



Bridging the proficiency gap: A needs analysis of Indonesian maritime cadets' speaking skills for ESP course design

ABSTRACT - This study aims to identify the speaking skills needs of maritime cadets by examining target needs, learning needs, and the discrepancies between current instructional practices and the communicative demands of the maritime industry. A needs analysis approach was employed within the English for Specific Purposes (ESP) framework, utilizing a mixed-methods design. Quantitative data were collected through a questionnaire administered to maritime cadets, while qualitative data were gathered via semi-structured interviews with two Maritime English lecturers. The findings indicate that the majority of cadets demonstrate only a basic level of speaking proficiency, whereas the expected level for effective maritime communication is at least intermediate. Key communicative situations requiring English speaking skills include giving instructions and commands on board, as well as engaging in social interactions among crew members. Regarding learning needs, cadets show a preference for interactive speaking activities, including simulations, role-plays, presentations, and pair discussions. Nevertheless, several obstacles persist, such as limited vocabulary, pronunciation difficulties, low self-confidence, and insufficient opportunities for speaking practice. The study further identifies multiple learning gaps, including disparities in proficiency levels, limited speaking practice, inconsistencies in instructional delivery, and a lack of digital media specifically designed to support speaking practice in maritime contexts.

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1. Introduction

English plays a very crucial role in maritime higher education, particularly in preparing cadets to communicate effectively in an international environment. English has been established as the working language in global maritime operations, therefore cadets are required to have the ability to speak English not only for academic purposes, but also for professional communication. In maritime contexts, effective oral communication is essential for performing operational tasks such as giving instructions, participating in safety briefings, reporting incidents, and responding to emergency situations. Insufficient speaking competence may result in communication breakdowns that potentially affect operational efficiency and maritime safety (Nursyam, 2021).

Although the role of English in the maritime field has been widely recognized, the implementation of English language learning in maritime colleges, especially in Indonesia, still faces various fundamental challenges. In reality, the learning of English language in most maritime institutions is still mainly based on a general English approach which has not been sufficiently tailored to the communication needs in the maritime field. This circumstance leads to a mismatch between the skills acquired through classroom learning and the actual communication requirements that cadets encounter in a professional maritime environment. As a result, students are often not prepared to deal with complex and technical English communication situations in an international work environment.

Based on the English for Specific Purposes (ESP) perspective, language learning should be designed with consideration of the academic and professional needs of learners, rather than focusing solely on mastery of general English. ESP emphasizes the contextual and functional use of language in accordance with specific fields of expertise (Hutchinson & Waters, 1987). Maritime English, as a branch of ESP, focuses on mastering communication skills relevant to tasks and work situations in the maritime sector. A number of studies show that ESP-based learning will be more effective if the learning objectives, materials, and classroom activities are designed according to the real communication needs of learners (Anthony, 2018; Smojver-Ažić & Bezić, 2022). However, the dominance of general English materials in maritime education shows that the principles of ESP have not been fully implemented optimally.

A number of previous studies have reported that students in vocational and higher education often face difficulties in developing English speaking skills, such as limited vocabulary, pronunciation problems, grammatical inaccuracies, and low confidence when speaking (Girón-García & Boghiu-Balaur, 2021; Leong & Ahmadi, 2017). In maritime education, these issues could be made harder by the fact that maritime terminology is a very technical one, the time given during lessons is very limited, which also means that there are not many chances to practice the language in the real context. Even though it has been acknowledged that needs-based instruction in ESP is very important, there are only very few factual studies that analyze the English-speaking needs of maritime cadets systematically, especially in the case of Indonesia.

Needs analysis is a fundamental step in ESP learning design because it enables educators to systematically identify the target needs and learning needs of learners. In the needs analysis

framework proposed by Hutchinson and Waters, target needs include three main components, namely necessities, lacks, and wants, which provide a comprehensive picture of communication demands in the work context, gaps in learners' abilities, and learners' expectations of the learning process (Sari & Sari, 2020).

However, more recent perspectives have developed the concept of needs analysis beyond this classical framework. For example, Helen Basturkmen (2010) proposes a more comprehensive approach by incorporating target situation analysis, present situation analysis, and learning needs. This approach allows for a deeper understanding of learners' current proficiency levels as well as the communication demands they will face in the future. Thus, needs analysis is not merely descriptive but also serves as the foundation for designing more contextual and learner-centered ESP instruction.

