime curriculum of IMO Model Course 3.17. This was done as the control to ensure that the results can serve as the basis of reformation or development of maritime English instruction design. The six validated interview questions were developed to respond to the research questions and were used in the online interview session;

1) Which responsibilities do you handle in your daily duties?
2) Do your daily duties relate to communication with other people?
3) Do you frequently incorporate the use of maritime English in your communication? What duties require English competence?
4) Which shortcomings/challenges related to English communication do you face in your work?
5) Which competencies of English requires improvement in your perspective?
6) Which aspects of each language skill need to be focused on in maritime training?

3.4 Procedure of data collection

Ensuring the appropriateness of the language in the interview question, the applicability and focus of the interview question was regarded essential. Two language experts were assigned to measure the construct validity of the interview questions. They were an experienced professor and an associate professor in English language teaching, who acknowledged well the importance of assessing the target needs and learning needs of language learning. Hence, the interview questions as the instruments would be feasible and significantly helpful in attaining valid answers. In response to the feedback given by the experts, some rectifications and modifications were conducted until the questions were finally approved. This study aims to unveil the needs of language competence for maritime communication aboard vessels, especially for ocean-going vessels. In order for this to have an impact on the design of maritime English teaching, particularly in Indonesia, the

interviewees were Indonesian seafarers who joined ocean-going vessels. Indonesian maritime English lecturers were also included as the interviewees, as they recognized the maritime English teaching experience in the classroom, particularly in Indonesian context. The interview sessions were recorded and transcribed. All the data was imported into the NVivo 12 Plus software. Coding through the principle of typicality and representativeness which appeared from the interview transcription was made and it was believed to be valid and reliable data (Guo, 2022). The NVivo tool was useful for mapping out how the themes were related to each other diagrammatically.

3.5 Analysis of data

Content analysis was conducted by combining the grounded theory as the foundational analysis with the coding via NVivo 12 Plus software. In the first step, open coding was done by analyzing the transcribed interview data in several discrete parts and developing codes to label them. Collating all pieces of data and labelling them with a particular code was an essential step; it allowed the researchers to both contrast and compare similar details, information, or events of the data. In the next step, axial coding was done to seek connections between the codes. The different codes could be grouped into certain categories or themes. The last coding conducted was selective coding, by connecting all categories into one core category; identifying the core category by capturing the essence of the research or recurring trend that appeared in the data. Guo (2022) stated that this step is regarded as a systematical treatment to obtain inter-category association. Irrelevant categories that did not have sufficient supporting data were omitted.

4. Results

A total of 14 Indonesian seafarers working on international flag vessels with sufficient onboard experience, as seen in Table 1, participated in this study. They were expected to contribute to the answers to the research questions, namely, what English communication competence they required in order to perform safe navigation operation, what problems they commonly encountered in real communication onboard vessels, and what aspects of each language skills they think needed to be improved and learned.

4.1 The required maritime English competencies of spoken communication

The transcription of the interview data yielded that there were four themes. Each of the themes had their own subthemes.

4.1.1 Theme 1: Routine communication

4.1.1.1 Subtheme 1: Ship-to-Ship Communication

The seafarers, as the respondents, insisted that their jobs related well to communication with other people, both to the crews aboard and to those of another vessels via radio telephony. When they worked as OOW, they had the responsibility to make communication as part of their job working performance. They were commonly required to communicate clearly, for example, when asking another vessel's intention when they were in head-on situations, crossing situations, or overtaking situations. Additionally, in terms of avoiding collisions, they needed to ask for information from other vessels.

> *At sea, when we think that there's a risk of collision, in order to make every decision is clear between vessels, we need to make sure what the intention of the other vessel is and start to communicate with them through VHF on channel 16. (R.1-MFM)*

> *When approaching another vessel, and there is a risk of collision, we shall make communication. (R.4-SAH).*

In the case of, when my vessel is in a head-on situation with another vessel, and the course point approach is under 1 NM, and when my vessel is in a crossing situation with other vessel, and it is a dangerous situation, I should make communication with the other vessel as soon as possible. (R10-AK).

