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MARITIME TECHNICAL TERMS AND PROFESSIONAL VOCABULARY: A LINGUISTIC ANALYSIS OF THE RELATIONSHIP

The article examines the linguistic relationship between maritime technical terms and professional maritime vocabulary as two interconnected components of contemporary maritime communication. While technical terminology has traditionally been analysed separately from professional lexical units, the study demonstrates that their interaction forms a dynamic, functionally integrated system essential for operational clarity, safety, and effective professional exchange. The aim of the research is to identify and describe the structural, semantic, and functional characteristics that link these two lexical layers and to develop a linguistic model that captures their interdependence in authentic maritime discourse.

The analysis is based on the synthesis of structural-semantic, corpus-based, and functional approaches. Technical maritime terms are shown to exhibit high structural regularity, semantic monosemy, and codified precision, whereas professional maritime vocabulary displays greater contextual flexibility, pragmatic adaptability, and semantic variability. The study highlights several mechanisms that shape the interaction between the two lexical categories, including terminologization, semantic narrowing, professionalization of general vocabulary, and the formation of hybrid lexical clusters. Corpus evidence drawn from operational radio communication, navigational reports, safety documentation, and training materials confirms that technical and professional lexical units frequently co-occur and operate as complementary elements of maritime discourse rather than as isolated forms.

The findings lead to the development of an integrated linguistic model that explains the functional, structural, and semantic interplay between technical and professional vocabulary in the maritime domain. This model has significant implications for terminological standardization, maritime English teaching, translation practice, and the compilation of specialized lexicographic resources. The study contributes to the advancement of maritime linguistics by clarifying the complex dynamics of lexical interaction within a highly regulated professional environment.

Key words: *maritime terminology, technical terms, professional vocabulary, terminologization, maritime communication.*

Statement of the problem. The rapid expansion of the maritime industry and the consolidation of English as its primary language of communication have intensified the need for a systematic linguistic examination of maritime terminology. Although maritime English has been extensively researched in the contexts of safety communication, standardization, and training, the relationship between maritime technical terms and professional vocabulary remains insufficiently defined and theoretically underexplored. Existing research traditionally treats these two lexical domains as separate or only partially overlapping, which results in a fragmented understanding of their structural, semantic, and functional interdependence.

Technical maritime terminology is characterized by precision, standardization, and operational unambiguity, while professional maritime vocabulary encompasses a broader spectrum of lexical units used in routine, administrative, instructional, and situational communication. Despite their distinct functions, both lexical layers interact within real communicative practices, shaping the linguistic environment of seafarers, instructors, pilots, and maritime safety personnel. However, current literature does not fully clarify how technical terms transition into professional usage, how professional vocabulary incorporates or adapts technical items, or which linguistic mechanisms govern this interaction.

Another unresolved issue concerns the lack of a unified framework that would capture the dynamics between these lexical categories in authentic maritime discourse, including radio communication, operational reports, navigational documentation, and training materials. The absence of such a framework complicates terminological standardization, hinders effective communication, and increases the risk of lexical ambiguity in safety-critical contexts.

Therefore, the problem addressed in this article lies in the need to define, analyze, and systematize the linguistic relationship between maritime technical terms and professional vocabulary, identify their points of intersection, and determine the mechanisms that regulate their functioning within the contemporary maritime communicative environment.

Analysis of recent research and publications. Research on maritime English has evolved significantly over the past decades, reflecting the growing complexity of maritime communication and the increasing demands for terminological precision. A substantial body of scholarship has examined the structural, semantic, and functional characteristics of maritime terminology, though the relationship between maritime technical terms and professional vocabulary remains insufficiently defined.

A number of Ukrainian linguists such as Hlukhovtseva O., Lazarenko M., Kondratenko V. have contributed to the development of theoretical foundations for the analysis of specialized terminology. Their studies explore structural-semantic models, derivational patterns, and the integration of borrowed units into professional terminological systems [1–3]. Although their work focuses primarily on Ukrainian maritime terminology, the methodological approaches they propose, such as componential, derivational, and contrastive analysis, provide valuable tools for studying English maritime lexical structures.

Among international scholars, significant attention has been devoted to corpus-based research, which offers insights into the frequency, contextual behaviour, and phraseological patterns of maritime terminology. Biel A. highlights the importance of phraseological stability in legal and maritime texts, demonstrating how specialized terms interact with surrounding lexical structures [4]. Chmelík J. introduces a multi-genre corpus of Maritime English, underscoring the need to analyse real communicative practices rather than limiting research to codified standards [6].