By analyzing needs, the information about cadets' difficulties, learning priorities, and learning preferences can be used as a basis for developing relevant learning materials and strategies (Aminah & Refnaldi, 2020). However, studies that specifically examine the English-speaking skills needs of maritime cadets in Indonesian maritime colleges are still very limited.

The lack of systematic needs analysis in maritime ESP instruction may have long-term implications for the quality of graduates and their readiness to face professional challenges in international maritime environments (Ahmmed et al., 2020). The design of English language learning that does not match real needs not only affects the effectiveness of learning, but also the quality of alumni and the efficiency of educational investment. Therefore, the research that examines the English-speaking skills needs of maritime cadets empirically and contextually is very necessary to ensure alignment between ESP learning and the demands of professional communication in the maritime field.

Based on the description, this research is intended to uncover the real English-speaking requirements of cadets in a maritime higher education setting. The study through the identification of cadet's perceptions on the aspects of speaking difficulties, learning priorities, and communication needs, intends to make a part of a framework for needs-based ESP instruction and also provide English lecturers, curriculum designers, and teaching material developers in the maritime education sector with pedagogical implications.

Furthermore, this study aims to identify the speaking skills needs of maritime cadets by examining target needs, learning needs, and the gap between current learning practices and communication requirements in the maritime field. Based on the background and research gap described above, this study seeks to address the following research questions: (1) What are the target needs of maritime cadets in learning English speaking skills, particularly in terms of necessities, lacks, and wants? (2) What are the characteristics of maritime cadets' learning needs related to learning preferences, instructional activities, and communication contexts in maritime ESP? (3) What gaps exist between the current English-speaking instruction provided in maritime higher education institutions and the authentic communication needs of maritime cadets?

2. Literature review

2.1. English for specific purposes

English for Specific Purposes (ESP) has undergone significant development since its emergence in the 1960s as a response to the growing demand for English use in specific academic and professional domains. Unlike general English instruction, ESP is grounded in the principle that language learning should be directly linked to learners' reasons for learning the language. Hutchinson and Waters (1987), as cited in Mushthoza and Ma'rufah (2018), define ESP as an approach to language teaching in which all decisions concerning content and methodology are based on learners' needs. This definition positions needs analysis as the cornerstone of effective ESP course design.

The growth of ESP is closely associated with the forces of globalization, which require professionals from diverse fields to communicate effectively in English within their specific occupational contexts. In vocational and professional education, ESP is therefore regarded as a relevant and practical approach because it bridges the gap between classroom language instruction and real-world communicative demands. Rather than emphasizing linguistic knowledge in isolation, ESP focuses on functional language use that supports learners' academic and professional performance (Belcher, 2006).

From the perspective of *necessities*, Maritime English instruction reflects the objective communication requirements imposed by the international maritime industry. These include the ability to use maritime terminology accurately, follow standardized procedures, and convey information clearly in operational and emergency situations. Such competencies are essential for functioning effectively in modern maritime workplaces.

The dimension of *lacks* highlights the gap between cadets' existing speaking abilities and the communicative demands they are expected to meet. Research in ESP contexts suggests that learners often struggle with technical vocabulary, formal registers, and professional discourse conventions (Doğan & Yaylı, 2025). In maritime education, these difficulties may be exacerbated by limited instructional time and insufficient opportunities for authentic spoken interaction.

The *wants* dimension reflects learners' perceptions, motivations, and expectations regarding English learning. Studies have shown that vocational students generally demonstrate strong motivation to acquire professional communication skills, although their understanding of workplace communication demands may not always be accurate. This suggests the importance of raising learners' awareness of the realities of professional maritime communication to ensure that ESP instruction addresses both perceived and actual needs.

2.1.1. Needs analysis in ESP

Needs analysis has become a central concept in ESP research and curriculum development, as it provides a systematic framework for identifying learners' communicative requirements. In the ESP context, needs analysis aims to uncover both what learners must be able to do in their target situations and how they can best achieve those competencies through instruction. Damayanti et al. (2024) distinguish between *target needs* and *learning needs*, a framework that has been widely adopted in ESP studies.