4.1.1.2 Subtheme 2: Ship-to-Shore Communication

In performing the duties of OOW, respondents claimed that they had to deal with some communication toward shore stations and VTS. The communication was conducted to attempt safety of navigation and vessel operation. Whether they were entering and leaving the fairways, asking for pilotage and tug assistance, communicating with the coast guard or port authority, or even asking permission to make berthing and mooring plans, they had to ensure that communication ran smoothly.

When we are entering and leaving the VTS area, before we enter the port of destination, we communicate with the pilot station and the pilot vessel, in order to get a permit to enter the port or to stay at an anchorage area. (R.9-DKP)

Actually, making communication to shore when arranging the ships for berthing schedule, anchorage, pilotage, and safety requirements. (R.7 -PKB)

4.1.2 Theme 2: Distress communication

4.1.2.1 Subtheme 1: Distress Situations (Situations in Distress)

The coding of interview transcriptions revealed that, on the open sea, where a lot of unpredictable situations might lead to unexpected incidents, severe incidents may occur. The incidents could range from unharmful to potentially causing the loss of life of crews, or casualties. Before these conditions get worse, clear communication is urgently made with another vessel and station with a proper communication sequence. Among the conditions that urged the communication to be sent were in the situations of grounding, collision, flooding, man overboard, sinking, listing, vessel adrift, and fire leading to explosion. These conditions are surely unexpected. Therefore, preventive action must always be taken into consideration, through obeying all the manual procedures onboard vessels.

When my vessel proceeded to collide with other vessel, and when my vessel CPA was less than 0.5 NM and the TCPA was less than 15 minutes. (R.12-AA)

I think fire, explosion, flooding, collision, grounding, listing, capsizing, sinking, and disabled and adrift are distresses to avoid. (R.5-NR)

4.1.2.2 Subtheme 2: SAR Communication

The coding pointed out that conducting SAR communication was related to the condition of distress. Dealing with SAR communication might take place with the steps of relaying the message, confirming or performing an SAR operation, and, at last, finishing with the SAR operation.

When our vessel needs help immediately, sending a report for SAR is needed. (R.14-WN)

4.1.3 Theme 3: Safety communication

Safety communication ensures the safety of vessel operations. Communication needs to be made in the case where there is a serious event that might lead to a worse incident onboard the vessel. Hence, the competence of the OOW to communicate is required.

4.1.3.1 Subtheme1: Navigational Warning

The coding yielded that giving a navigational warning included giving information on drifting objects, bad weather conditions, information about dredging activities, wrecks in certain position, and

other information are essential when looking out and keeping clear of certain activities at sea. This must be stated clearly, as it is the initial call for others to anticipate unexpected incidents. The result of coding showed that the OOW had to maintain the communication by sending safety messages via VHF radio channels.

When there is vessel dredging and there is special work near traffic, a safety message is given. (R.6-TAS)

Safety communication will be shared when the vessel proceeds to war line area, as like proceeding to the Red Sea, and when the vessel proceeds to a high-risk area, that area has piracy, so safety communication with foreign navies may avoid the-piracy. (R.10-AK)

4.1.3.2 Subtheme 2: Meteorological and Hydrological Information

Safety communication could be made to strive for the safety of navigation. Meteorological and hydrological information at sea are given to all vessels in certain covered areas, so as to inform them that they have to be aware of current worsening situations. All vessels need to respond to the communication given. The communication competence of the OOW or officer by radio is required. The coding inferred that the communication might be related to information on abnormal tides occurring, information about restricted visibility areas, and information about tropical storms.

When the weather is bad, such as a storm on the shipping route, etc., every ship will receive bad weather information from the port authority as a safety message and the vessel should respond to the message. (R.2-AMHP)

In bad weather it must provide information to other vessels using Navtex. (R.3-IK)

4.1.4 Theme 4: Urgency communication

4.1.4.1 Subtheme 1: Broken and Lost equipment

Urgent communication is sent indicating that an urgent message needs to be transmitted. The coding revealed that in the situation of a vessel needing assistance, due to, for example, loss of propeller, loss of control of the engine, or even when the vessel needs medical assistance and finds a missing vessel, an urgent message could be transferred.