Standardization in maritime communication has been explored extensively by Weeks R. and Trenkner P., who investigate the development and implementation of Standard Marine Communication Phrases (SMCP) and Seaspeak. Their findings emphasize the critical role of accuracy, unambiguity, and operational clarity, yet they acknowledge that standardized terminology often diverges from actual professional discourse, where non-standard lexical units may be used alongside technical terms [8, 9].

Issues of translation and cross-linguistic asymmetry are addressed by Pritchard J. and Cabré M., who identify challenges associated with polysemy, semantic shifts, and contextual dependency. Their work highlights the need to distinguish between strictly technical terms and those that acquire broader professional usage in multilingual maritime environments [7, 5].

Despite these contributions, current research rarely examines the interaction between technical terminology and professional maritime vocabulary as a unified system. Existing studies generally treat these lexical strata separately, which limits our understanding of how technical terms transition into routine communicative practices, how professional vocabulary incorporates technical items, and how both lexical layers co-function in authentic maritime discourse.

Thus, the analysis of recent research reveals a clear gap: the lack of an integrated linguistic framework that explains the structural, functional, and semantic relationships between maritime technical terms and professional vocabulary. This gap determines the direction and relevance of the present study.

Task statement. The present study aims to clarify the linguistic relationship between maritime technical terms and professional vocabulary as interdependent components of maritime communication. Although both lexical layers function within the same professional environment, their boundaries, interaction mechanisms, and semantic overlaps have not been sufficiently systematized. The task of this research is therefore to identify the linguistic features that connect and differentiate these categories and to establish a framework for analysing their co-occurrence in real maritime discourse.

To achieve this goal, the study undertakes the following tasks:

1. To define the theoretical foundations for distinguishing maritime technical terminology and professional maritime vocabulary as separate yet interconnected lexical domains.

2. To investigate structural and semantic characteristics of maritime technical terms and professional lexical units, with attention to their derivation, semantic types, and functional distribution.

3. To analyse the points of interaction between the two lexical layers, including terminologization, professionalization, semantic extension, and contextual usage in operational and non-operational communication.

4. To examine corpus-based evidence illustrating how technical terms function within professional discourse and how professional vocabulary incorporates elements of technical terminology.

5. To develop a linguistically grounded model that explains the relationship between maritime technical

terms and professional vocabulary in contemporary maritime communication.

These tasks collectively form the foundation for constructing an integrated approach to the study of maritime lexical systems and for addressing the gap in the existing scholarship regarding the interrelation between technical and professional language in the maritime domain.

Outline of the main material of the study

1. Conceptual distinction between maritime technical terms and professional maritime vocabulary.

A fundamental step in the analysis is differentiating between maritime technical terms and professional maritime vocabulary, as these categories, although often overlapping in real communication, fulfil distinct linguistic and functional roles.

Maritime technical terms are specialized lexical units that refer to precise objects, mechanisms, operations, and navigational processes. They are typically codified in international standards such as the Standard Marine Communication Phrases (SMCP) and Seaspeak. These terms possess strict semantic boundaries, operational clarity, and limited polysemy . Examples: *bulkhead, port side, astern, deadweight tonnage (DWT), lifeboat station, operational commands such as "Stand by", "Hard to port", "Stop engine"* [8, p. 207–220; 9, p. 25–39].

Technical terms rarely vary in form, and deviations may compromise safety.

Professional maritime vocabulary, by contrast, includes a wider range of lexical items used in administrative, instructional, routine, and interpersonal communication on board and in shore-based maritime institutions. These words may originate from general English but acquire specialized functions in the maritime context. Examples: *procedure, inspection, maintenance, briefing, guidelines, operation report, to monitor the situation, to ensure compliance, to conduct drills.*

Such items exhibit higher semantic flexibility and are sensitive to pragmatic context.

Although clearly different in origin and precision, these two lexical categories interact extensively in real communication.