Target needs consist of three interrelated components: *necessities*, which refer to the objective demands of the target situation; *lacks*, which describe the gap between learners' current abilities and the required competencies; and *wants*, which reflect learners' subjective perceptions and expectations regarding language learning (Kim, 2013). This framework has provided a strong theoretical foundation for ESP research across different disciplines and contexts and has proven effective in identifying authentic learning needs. Through needs analysis, ESP instruction can be designed to be more relevant, purposeful, and responsive to learners' professional realities.

The development of needs analysis in ESP has evolved through several important stages. Early models, such as those proposed by Munby (1978), focused primarily on target situation analysis, emphasizing the identification of communicative requirements in specific professional contexts. This approach was later expanded by Hutchinson and Waters (1987), who introduced the concept of learning needs, highlighting not only what learners need to learn but also how they learn most effectively. Further developments by West (1994) categorized different types of needs analysis, providing a more structured understanding of learner requirements. More recent approaches, such as those proposed by Long (2005), emphasize task-based needs analysis, which involves identifying real-world tasks and incorporating input from domain experts to ensure authenticity and relevance in language instruction.

Previous research on needs analysis in the context of Maritime English has provided important insights into learners' communication priorities in various contexts. For example, Ahmmed et al. (2020) found that seafarers in Bangladesh prioritized listening and speaking skills as the most important for onboard communication, which aligns with this study's focus on speaking skills. However, unlike this study, the participants in that study were active seafarers, not cadets, suggesting that communication needs may evolve with increasing professional experience. Furthermore, Smojver-Ažić and Bezić (2022) emphasize the importance of aligning Maritime English instruction with real-world communication tasks, particularly in the context of multinational crews. These findings reveal both similarities and contextual differences, indicating the importance of context-specific needs analysis in maritime education.

2.2. *Maritime English as a branch of ESP*

The maritime field is characterized by complex and highly specialized communication demands that distinguish it from other vocational and professional domains. Maritime English, as a branch of ESP, emphasizes communication related to safety, ship operations, and international professional interaction (Bojović, 2024). Communication in maritime settings is not limited to technical exchanges but also involves procedural, administrative, and strategic dimensions that require accurate and standardized language use (Čulić-Viskota & Kalebota, 2013).

In this context, the International Maritime Organization (IMO) has established the Standard Marine Communication Phrases (SMCP, 2015) as a global reference for Maritime English. The SMCP provides standardized phraseology for routine navigation, emergency

communication, and shipboard interaction, aiming to minimize ambiguity and enhance safety in international maritime operations.

In professional maritime environments, cadets and seafarers are expected to understand international technical documents, follow standardized safety procedures, and communicate effectively with multinational crews. As a result, Maritime English instruction must be systematically designed to reflect real operational contexts. A failure to align instruction with these demands may lead to communication breakdowns that have serious implications for operational efficiency and maritime safety (Henry Wasosa, 2025; Sartini et al., 2025; Sulistiono et al., 2025).

2.3. Speaking skills in the maritime context

Speaking skills play a critical role in Maritime English because oral communication is directly linked to operational safety and coordination. In maritime contexts, English speaking skills are required for giving instructions, participating in safety briefings, reporting incidents, and responding to emergency situations. These communicative tasks demand not only linguistic accuracy but also clarity, confidence, and situational awareness (Sartini et al., 2025).

Speaking competence in ESP contexts involves multiple dimensions beyond basic linguistic knowledge. According to Goh and Burns (2012), effective speaking requires not only linguistic competence, such as vocabulary, grammar, and pronunciation, but also strategic competence, including the ability to repair communication breakdowns and clarify meaning, as well as discourse competence, which involves managing interaction, turn-taking, and topic development.

In maritime contexts, these dimensions are particularly critical because communication often occurs in high-risk and time-sensitive situations. For example, speaking tasks such as giving commands during mooring operations or responding to emergency signals require not only accuracy but also clarity, immediacy, and coordination among crew members. Therefore, speaking competence in Maritime English must be understood as an integrated skill that combines linguistic, strategic, and discourse abilities.

Previous studies in vocational and professional education indicate that speaking skills are among the most challenging competencies to develop, particularly when learners are required to use language in high-stakes and technical environments (Sulistiono et al., 2025). In the maritime context, the need for effective spoken communication reflects the objective demands of a globalized industry governed by international standards and safety regulations. Inadequate speaking competence may therefore hinder professional performance and compromise safety (Pritchard, 2020; Smojver-Ažić & Bezić, 2022).