We make an initial call if we have trouble, such as one of anchors being broken, or for a broken propeller. (R.13-MHS)
When we need assistance caused by a health or medical problem (R.8-ASP)

As per the above description, the required maritime communication competence that should be achieved by international seafarers who join ocean-going vessels could be detailed as shown in the following **Figure 1**.

4.2. The challenges due to the English language use aboard vessel

Seafarers' challenges regarding the use of maritime English language onboard vessels were found by investigating through six interview questions and combining this with the theoretical framework of maritime communication using SMCP (IMO, 2002; Trenkner, 2000).

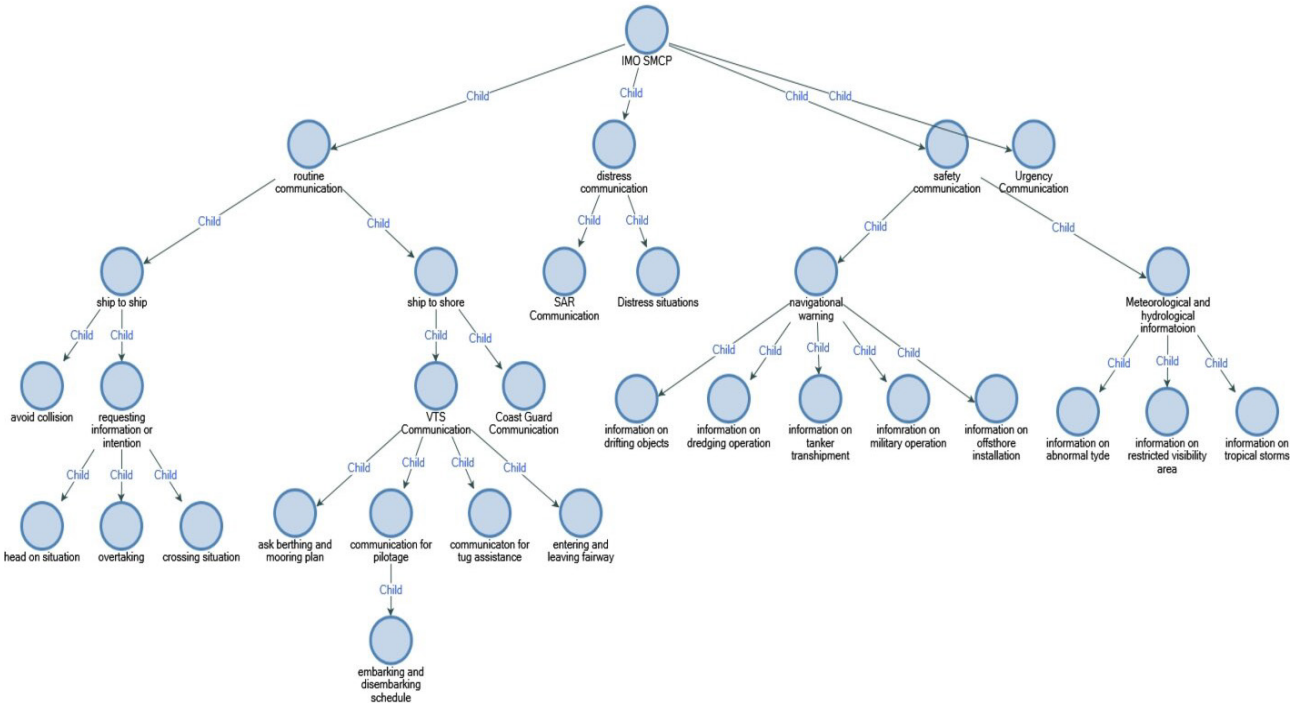

Figure 1 Relationship of all competences required by seafarers.

4.2.1 Unclear meaning

The coding shows different word choice challenges the use of language for communication. SMCP regulates the language use, as it is a standardized language. In the real world, the implementation was not always practiced. General English use was still frequently applied. The language was sometimes not standardized. The crew who joined onboard came from distinct parts of the world, hence, the need for standardized language of SMCP is important. Five out of fourteen, or 36 %, of respondents experienced shortcomings in communication caused by unclear meaning due to the general use of language without considering SMCP which is mandated internationally.