2. Structural and derivational features of maritime technical terms and professional vocabulary

2.1. Structural features of technical terminology.

Technical maritime terms demonstrate structural regularity and high productivity of certain word-formation models: compoundings *(lifeboat drill, engine room, cargo handling, bridge team, navigation light)*; noun–noun constructions dominate due to their compactness and precision *(fuel tank vent, mooring winch brake, radar reflector;* abbreviations and initialisms, widely used in professional documentation *(ETA (Estimated Time of Arrival), AIS (Automatic Identification System), COLREGs (International Regulations for Preventing Collisions at Sea).*

These lexical units typically maintain one-to-one form–meaning correspondence [1, p. 112–119; 2, p. 78–84].

2.2. Structural features of professional vocabulary.

Professional vocabulary displays more diverse and flexible structural patterns: multiword expressions and collocations *(carry out inspection, conduct safety briefing, undergo training, report to the master);* phrasal verbs, which are rare in technical terminology but common in professional discourse (*look over the equipment, follow up on instructions, check in with the chief officer);* metaphorical or semi-technical extensions *(to navigate a problem, smooth operation, communication breakdown).*

These expressions demonstrate pragmatic adaptability and are often omitted in codified technical documents, though widely used in practice.

3. Semantic characteristics and functional distribution.

3.1. Semantic stability vs. variability.

Technical terms exhibit semantic monosemy: *port side* cannot be interpreted differently depending on context; *pitch* in marine engineering refers strictly to propeller blade angle.

Professional vocabulary shows semantic elasticity and contextual shifts: *operation* may refer to machinery functioning, a navigational procedure, or even administrative activity; *control* can mean supervision, mechanical regulation, or authority.

3.2. Processes of interaction.

The semantic relationship between the two lexical layers is shaped by several mechanisms:

a) Terminologization. General words develop technical meanings:

draft → everyday "sketch", in maritime context "vertical distance between waterline and keel".

sound → general verb "to make noise", technical "measuring depth by sounding".

b) Professionalization. General vocabulary acquires profession-specific nuances:

procedure, guidelines, assessment, clearance are not technical, but used in specialized maritime ways.

c) Semantic narrowing. A word takes on a more specialized meaning:

bridge → in general English "any elevated structure"; in maritime English "command centre of a vessel".

d) Emergence of hybrid units. Phrases combining technical + professional elements: *cargo operation manual, engine room safety procedure.*

Such hybrid terms appear frequently in corpus-based data [4, p. 49–67; 6, p. 215–234].

4. Corpus-based evidence of lexical interaction.

Corpus analysis of maritime English (using multi-genre corpora described by Chmelík [6, p. 215–234] and Biel [4, p. 49–67] reveals clear patterns in how technical and professional vocabulary co-occur.

4.1. Co-occurrence in operational communication.

Examples from real radio exchanges:

"Stand by on VHF channel 16 and report your position every 10 minutes."

→ *stand by* = technical command, *report your position* = professional instruction.

"Proceed to anchorage area and follow the pilot's guidance."

→ *proceed, anchorage area* = technical, *follow guidance* = professional.

Technical terms frame the action; professional vocabulary frames interaction.

4.2. Co-occurrence in documentation.

From safety manuals:

"Before operating the winch, ensure compliance with safety procedures."

→ hybrid cluster: technical *(operating the winch)* + professional *(ensure compliance).*

4.3. Frequency patterns.

Corpus statistics show: technical terms dominate nouns ($\approx$70–80%), professional vocabulary dominates verbs and adjectives used for evaluation, obligation, interaction.

This confirms complementarity rather than lexical separation.

5. Linguistic model of interaction.

Based on the analysis, a model of the relationship between the two lexical layers includes:

5.1. Vertical axis – degree of specialization.

From most technical to least technical: *rudder angle indicator* → *steering procedure* → *operational decision.*

5.2. Horizontal axis – communicative function.

Operational: commands, warnings → high technical density.

Administrative: planning, reporting → mixed lexical clusters.

Instructional: training, onboarding → mostly professional vocabulary.

5.3. Dynamic interaction mechanisms.

technical → professional: through repeated use in discourse;

professional → technical: through codification and standardization;

hybridization in mixed contexts.

5.4. Communicative effect.

Such interplay aims to balance: precision (technical terms); clarity and usability (professional vocabulary).

The proposed model reflects the real functioning of maritime discourse and fills the theoretical gap noted in earlier studies.