3. Method

3.1. Research design

This study employed a descriptive mixed-method design combining quantitative and qualitative approaches. Mixed-method research allows researchers to obtain comprehensive

insights by integrating numerical trends with in-depth qualitative explanations (Creswell & Clark, 2018).

The quantitative data were collected through a needs analysis questionnaire, while qualitative data were obtained through semi-structured interviews with English lecturers. This design was selected to provide a more complete understanding of maritime cadets' English-speaking needs and to triangulate students' responses with lecturers' perspectives.

3.2. Participants

The participants of this study were 57 maritime cadets from a Marine Polytechnic in Indonesia who voluntarily completed the online questionnaire. The sampling technique used purposive sampling, considering that the participants had experience learning English in a maritime environment.

Additionally, for support the data, two English lecturer from same intuition also participated in the interview. The interview phase to provide professional insights into students' speaking challenges and instructional needs.

3.3. Instruments

3.3.1. Questionnaire

The questionnaire was developed based on the needs analysis framework proposed by (Hutchinson & Waters, 1987), which distinguishes between target needs (necessities, lacks, and wants) and learning needs. The instrument consisted of structured items in the form of multiple-choice questions, checklist options, and Likert-scale items. The use of structured questionnaires is appropriate in needs analysis studies to identify patterns and priorities across a specific learner group.

To ensure content validity, the questionnaire was reviewed by an expert in English Language Teaching and English for Specific Purposes (ESP). The expert evaluated the relevance, clarity, and appropriateness of each item in relation to the research objectives. In addition, the design of the questionnaire was guided by established theoretical frameworks in ESP and needs analysis, ensuring that the instrument adequately captured the constructs being investigated.

Although the statistical reliability of the instrument was not tested, its consistency is supported by its systematic design, its alignment with the theoretical framework, and the expert evaluations.

3.3.2. Interview guide

The interview was conducted by using semi-structured interview guide. A semi-structured interview guide was developed to explore lecturers' perspectives regarding students' speaking proficiency, maritime communication demands, and instructional strategies. Semi-structured interviews allow flexibility while maintaining alignment with research objectives (Patton, 2014). The interviews were conducted in face-to-face meetings with the lecturers, recorded with the participants' consent, and transcribed verbatim for analysis purposes.

3.4. Data collection

The questionnaire was distributed through the Google Forms platform over a one-week period. Each participant was allowed to submit only one response to ensure data integrity. Online survey distribution is commonly used in contemporary educational research due to its accessibility and efficiency in reaching participants (Creswell & Creswell, 2018). Participants were informed about the purpose of the study and assured of anonymity and confidentiality.

After the questionnaire stage was completed, interviews were conducted with two English lecturers to reinforce and clarify the quantitative findings.

3.5. Data analysis

Quantitative data were analyzed using descriptive statistics, including frequency counts, percentages, and mean scores. Descriptive analysis is appropriate for needs analysis studies aiming to identify dominant tendencies and priority areas rather than testing hypotheses (Cohen et al., 2018). Qualitative interview data were analyzed using thematic analysis following the procedures of familiarization, coding, categorization, and theme development (Braun & Clarke, 2019). To enhance credibility, triangulation was conducted by comparing questionnaire findings with interview results, as triangulation strengthens validity in mixed-method research (Moeller et al., 2016).

4. Findings

4.1. Target needs of maritime cadets

4.1.1. Students' current speaking proficiency

Based on the results of a questionnaire conducted on 57 respondents, cadets' English language skills are still predominantly at a basic level. A total of 27 (46.5%) of respondents rated themselves at level A1 (beginner), and 7 (11.6%) at level A2 (basic). Meanwhile, 12 (20.9%) were at level B1 (intermediate), 9 (16.3%) at level B2 (upper intermediate), and only a small number (2 cadets) were at level C1. No respondents identified themselves as being at level C2.

The data shows that more than half of the cadets are still in the basic user category (A1–A2). This indicates that their speaking skills are still limited to simple communication and are not yet stable in a professional context. This finding was supported by the results of interviews with both lecturers. The first lecturer said: “Students’ abilities vary, but in general they are still at the basic to lower-intermediate level. Only a few of them can speak English fluently”. In addition, the second lecturer said that: “On average, they are still at the elementary level. Many of them struggle to produce spontaneous sentences due to limited vocabulary”.