> *The word chosen is different, SMCP is not used correctly. (R.2-AMHP)*
> *SMCP is minimally used for communication, so, it is difficult to understand so much vocabulary. (R.9-DKPD)*

> *Sometimes I have trouble with vocabulary that is new to me. Using standard language as SMCP will help actually. (R.12-DSE)*

In contrast to the above, some participants mentioned that poor signal strength might affect the quality of communication. It was also the cause of unclear meaning of utterances.

> *Unclear meaning because of poor signal and weather condition. (R.6-NR)*
> *The meaning is sometimes not clear due to the radio signal. (R.14-WN)*

The distribution of the respondents in having shortcomings regarding unclear meaning resulting from different word choices or vocabulary mistakes and poor signal strength could be described as in the graph **Figure 2** below.

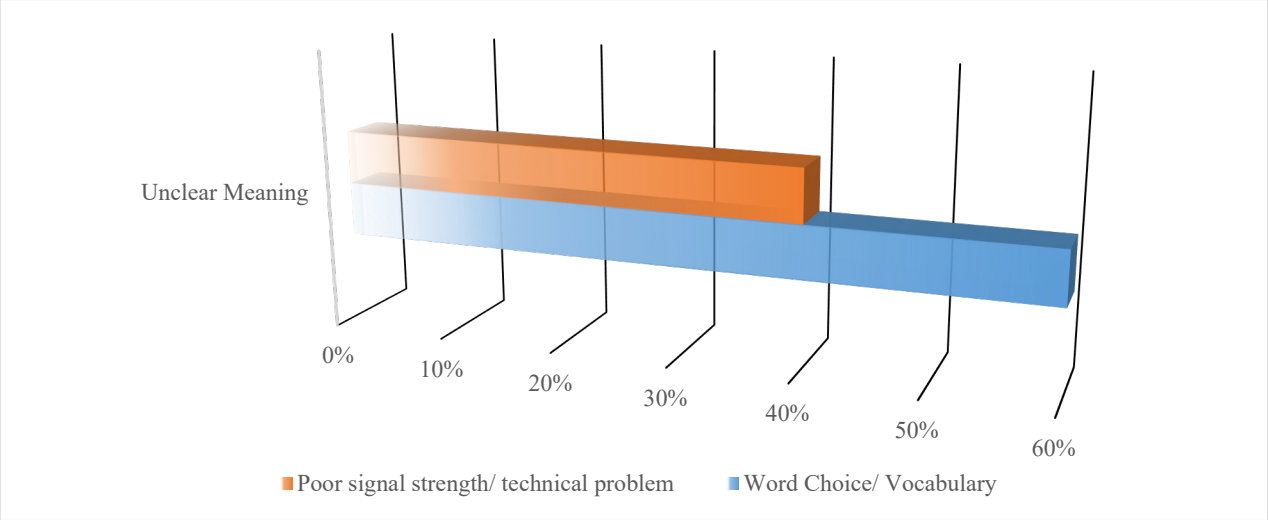

Figure 2 Distribution of unclear meaning problems.

4.2.2 Different accents

The coding revealed that, according to six respondents, different accents made the Indonesian seafarers have trouble in communication. This was challenging since the different accents resulted in less accuracy in pronunciation. In external communication, where seafarers did not conduct face-to-face communication, it was hard to guess the meaning just from the messages they transferred via the radio VHF. When the speaker made initial contacts quickly, it was hard to catch the point; this was made worse when the accent was different, and it resulted in less accurate interpretation of meaning.

> *Sometimes it's really hard to understand what their intention is due to the English pronoun that they have, some VTS especially in Dover Strait using British Accent, in Joburg Traffic the VTS operator using French accent, if we do not pay attention to listen it will be easy to not understand what the questions that they ask are. (R.1-MFM- question 4)*
> *Less accuracy of pronunciation due to different accents. (R.8-ASP -question 4)*

All of the respondents who agreed with the existing challenge of different accents affecting communication all believed that less pronunciation accuracy was the cause of miscommunication that might result in communication problems.