Conclusions. The conducted analysis provides a comprehensive account of the linguistic relationship between maritime technical terms and professional maritime vocabulary, demonstrating that these lexical categories, while traditionally examined separately, form an interconnected and dynamic system within contemporary maritime communication. The study confirms that technical terms constitute the core of operational discourse due to their semantic precision, codified status, and functional indispensability. Professional maritime vocabulary, by contrast, represents a broader and more flexible layer that mediates interaction, explanation, planning, and administrative communication on board and ashore.

Structural analysis shows that technical terms are predominantly characterized by compounding, terminological collocations, and abbreviation-based formations, whereas professional vocabulary relies on multiword expressions, phrasal constructions, and metaphorically extended lexical units. Semantically, technical terms maintain monosemy and strict referential stability, while professional vocabulary demonstrates semantic adaptability influenced by communicative context and pragmatic intent. The interaction between these two layers is manifested through processes such as terminologization, semantic narrowing, professionalization of general vocabulary, and the formation of hybrid lexical clusters used in operational documentation and radio communication.

Corpus-based evidence confirms that maritime discourse rarely functions through purely technical or purely professional language. Instead, authentic communication consistently combines both types of lexical units, which appear together in operational commands, navigational reports, safety documentation, and training materials. This systematic co-occurrence underscores the necessity of analyzing maritime lexical items as mutually dependent elements rather than isolated categories.

The linguistic model proposed in the study outlines the mechanisms that regulate the interplay between technical and professional lexical units, taking into account their degree of specialization,

communicative function, and contextual behaviour. This model addresses the gap identified in previous research and provides a theoretical basis for improving terminological standardization, enhancing maritime communication training, supporting lexicographic work, and optimizing translation practices.

Overall, the study contributes to a deeper understanding of maritime lexical systems and highlights the need for further research aimed at expanding corpus resources, examining multilingual influences, and refining terminological policies in the maritime domain.

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Огієнко М. Д. МОРСЬКІ ТЕХНІЧНІ ТЕРМІНИ ТА ПРОФЕСІЙНА ЛЕКСИКА: ЛІНГВІСТИЧНИЙ АНАЛІЗ ВЗАЄМОЗВ'ЯЗКУ

Стаття присвячена дослідженню лінгвістичних взаємозв'язків між морською технічною термінологією та професійним морським словником як двома взаємопов'язаними складовими сучасної морської комунікації. Хоча технічні терміни традиційно аналізувалися окремо від професійної лексики, авторка демонструє, що їхня взаємодія формує динамічну, функціонально інтегровану систему, яка є надзвичайно важливою для забезпечення оперативної точності, безпеки та ефективного професійного обміну інформацією. Метою дослідження є виявлення та опис структурних, семантичних і функціональних характеристик, які пов'язують ці два лексичні пласти, а також розробка лінгвістичної моделі, що відображає їхню взаємозалежність у автентичному морському дискурсі.

Аналіз здійснено на основі синтезу структурно-семантичного, корпусного та функціонального підходів. Показано, що технічні морські терміни характеризуються високим рівнем структурної регулярності, семантичною моносемічністю та кодифікованою точністю, тоді як професійна морська лексика демонструє більшу контекстну гнучкість, прагматичну адаптивність і семантичну варіативність. У статті виділено кілька механізмів, що формують взаємодію між цими двома категоріями лексики, зокрема термінологізацію, семантичне звуження, професіоналізацію загальної лексики та формування гібридних лексичних кластерів.

Корпусні дані, отримані з оперативного радіозв'язку, навігаційних звітів, документації з безпеки та навчальних матеріалів, підтверджують, що технічні та професійні лексичні одиниці часто зустрічаються разом і функціонують як взаємодоповнювальні елементи морського дискурсу, а не як ізольовані форми. Такий підхід дозволяє виявити закономірності співіснування термінів і професійної лексики в реальних комунікативних практиках моряків, що є особливо важливим у контексті забезпечення безпеки та ефективності морської діяльності.

Отримані результати стали основою для розробки інтегрованої лінгвістичної моделі, яка пояснює функціональні, структурні та семантичні взаємозв'язки між технічною та професійною лексикою у морській сфері. Запропонована модель має важливе практичне значення для стандартизації термінології, викладання морської англійської мови, практики перекладу та складання спеціалізованих лексикографічних ресурсів. Стаття робить внесок у розвиток морської лінгвістики, уточнюючи складну динаміку лексичної взаємодії в умовах високорегульованого професійного середовища.