Both lecturers also highlighted the differences in abilities between departments. Nautical cadets were considered to be relatively more communicative than engineering and electrical cadets due to the more intense communication demands in their field. However, in general, the cadets' speaking abilities did not fully meet the professional communication standards in the maritime world. These findings indicate a gap between cadets' actual abilities and the demands of workplace communication, which requires clarity and accuracy in speech.

4.1.2. Desired level of speaking proficiency

Although actual abilities are still dominated by basic levels, cadets' ambitions show a tendency to achieve higher levels of proficiency. The questionnaire results show that 29.8% of respondents target level B1 (intermediate) as the speaking proficiency they want to achieve in English language learning. This shows that most cadets recognize the importance of better communication skills to support professional needs in the maritime field. This finding was also supported by interviews with lecturers. The first lecturer explained that based on the lesson plan (RPS) and maritime learning references, the minimum expected achievement was level B1. She stated: "At least they must be at an intermediate level, especially for Nautical Studies, since they'll be the ones communicating with external parties".

The second lecturer added that for the Nautical Science major, speaking skills should not stop at a basic level because they will be involved in radio communication and cross-border coordination. She said: "In nautical, one must be able to communicate clearly. It's not enough just to understand; one must also be able to give precise instructions".

Meanwhile, for the Engineering and Electrical departments, speaking skills are not expected to be as high as in Nautical Studies, but they are still necessary for work reporting and internal coordination. These findings show that there is a significant gap between the actual conditions of cadets, who are still predominantly at level A1, and the expected target level of proficiency, which is at least intermediate.

4.1.3. Required communication contexts in maritime settings

The questionnaire results show that the communication situations that most often require English speaking skills are giving instructions and commands on board (63.2%) and social interaction on board (61.4%). In addition, 70.8% of respondents stated that communication on board is the most important speaking skill for them to master in the context of maritime work. This data shows that cadets' communication needs are oriented towards operational activities and direct interaction in the ship's working environment.

The interview results reinforced these findings. The first lecturer emphasized the importance of clarity in giving instructions: "On a ship, communication must be clear. A single incorrect instruction can have safety implications". The second lecturer also highlighted the importance of using technical terms appropriately in professional communication stating that "They need to become familiar with the correct maritime terminology, because communication on board a ship involves safety and international standards".

These findings indicate that cadets' communication needs are not only general in nature, but specific, technical, and directly related to occupational safety aspects. The findings regarding actual abilities, expected targets, and professional communication needs indicate that the problems faced by cadets are not purely due to low skill levels, but also due to the mismatch between the learning experiences gained and the communication demands in the workplace. This gap indicates the need for further analysis of how the learning process takes place, the types of activities provided, and the forms of support needed by students to improve their speaking skills.

Therefore, after identifying target needs that include lacks, wants, and necessities, the next step is to examine learning needs, namely how learning should be designed to bridge the gap between actual abilities and professional demands in the maritime field.

4.2. Learning needs of maritime cadets

4.2.1. Preferred speaking activities

The questionnaire results show that cadets tend to prefer practical and contextual learning activities. Some of the activities most frequently chosen by respondents include role play, work situation simulations, presentations, pair discussions, and speaking exercises on emergency situations on ships. These activities are considered more relevant to the communication needs they will face in a maritime work environment.

The preference for simulation-based activities shows that cadets are more interested in learning that allows them to practice the language directly in contexts that resemble real work situations. This is in line with the characteristics of English for Specific Purposes (ESP) learning, which emphasizes the use of language in authentic professional contexts.

The results of interviews with lecturers also support these findings. One lecturer explained that the use of practical facilities such as simulator rooms can help increase cadets' participation in speaking activities. She stated: "If training is conducted in a simulator or in a practical training facility such as an engine room, they are usually more engaged because the environment feels just like being on a ship". Other lecturers also added that learning involving operational scenarios, such as simulation of giving instructions or handling emergency situations, tends to make students better understand the importance of communication skills in their work. These findings show that cadets prefer learning approaches that are interactive, contextual, and practice-oriented compared to learning methods that only focus on theoretical explanations.