4.2.3 Sentence construction

Another finding revealed that non-grammatical order of sentences affected communication understanding. Grammatical order will make the sentence accurate. 21 % of all respondents claimed that grammatical order was needed to make the sentence more accurate. However, it was believed that, for external communication, grammatical order was less important, since SMCP already governed all the utterances to use.

> *In onboard communication, word order is not used, sometimes, I must think many times to understand the saying. (R.11-DSE)*

> *SMCP is not used, on the other hand, grammatical order is not used correctly, therefore, it is hard to get the meaning in communication. (R.4-SAH)*

The figure of sentence construction challenges could be described through the chart **Figure 3** below.

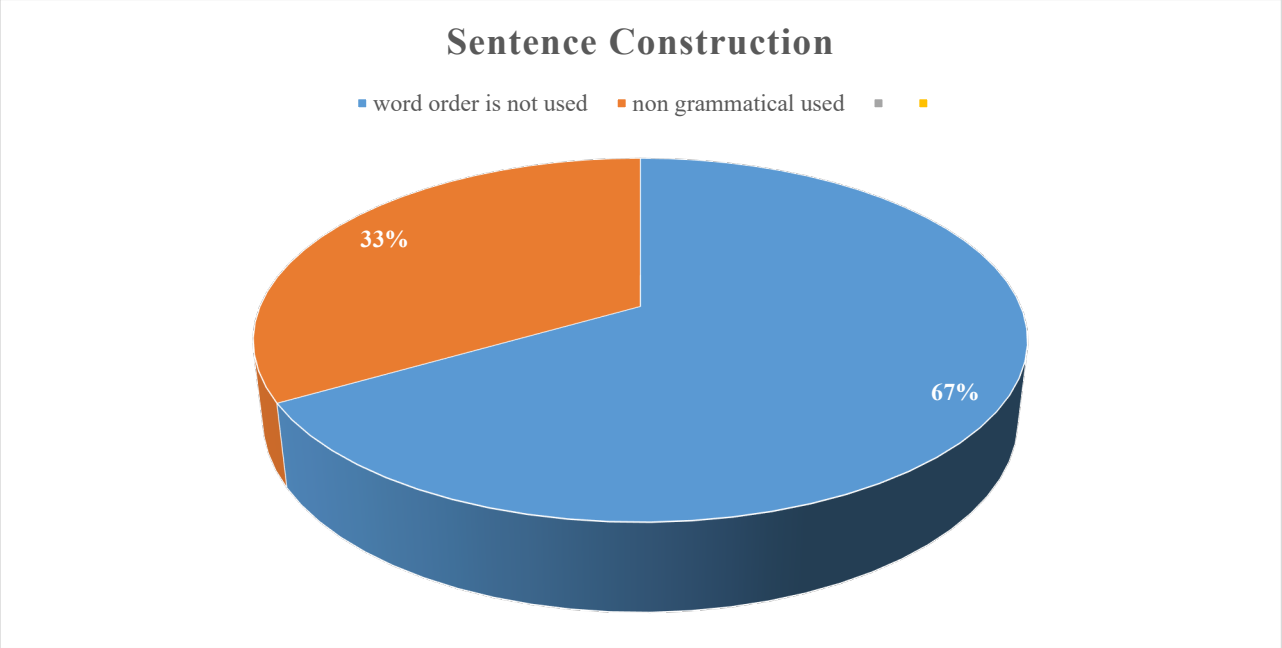

Figure 3 Distribution of challenges regarding sentence construction.

To highlight the description of the entire shortcomings of Indonesian ocean-going seafarers, inferences can be made via the following **Figure 4**.

