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# UTILIZING SHIP SIMULATORS FOR CONTENT-BASED INSTRUCTION IN MARITIME ENGLISH LEARNING

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## ABSTRACT

This conceptual paper explores the potential of using ship simulators as a tool for content-based instruction in the context of maritime English learning. Content-based instruction (CBI) is an approach that integrates language learning with subject matter content, fostering both language proficiency and disciplinary knowledge acquisition. The maritime industry, with its specialized terminology and unique communication demands, requires seafarers to possess strong English language skills for effective communication and safety at sea. Ship simulators offer an immersive and interactive environment that can enhance maritime English learning by providing learners with realistic scenarios and authentic language use opportunities. This paper discusses the theoretical foundations of content-based instruction, explores the benefits and challenges of using ship simulators for language learning, and proposes strategies for integrating ship simulators into maritime English curricula. It also highlights the potential impact of this innovative approach on the linguistic and professional development of maritime professionals.

***Keywords:*** *Content-Based Instruction; Maritime English; Ship Simulators*

## INTRODUCTION

The Communicative Approach is widely regarded as the primary approach for teaching both English for General Purposes (EGP) and English for Specific Purposes (ESP). Given that Maritime English is a subcategory of English for Specific Purposes (ESP), it is plausible to implement the Communicative Approach throughout the entirety of the pedagogical process. It is important to note that this approach does not preclude the utilization of other techniques or strategies that may be beneficial for a Maritime English language instructor to fulfill the demands of a particular curriculum. Although both EGP and ESP methodologies are beneficial for GME, SME is predominantly characterized by the ESP methodology. Maritime English typically adheres to an English for Specific Purposes (ESP) methodology, wherein learners are directed towards the linguistic nuances of specialized communication within the maritime sector, encompassing areas such as ship design, seamanship, shipping, ports, and maritime law. The aforementioned encompasses lexical characteristics, specifically the terminology utilized in maritime communication, grammatical elements such as phonetics, structure, and semantics, discourse which pertains to language within its contextual framework, including the relationship between linguistic forms, such as text types, and the extralinguistic world in the maritime sector, as well as pragmatic features, which refer to language usage, such as speech acts in VHF radio communication, including opening and closing signals, turn-taking signals, repair signals, and so on.

Language has frequently been regarded as a significant obstacle to achievement in both academic and professional settings, and this holds true within the maritime sector. Insufficient access to English language input is a prevalent issue among seafarers and cadets, impeding the development of critical competencies in

effective communication and English language proficiency, which are essential in the maritime industry. A contemporary phenomenon in the field of language instruction involves the amalgamation of content assimilation and language proficiency enhancement by educators. One approach to attain this objective is to impart knowledge through English language instruction, incorporating language tactics and methodologies that facilitate the understanding of content for learners with a second language. The content may include subjects such as electronic navigation, marine engineering, and distress radio communications. Stated differently, the integration of content and language instruction is evident in the pedagogical approach. By employing this methodology, learners can enhance their aptitude in the English language. The notion that a second language can be acquired efficiently through the medium of instruction rather than as the object of study has gained widespread acceptance. The relationship between language and content is interdependent and indivisible, as they are inextricably linked.

There are three prevalent models for content-based instruction (CBI) (Snow and Wesche 1989).

- *Theme-based courses (TB)*
- *The Adjunct/Linked Courses (AL)*
- *Sheltered Subject Matter Instruction (SSM).*

*The pedagogical approach of organizing courses around a central theme is commonly observed in educational settings that cater to English as a Second Language (ESL) and English as a Foreign Language (EFL) learners. Frequently, an ESL course is designed with a content-based approach, prioritizing the acquisition of second language proficiency in particular subject matters. Occasionally, it is specifically tailored for English for Specific Purposes (ESP) courses exclusively, such as Maritime English for students in the nautical or engineering fields, rather than for immersive instruction. The instructional design is organized in a systematic manner, with a series of professional topics or themes that are sequenced in a manner consistent with the order of themes found in the primary subjects or disciplines of academic or diploma programs. The language instructor assumes dual responsibility for language and content in the theme-based course, while the students' second language proficiency is the primary criterion for evaluation. The integration of reading, speaking, listening, and writing for professional purposes is given significant consideration in the process of learning and teaching. This particular model is deemed most appropriate for instructing Maritime English due to the fact that thematically arranged maritime-related English materials are more conducive to retention and comprehension. In practice, the majority of course books for Maritime English adopt a theme-based approach. The primary responsibility of the ESP or Maritime English instructor is to create appropriate communicative approach tasks utilizing theme-based materials. Occasionally, the course centred around a specific theme is collaboratively instructed by a subject matter expert and a team of educators. Several authors contend that the majority of instruction is centred around a particular theme.*