4.2.2. Students' major difficulties in speaking

The cadets showed interest in speaking activities, but they still faced various difficulties in developing their speaking skills. Based on the questionnaire results, some of the most frequently reported difficulties included limited vocabulary, difficulty pronouncing English terms, lack of confidence when speaking, and concern about making grammatical mistakes. The limited vocabulary is one of the most dominant obstacles, especially in the use of technical terms related to the maritime field. This causes many cadets to experience difficulties when they have to speak spontaneously in certain situations.

The findings were also supported by interviews with lecturers. One lecturer explained that many students still had difficulty constructing sentences fluently due to their limited vocabulary. She said: "They often know what it means, but don't know how to express it in English". In addition, psychological factors also pose a significant obstacle. Another lecturer revealed that some students still feel hesitant to speak because they are afraid of making mistakes. "Many of them actually understand, but they lack the confidence to speak up for fear of making a mistake".

The limitations of practice time also influenced the development of cadets' speaking skills. The lack of opportunities to practice the language consistently made it difficult for them to build fluency in communication. These findings show that the difficulties experienced by students were not only related to linguistic aspects, but also involved psychological factors and limited opportunities for practice.

4.2.3. Practice opportunities and learning support

Based on the questionnaires and interviews, the opportunities for cadets to practice speaking are still relatively limited. In formal lectures, speaking lessons generally only take place for about two hours per week, in accordance with the time allocated for English classes. In addition to classroom learning, several additional programs such as morning speech activities or English clubs are also available as a means to improve students' speaking skills. However, student participation in these activities has not been optimal.

The lecturer explained that the boarding school-based education system could actually be an opportunity to create a more intensive language learning environment. However, its implementation still faces various obstacles. "The boarding system could actually create an English-speaking environment, but in practice, this has not been consistently implemented".

Another lecturer also mentioned that students actually have the opportunity to discuss or consult outside of class hours. However, not all students actively take advantage of this opportunity. "If they want to practice or ask questions, the professors are actually open to it, but usually only a few take the initiative". These findings indicate that despite the availability of several forms of learning support, students still do not fully utilize the opportunities for speaking practice.

4.2.4. Preferred learning media and digital tools

In terms of learning media, the cadets showed interest in using digital media that could help them practice English in a more interactive way. Several respondents mentioned that they were interested in using e-modules and interactive quiz platforms such as Kahoot as part of the learning process. The digital media is considered capable of making the learning process more interesting while providing more flexible practice opportunities. However, the availability of learning media specifically designed to train speaking skills in a maritime context is still very limited.

One of the lecturers explained that there are currently several applications related to maritime terminology, but most of them only focus on listening exercises or vocabulary recognition. "There is an application related to SMCP, but it's usually just for listening or getting familiar with the terminology". This shows that there are still limitations in the availability of digital media that can provide direct feedback on students' speaking skills in the context of maritime communication. These findings indicate the need to develop more specific and interactive learning media to support the improvement of cadets' speaking skills.

4.3. Identified gaps between current instruction and authentic needs

Based on the analysis of target needs and learning needs, this study identified several gaps between the current learning conditions and the communication demands faced by cadets in the context of maritime work. These gaps include language proficiency gaps, practice gaps, instructional gaps, and technological gaps.

4.3.1. Proficiency gap

One of the main gaps found in this study relates to the difference between cadets' current English language skills and the level of proficiency expected in a professional context. The questionnaire results show that cadets' speaking skills are still dominated by basic levels, with 46.5% of respondents at level A1 and 11.6% at level A2. Meanwhile, the number of students at the intermediate level is still relatively limited.

On the other hand, both students and lecturers indicated that the minimum expected proficiency level is intermediate (B1). This is also reflected in the aspirations of students, with 29.8% of respondents targeting B1 as the level they wish to achieve. The interview findings also confirm this gap. One lecturer said that most students are still at a basic level, while communication in the maritime field requires more stable and clear speaking skills. This situation shows a proficiency gap between students' actual abilities and the communication competency standards required in the maritime work environment.

4.3.2. Practice gap

The second gap relates to the speaking practice opportunities available to students. Based on the results of the study, speaking lessons in formal lectures generally only last about two hours per week. This allocation of time is considered insufficient to support optimal speaking skill development.