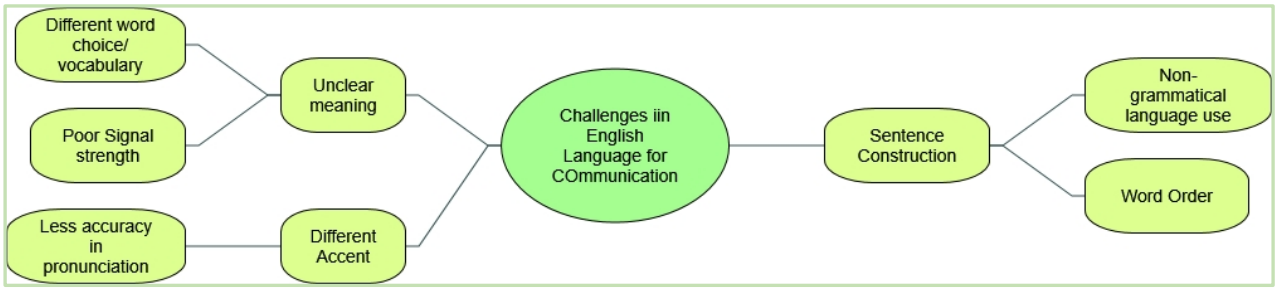

Figure 4 Challenges of Indonesian ocean-going seafarers in the use of English.

4.3 The needed materials to enhance each English skill

The researchers aimed to identify the materials that could be developed to enhance each language skill of English that were needed onboard. The results are shown in the following diagram in **Figure 5**.

In the teaching of maritime English, the four skills of English language cannot be neglected; daily communication uses them. Therefore, it is essential for training in them to be given in classroom teaching.

4.3.1 Speaking activities

The respondents were questioned about the speaking activities they commonly did for onboard and external communication. The respondents provided the researchers with four aspects of spoken skills they had to master: the ability to communicate via radio VHF channel or GMDSS, the ability to give instructions or orders, the ability for daily communication with crews and officers, and the ability to conduct communication on bridge and to the engine room.

Figure 5 Required materials for each language skill.

Table 2 Speaking skill categories.

Speaking Categories	Activities	Respondents Voice
Communication Via VHF/GMDSS	Calling and responding VTS /port authority communication	14
	Delivering or asking navigational messages	8
	Initial contact to another vessel	13
Giving instruction	Using SMCP for ordering	9
	Ship handling orders	7
	Orders in casting off procedure	10
Daily communication with crews	Communicating about navigational routes	9
	Asking for and giving information about personal data	8
	Discussing leisure time and activities onboard	7
	Discussing preferences	9
Communication on bridge and engine room	Standard helm orders	14
	Standard engine orders	14

4.3.2 Listening activities

The respondents admitted that the crew onboard vessels they have been signed in came from different nationalities. In reality, they spoke English with different accents and had different accuracies in pronunciation. It had been challenging to listen carefully to their speaking partners.

From the results of the interview transcriptions, it was revealed that several activities or aspects in listening categories required seafarers to learn better. Understanding the verbal communication of speaking partners was the most important ability to learn. Additionally, understanding the general English used by the partner, and understanding radio communication when actively being officer on watch, were crucial to master.

Table 3 Listening skills categories.

Listening Categories	Activities	Respondents Voice
Understanding verbal communication on bridge	Understanding orders during a watch about bad weather and navigational information	10
	Understanding helm orders	14
Understanding general English used	Understanding general orders	12
	Understanding meaning of daily communication	13
Understanding communication on VHF channel	Commands in distress situation	13
	Commands in safety message	14
	Commands in urgency Communication	12
	Commands in routine communication	14

4.3.3 Writing activities

The respondents revealed that several categories of writing were required to support safety of navigation operations. Making reports was necessarily conducted onboard. Thirteen respondents out of fourteen (93 %) agreed that this activity was necessary, including activities related to making noon reports, weekly reports, and monthly report. Additionally, writing log books and record books, such as oil record books, maintenance books, and garbage disposal books, was also required. The respondents could not deny that these activities were mandatory. Therefore, seafarers must be able to fulfil their jobs regarding these activities. Also, the activity of letter correspondence was needed. Ten respondents (71 %) agreed that they had to master the skill of making correspondence, for example, via email or other modern tools onboard vessels.

