



Qualitative Study of Content-Based Instruction in Maritime English Learning

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Submitted on : xx/xx/2024 Revised : xx/xx/2024 Accepted : 20/12/2024

ABSTRACT

This study investigates the impact of the Content-Based Instruction (CBI) approach on Maritime English learning among fourth-semester cadets at Sorong Merchant Marine Polytechnic. Using a qualitative method, observations were conducted over two months to assess cadet engagement, participation, and language use during CBI-based lessons. The findings indicate that integrating technical maritime content, such as navigation and emergency communication, significantly increased cadet motivation and engagement by making learning more relevant to their future careers. Cadets showed notable improvements in using specialized maritime terminology in both spoken and written tasks, demonstrating CBI's effectiveness in facilitating vocabulary acquisition and practical language skills. However, challenges emerged, including varying levels of English proficiency, which affected some cadets' ability to engage fully. While CBI supports technical language use, it does not entirely address foundational language gaps, such as grammar and pronunciation, suggesting a need for supplemental instruction. Overall, CBI is a promising approach for Maritime English education, enhancing language proficiency and professional skills, but further adaptations are required to accommodate all proficiency levels and ensure comprehensive learning outcomes.

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Keywords: content-based instruction, maritime english, qualitative study

INTRODUCTION

The maritime industry, with its global operations, necessitates a workforce proficient in English, particularly Maritime English, to ensure effective communication and uphold safety standards at sea. Maritime English serves as a critical tool for cadets in nautical studies, enabling them to function in international contexts—ranging from navigation and onboard communication to compliance with global maritime regulations. The International Maritime Organization (IMO) has

recognized the importance of this language, establishing the Standard Marine Communication Phrases (SMCP) to minimize misunderstandings onboard [1]. Furthermore, proficiency in Maritime English is a mandatory requirement for maritime professionals under international frameworks such as the IMO's Standards of Training, Certification, and Watchkeeping (STCW) [2].

Despite its recognized importance, many maritime cadets, particularly in non-English-speaking countries, continue to face significant challenges in mastering Maritime English. Studies

conducted in maritime academies in Indonesia, such as the Nusantara Maritime Academy, have highlighted persistent issues in vocabulary acquisition, grammar, and pronunciation, all of which hinder cadets' ability to communicate effectively in a professional maritime setting [3]. Similarly, research among Bangladeshi seafarers has shown that inadequate proficiency in listening and writing skills negatively impacts onboard communication and employment prospects [4]. Marine engineers also face communication barriers, as the current English language training programs do not fully prepare them for the technical demands of the industry [5].

Concerns over the adequacy of existing language instruction methods in preparing cadets with the necessary linguistic and technical skills continue to grow. Several studies have highlighted the gap between theoretical language instruction and the practical communication needs of the maritime profession. While maritime education programs emphasize the importance of English proficiency, they often fall short of integrating technical terminology and communicative competence into their curricula. For instance, research on cadets in Indonesia and Ukraine has revealed that current pedagogical approaches fail to adequately prepare students to navigate complex technical documentation or communicate efficiently in high-pressure maritime environments [6]. Additionally, the implementation of English Medium Instruction (EMI) poses its own challenges, such as increased educational costs and the need for highly skilled instructors [7].

One instructional approach that shows promise in addressing these challenges is Content-Based Instruction (CBI). CBI integrates language learning with subject-specific content, allowing cadets to develop their Maritime English proficiency while simultaneously engaging with technical material. Research on the use of CBI in Maritime English courses has demonstrated its effectiveness in enhancing cadets' understanding of maritime terminology and technical concepts. For example, studies that incorporated multimedia content, such as YouTube videos, into CBI-based lessons showed significant improvements in cadets' comprehension of both language and subject matter [8]. Similarly, research on CLIL (Content and Language Integrated Learning) has shown that cadets experienced substantial vocabulary growth and improved technical language skills through the integration of subject-specific content [9].

The application of CBI in specialized fields like maritime education has proven to bridge the gap between language theory and practical usage, preparing cadets for real-world maritime

communication tasks. However, empirical studies on the effectiveness of CBI in maritime education, particularly in Indonesia, remain limited. This research aims to investigate the impact of the CBI approach on the Maritime English learning process of fourth-semester cadets in the Nautical Studies program at Sorong Merchant Marine Polytechnic.

METHOD

The research employed a qualitative method to explore the impact of the Content-Based Instruction (CBI) approach on cadets' Maritime English learning process. The study population consisted of fourth-semester cadets from the Nautical Studies program at Sorong Merchant Marine Polytechnic, with a sample of 24 cadets selected through purposive sampling. The instruments used in this research included direct observation. Observations were conducted during Maritime English classes to capture cadets' engagement, participation, and language use in the classroom setting. Over two months, multiple class sessions were observed to gain insight into cadets' behavior and learning patterns during CBI-based lessons. Observational data were analyzed qualitatively, focusing on patterns of cadet engagement, use of technical English, and participation levels. The findings indicated active cadet participation and an increase in the use of Maritime English in both technical and practical contexts, confirming the effectiveness of the CBI method through observed behavior.