Meanwhile, communication needs in the maritime world require intensive speaking skills, especially in operational situations such as giving instructions on ships, coordinating work, and interacting with crews from various countries. Although there are several additional activities such as morning speaking or English club, student participation in these activities is still relatively limited. This results in less than optimal opportunities for students to practice speaking consistently. Therefore, there is a gap between the level of speaking practice that students receive in the learning process and the communication demands they will face in the workplace.

4.3.3. Instructional gap

The following gap relates to the learning approach applied in maritime English teaching. In the context of international maritime education, English language learning should refer to communication standards that have been formulated in various guidelines, such as course models developed by international maritime organizations.

However, the interview results show that the implementation of this approach can vary between educational institutions. Although some maritime communication materials have been introduced into the learning process, the level of integration between theory and professional communication practice still varies.

This condition shows that even though there are standard references in maritime English teaching, its implementation in the learning process still needs to be strengthened to better suit the real communication needs in the work environment.

4.3.4. Technological gap

The final gap identified in this study relates to the use of technology in maritime speaking instruction. Based on the questionnaire and interview findings, students expressed considerable interest in using digital learning tools, such as e-modules and interactive quiz platforms. These tools are perceived as engaging and potentially helpful in supporting students' learning processes.

However, the availability of digital resources specifically designed to develop speaking skills in maritime contexts remains very limited. Existing applications tend to focus primarily on listening practice or the introduction of maritime vocabulary rather than providing opportunities for active speaking practice.

This concern was also highlighted in the lecturer interviews. One lecturer explained that, although several applications related to maritime terminology are available, they generally do not provide interactive speaking features or automated feedback on students' spoken performance.

As a result, students have limited access to technological tools that can support the development of speaking skills within authentic maritime communication scenarios. This situation indicates the presence of a technological gap in maritime English instruction, particularly in terms of digital resources that allow students to practice speaking while receiving meaningful feedback.

In general, this study identifies four main gaps between current learning conditions and communication needs in the maritime workplace, namely proficiency gap, practice gap, instructional gap, and technological gap. These four gaps indicate that current speaking instruction still needs to be strengthened in terms of learning approaches, practice opportunities, and learning technology support.

The identification of these gaps provides an important foundation for designing more contextualized learning resources that align with the communicative needs of maritime cadets. In particular, the findings highlight the need for learning materials that not only support language development but also reflect the communicative situations commonly encountered in maritime professional settings.

5. Discussion

The results of this study provide several important insights into the speaking skills required by maritime cadets, particularly in relation to their current proficiency, communication demands, learning needs, and the gaps between instructional practices and workplace requirements. First, the findings reveal that most maritime cadets remain at the elementary level of speaking proficiency, whereas professional maritime communication typically requires at least an intermediate level. This gap suggests a misalignment between current instructional outcomes

and the communicative demands of the maritime workplace. From an ESP perspective, this reflects what Hutchinson and Waters (1987) describe as “lacks,” referring to the discrepancy between learners’ existing abilities and the requirements of the target situation. The persistence of this gap may indicate that current instructional approaches are not sufficiently oriented toward developing functional communicative competence.

This interpretation is consistent with previous studies in Maritime English education, which have shown that learners often struggle to reach the level of communication competence required for real-world maritime interaction (Borucinsky & Kegalj, 2020; Simanjuntak et al., 2024). This suggests that improving speaking competence should not be treated as a supplementary objective, but rather as a central focus of Maritime English instruction.

Second, the prominence of giving instructions and commands, as well as social interaction among crew members, highlights the functional and high-stakes nature of spoken communication in maritime contexts. This suggests that speaking competence in Maritime English extends beyond linguistic knowledge and functions as a critical operational skill that supports coordination, efficiency, and safety at sea. In such contexts, communication is often time-sensitive and requires clarity, precision, and immediate comprehension.

This finding reinforces the importance of standardized communication frameworks, such as those emphasized by the International Maritime Organization (IMO), which aim to reduce ambiguity and prevent miscommunication in operational settings (Zhang & Cole, 2018). Ineffective communication in multilingual crews has been widely identified as a contributing factor to maritime incidents (Pritchard, 2020), further emphasizing the need for targeted speaking instruction that reflects real communicative demands.

Third, the strong preference for interactive and simulation-based learning activities suggests that learners value authenticity and practical relevance in language learning. Simulation-based tasks allow cadets to engage in communication scenarios that closely resemble real maritime operations, thereby increasing the perceived usefulness of learning. In addition, such activities may help reduce anxiety by providing structured and meaningful contexts for communication, which aligns with the concept of a low affective filter in second language acquisition.