4.3.4 Reading activities

All respondents were requested to provide explanations about the activities they carried out during their working performance onboard. The interview transcriptions revealed that there were several activities they did. Respondents shared their preferences in each category of reading activities. One of these was reading publications such as Almanac Nautica. Eleven respondents agreed that the ability to read any publication was needed. At the same time, thirteen of fourteen respondents (92 %) agreed that reading manuals on ship handling and maintenance of vessels was also crucial. Twelve respondents (86 %) claimed that reading notices and emails also were reading activities onboard. Consequently, the ability to understand reading passages was important. All respondents admitted that the ability to read and comprehend general rules onboard vessel was also crucial. This involves categories of reading any conventions, such as the conventions of MARPOL, SOLAS, and STCW. The importance of these conventions were acknowledged by all respondents.

Table 4 Reading skill categories.

Categories of Reading	Activities	Respondents Voices
Reading publications	Reading Almanac Nautica	11
	Reading meteorological information	
Reading manuals on ship handling and machineries	Reading manuals on electronic navigation aids	7
	Reading manuals on main and auxiliary	6
Reading notices and electronic mail	machineries	4
	Reading notes regarding voyage planning	8
	Understanding written messages through emails	
Reading general rules onboard	STCW conventions	3
	MARPOL conventions	3
	SOLAS conventions	4
	Commands in routine communication	4

5. Discussion

The interview sessions provided the researchers with better understanding of the needed maritime communication competence for external and onboard communication for ocean-going vessels. It also resulted in identifying the common shortcomings experienced by most of the Indonesian seafarers in terms of using English as a communication language. Furthermore, the detailed aspects for each language skill which were required by seafarers were also revealed. The research findings emphasized the need of maritime English as the entirety of the international languages onboard to attain safe operational navigation (Trenkner, 2000; Bocanegra-Valle, 2010). Regarding maritime English communication competence required for onboard interactions, the need of routine, safety, urgency, and distress transfers of messages underpinned communication. This finding was in line with the theoretical review of Bocanegra-Valle (2011). This reviewed the need of special purposes of messages, including messages of communication sent in situations of emergency, urgency, and situations of daily routine. These communications took place often, as external communication between vessel to vessel or vessel to VTS or port authority.

The findings from the first and second interview questions highlighted the needs of Indonesian seafarers' communication competence in order to perform optimally onboard. These can have an effect on Indonesia's maritime English instructional design. This was in line with Ahmmed et al. (2020), that maritime English competence was needed. However, this research differed with the focus of the present study, as it was about how the competence of maritime English might contribute to the seafarer recruiting process in recruiting agencies in the Bangladeshi context. Further, it sought the level of competences Bangladeshi recruitment agencies required the seafarer to have. It was mentioned that Bangladeshi agencies required seafarers who had better intermediate levels of spoken skills, rather than of the other three skills. These previous findings corresponded with the results of

this current research in terms of the needed skills of speaking as the dominant skill to master. Sari and Sari (2020) conducted research on almost the same topic, about the needs of English competence onboard, and suggested English needed to be mastered. However, the participants were marine pilots who did not have to sail abroad; instead, they just sailed in the same areas of waterways, and had different communication purposes. They focused the study about the needs of marine pilots in handling communication using maritime English. SMCP was admitted to be the required standardized language for communication onboard (De Castro, 2020).

The second findings elaborated on the drawbacks of Indonesian seafarers in using English language onboard. They revealed many problems that were caused due to different nationalities, which led to different accents causing less accuracy in pronunciation. Baş et al. (2002) claimed that multicultural crews, with their different characters, affected quality of communication. Different word choices due to lack of understanding and mastery of SMCP also hinder clarity in spoken language use. On the other hand, as SMCP governed the corpus language to use (Trenkner, 2005), sentence construction rule was supplementary in its usage. It has been claimed that grammar is a means, but not an end (El-Dakhs et al., 2015). Hence, grammatical use of language was not obligatory. This is unlike the research of Demydenko (2012), which stated that the linguistic analysis teaching method improved the quality of maritime English teaching. However, another research suggested that inconsistent use of word order could generate fallacies in interpreting meaning if grammar was not properly applied and if, at the same time, SMCP is neglected (Suhrab et al., 2023).