RESULTS AND DISCUSSION

The qualitative observations conducted during the Maritime English lessons employing the Content-Based Instruction (CBI) approach provided valuable insights into cadets' language learning behavior and the effectiveness of this pedagogical method. The results are discussed below based on key themes that emerged during the observation process.

One of the most notable outcomes was the significant increase in cadet engagement and participation during classroom activities. Throughout the observed sessions, cadets demonstrated a higher level of interest in learning Maritime English when it was integrated with technical maritime content. This was particularly evident during interactive discussions, group activities, and role-playing scenarios related to real-life maritime operations, such as cargo handling, navigation, and emergency communication. The implementation of the CBI approach led to a marked increase in cadet engagement and participation because cadets found

the learning process more relevant and applicable to their future careers. This relevance fostered deeper interest as cadets were able to directly relate their language learning to real-world situations [10]. Studies have shown that CBI fosters deeper interest in the subject matter by allowing students to connect language learning to real-life contexts, which enhances motivation and engagement [11], [12]. The use of authentic materials and subject-specific curricula in CBI further supports meaningful and relevant learning experiences [13], [14].

A key outcome of the CBI approach was the significant improvement in cadets' use of technical maritime terminology in both spoken and written tasks. As CBI lessons focused on subject-specific content such as navigation, port operations, and vessel maintenance, cadets were immersed in the professional language required in their field. This exposure allowed them to practice and internalize essential technical English phrases, leading to more confident and precise use of terminology in classroom activities, discussions, and assignments. Content-Based Instruction is known to enhance students' acquisition of specialized vocabulary by providing authentic and meaningful contexts for language use [9]. The approach supports both language use and usage by integrating technical content with language instruction, facilitating the practical application of maritime terminology [15].

CBI-based lessons provided cadets with opportunities to apply Maritime English in practical, real-world scenarios. For example, during simulation-based activities, cadets were required to use Maritime English to communicate effectively in scenarios such as ship-to-shore communication and emergency response drills. These activities not only reinforced their language skills but also helped them internalize the importance of clear and concise communication in maritime operations. This contextual learning approach aligns with the demands of the maritime industry, where clarity in communication is crucial for safety and operational efficiency [1]. It also reflects the principles of CBI, which emphasize the relevance of situational learning in preparing students for real-world tasks [16].

While the CBI approach showed positive outcomes in terms of engagement and language use, certain challenges were observed. One issue was the varying levels of English proficiency among cadets, which occasionally hindered the effectiveness of group activities. Cadets with lower English proficiency struggled to keep up with the technical content, leading to moments of disengagement. This suggests a need for differentiated instruction within CBI frameworks

to accommodate students with diverse language skills [17]. Furthermore, while CBI facilitated the use of technical English, it did not fully address gaps in foundational language skills such as grammar and pronunciation, which have been identified as limitations in other studies [18], [19].

The findings of this study confirm that the CBI approach is an effective method for teaching Maritime English, particularly in enhancing cadets' use of technical maritime language and engaging them in meaningful learning experiences. These results align with broader research on CBI, which emphasizes its capacity to improve language proficiency and prepare students for real-world tasks [20]. However, further adaptation of the CBI approach is needed to ensure that foundational language skills are adequately addressed and that all cadets, regardless of proficiency level, can fully benefit from the integrated learning experience.

CONCLUSION

This study confirms that the Content-Based Instruction (CBI) approach is an effective pedagogical method for teaching Maritime English, particularly in enhancing cadets' engagement, participation, and use of technical language. Integrating subject-specific content, such as navigation, cargo handling, and emergency communication, into language lessons made the learning process more relevant to cadets' future careers, increasing their motivation and interest. CBI-based activities, including role-playing and simulations, provided meaningful opportunities to apply Maritime English in real-world contexts, reinforcing the importance of clear communication in maritime operations. The study demonstrated significant improvement in cadets' use of specialized maritime terminology, highlighting CBI's effectiveness in facilitating the acquisition of technical vocabulary and practical language skills. However, challenges emerged regarding varying proficiency levels, suggesting the need for differentiated instruction to accommodate diverse language abilities. While CBI supports the use of technical English, it does not fully address gaps in foundational skills such as grammar and pronunciation, indicating a need for supplemental instruction. Overall, CBI is a promising approach for preparing cadets for the global maritime industry by combining language learning with professional skills development, but further adaptations are needed to ensure comprehensive language competency for all learners.

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