From a theoretical perspective, this finding supports the learning-centered approach proposed by Hutchinson and Waters (1987), which emphasizes that effective ESP instruction should consider not only target needs but also learners’ preferences and learning processes. This suggests that aligning instructional strategies with learners’ preferred modes of engagement may enhance the development of communicative competence in ESP contexts.

However, despite these preferences, the findings also reveal several challenges in developing speaking skills, including limited vocabulary, pronunciation difficulties, low confidence, and fear of making grammatical errors. These challenges reflect both linguistic and psychological barriers, which are commonly identified in second language speaking research (Newton & Nation, 2020). In ESP contexts, these difficulties are further compounded by the need to master specialized terminology relevant to specific professional domains (Basturkmen, 2010).

Another key issue identified in this study is the limited opportunity for speaking practice within the current instructional context. The restriction of speaking activities to approximately two hours per week suggests that learners may not receive sufficient exposure to develop communicative competence. This limitation reflects a broader issue in ESP programs, where language instruction often receives less emphasis compared to technical subjects (Sholikhi, 2022). As a result, learners may struggle to transfer classroom knowledge into real-world communication.

Furthermore, the findings highlight a technological gap in supporting speaking development. Although students show interest in digital learning tools, the availability of applications specifically designed to support maritime speaking practice remains limited. Most existing tools, such as *SMCP Syntax Maritime English* and *cMate-SMCP IMO Phrases*, primarily focus on vocabulary acquisition or listening practice related to Standard Marine Communication Phrases (SMCP), with limited opportunities for interactive speaking practice and feedback.

This gap suggests that technology-enhanced learning has not yet been fully utilized to support speaking development in maritime education. Previous studies have shown that digital tools can provide flexible learning environments and immediate feedback, which are essential for developing speaking skills (Godwin-Jones, 2018; Kukulska-Hulme, 2020). Therefore, the integration of technology into Maritime English instruction represents a promising area for pedagogical innovation.

In general, the findings of this study identify four major gaps: proficiency, practice, instructional, and technological. These gaps have important pedagogical implications. First, curriculum design should be reoriented to align more closely with the communicative demands of the maritime profession, particularly by targeting progression toward intermediate-level proficiency. Second, greater emphasis should be placed on increasing opportunities for authentic speaking practice through simulation-based and task-based learning activities. Third, instructional approaches should shift from general English to more specialized Maritime English that reflects real communication tasks. Finally, the integration of technology-enhanced learning tools should be prioritized to support continuous and flexible speaking practice beyond the classroom. Therefore, efforts to address these gaps are important in order to improve the quality of Maritime English learning and prepare maritime cadets to communicate effectively in an international maritime work environment.

6. Conclusion

This study aims to identify the speaking skills required by maritime cadets through an analysis of target needs, learning needs, and the gap between current instructional practices and the communicative demands of the maritime workplace. The findings indicate that although maritime cadets frequently encounter communication situations that necessitate English speaking skills—particularly in giving instructions, coordinating tasks, and interacting with crew members—their current proficiency remains predominantly at a basic level. This discrepancy

reveals a clear gap between the cadets' actual abilities and the expected level of competence for professional communication within the international maritime environment.

Furthermore, the study identifies several key learning needs, including a preference for interactive learning activities such as simulations, role-plays, and presentations, as well as a demand for more intensive opportunities for speaking practice. The findings also point to limitations in existing instructional practices, both in terms of the amount of in-class speaking practice and the availability of digital learning media specifically designed to support maritime communication practice. Consequently, Maritime English instruction should place greater emphasis on communicative and contextualized learning approaches that reflect authentic communication situations aboard vessels. Moreover, the development of technology-based learning media-such as e-modules tailored to the context of maritime communication-holds potential as a viable solution for enhancing cadets' speaking skills. Future research should investigate the effectiveness of such learning media in improving maritime cadets' communicative competence in real-world professional settings.

Declaration on the use of AI

The authors used AI applications, including DeepSeek and Grammarly, to enhance the quality and structure of the English language, making the text more readable and comprehensible. The ideas and content presented in this manuscript are the original work of the authors, who assume full responsibility for them.

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