The third finding affirmed that four English skills were requisite for onboard communication (Dirgeyasa, 2018). This implied that it was important to know the focus of each language skill to learn. In conducting their duties, every seafarer was required to associate their work with their ability in using English in all skills, speaking, listening, reading, and writing. Each skill should be mastered because it eases them with their work performances. Out of the four skills, speaking and listening skills were identified as the most influential and required skills (Pritchard, 2004; Dirgeyasa, 2018). This was similar to the findings of this current research, that the spoken skill was most needed. Due to the communicative approach, the focus was on communicative competence than merely linguistic accuracy (El-Dakhs et al., 2015). This was well-related to communication via VHF radio channel, communication on bridge, communication for daily routine, and giving instructions (Ahmmed et al., 2020). Listening skill is needed to develop ability responding to spoken skill, such as understanding radio communication, understanding verbal communication, and general instruction and English use onboard. Writing skill and reading skill corresponded to the ability to write a log book, report, and make correspondence through electronic mail or report books (Ahmmed et al., 2020; Dirgeyasa, 2018). The ability to comprehend notices, messages, manual guides, and publications were among those of importance in mastering the skill of reading in English language. Ziarati et al. (2009) insisted that maritime English, through the four skills of language, was necessary for deck officers. This strengthens the research findings that the four skills of English need to be mastered by seafarers.

6. Conclusions

Ocean-going seafarers have special communication language needs for their duties onboard. This study purposefully aimed to obtain real and specific information about the language needs of Indonesian seafarers, as well as their drawbacks in conducting communication onboard. Furthermore, it was expected this information could better reform Indonesia's maritime English curriculum, especially concerning the needed four skills of English language embedded in the instructional design.

This research firmly explained the needs for maritime communication onboard, including routine communication and special message communication. It also affirmed that Indonesia's seafarers still experienced several shortcomings regarding the practice of communication onboard vessels, such as accuracy of pronunciation, understanding different accents, the choice of words as governed by SMCP, and linguistic problems. From the needs analysis, it was also identified that four

skills of English were still needed, with different portions and focus. Speaking skills, which were interconnected with listening skill, were more commonly needed to be developed than the other two skills. To conclude, the results of the research recommend that the instructional design of maritime English teaching for the Indonesian context, focusing on enhancing the communicative competence of the cadets, is required to be reformed.

The state findings of this empirical research bring a number of implications toward the maritime English teaching practices in the Indonesian classroom context. First, they suggests that scenarios of onboard communication regarding four English skills must be put into effect. Onboard real-situation simulations would bring meaningful experiences of learning that raise cadets' motivation to learn. To some extent, this would increase their self-directed learning and improve their professional competence (Zarbazoia et al., 2022). This implies that the use of simulators would be a good alternative. As has been claimed by previous research, simulators were also influential for the assessment stage in a complete instructional design of maritime English teaching (Fauzi et al., 2016).

Secondly, the shortcomings of Indonesian seafarers are complex concerning the four language skills. Respondents confessed that they had communication competence issues dealing with less accuracy of pronunciation, word choices, syntax or grammatical knowledge. Therefore, it is proposed that maritime English for Specific Purpose teaching categories should relate to activities enabling learners to articulate and listen in several guided simulation activities, helping learners with their future job needs (Cole et al., 2007; Acar & Varsami, 2021; James et al., 2018). These activities lead to increase in cadets' competence. Each skill of English is better developed based on the external and internal criteria of each aspect (Pritchard, 2004). The materials could be arranged from a draft resulting from this research, by associating the identified activities from each skill with each category of language skills.

Thirdly, regarding multi-cultural crews onboard, it has been suggested that the teaching of maritime English has to better accommodate socio-cultural competence and interpersonal competence (Frolova, 2016). Socio-cultural competence teaches cadets both to achieve communication skill and to formulate cultural-linguistic personality (Guryanov et al., 2019). It teaches how to deal with someone else's beliefs, values, traditions, and culture in certain societies. As a result, trust and tolerant behavior might eliminate cultural differences and lead to successful communication between others.

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