*The adjunct model is a pedagogical approach that involves the integration of content and English as a Second Language (ESL) courses, each taught by distinct instructors. The objective of this program is twofold: to attain proficiency in the subject matter and to initiate scholarly communication with the purpose of cultivating skills that can be applied in various contexts. The twinning system of instruction entails a division of responsibilities between the language instructor, who is accountable for language, and the content instructor, who is accountable for content. The assessment of students' linguistic proficiency in their second language takes place within the language course, while their mastery of subject matter is evaluated in the context of Content-Based Instruction (CBI). The objective of these courses is to equip students with the necessary skills and knowledge to succeed in conventional academic courses. This language course can be of significant value as a preliminary step towards pursuing further academic and diploma programs in Maritime Education and Training, or for undertaking specialized STCW courses. Adjunct courses prioritize the acquisition of specialized maritime terminology and communication abilities, with the aim of acquainting students with the practices of attentive listening, effective note-taking, and efficient text skimming and scanning.*

*The sheltered course is designed to facilitate the acquisition of content knowledge with minimal emphasis on language learning. Its primary objective is to ensure mastery of the subject matter. The responsibility of language and content instruction lies with the instructor, who may be an EFL/ESL specialist working alone or in collaboration with a content specialist. However, the primary focus of student evaluation is on their mastery*

*of the content. Typically, these courses are imparted in English language settings at tertiary institutions, rendering them less conducive for the instruction of Maritime English. The term "sheltered" refers to a pedagogical approach in which students are provided with additional support to facilitate their comprehension of standard coursework.*

*The integration of language and content learning, also known as subject matter, through the use of content-based instruction (CBI) has been demonstrated to be a successful approach. The material presented establishes a cognitive and motivational foundation for language acquisition by rendering it engaging and stimulating to students. Furthermore, Content-Based Instruction (CBI) facilitates the incorporation of all language proficiencies into the academic content by enhancing the involvement of learners in English for Specific Purposes (ESP). This pertains to the acquisition of knowledge regarding language systems, encompassing vocabulary, structure, discourse, and pragmatics. Additionally, it involves the cultivation of diverse language skills through CBI tasks, as well as self-evaluation to gauge the level of skills acquired and anticipated results. The utilization of Content-Based Instruction (CBI) has gained significant traction as a pedagogical approach for enhancing linguistic proficiency. This approach is founded on the fundamental tenets of communicative language teaching, wherein students are fully engaged in genuine and purposeful interactive communication.*

*The CBI approach facilitates the acquisition of both subject matter expertise and enhanced proficiency in the English language by students in a simultaneous manner. The CBI approach places significant emphasis on the amalgamation of specific subject matter with language instruction objectives. The simultaneous instruction of both academic content and second language proficiency. The educator employs conventional curriculum concepts as a means to facilitate language acquisition. The fundamental premise underlying the implementation of Content-Based Instruction (CBI) is that learners are likely to achieve greater success in acquiring a second or foreign language when they utilize the language as a tool for acquiring information, rather than solely as a medium of instruction. This approach is believed to enhance learners' motivation levels. Moreover, research suggests that learners are most effective in acquiring language when they are presented with meaningful and contextualized forms that are engaging. In summary, the objective of content-based instruction is to facilitate the amalgamation of language and content, with language being perceived as a means for acquiring knowledge and content being perceived as a tool for enhancing language proficiency.*

*Effective communication in English between maritime officers and engineers is crucial for the seamless execution of various operational and managerial tasks on board, particularly in the bridge and engine room. The utilization of ship simulators can offer a distinctive advantage in the pedagogy of Maritime English due to their ability to generate a genuine maritime setting encompassing diverse scenarios and circumstances that emulate genuine ship operations within the simulated configuration of a ship's bridge or engine room. The utilization of simulator training can offer an interactive methodology for the acquisition of Maritime English, thereby engendering a heightened level of interest and enthusiasm amongst students towards the subject matter. The utilization of ship simulators for the instruction and preparation of Maritime English is on the rise at a global level. Hence, this conceptual paper aims to describe the benefits of utilizing ship simulators for Content-Based Instruction in Maritime English learning.*

## FINDINGS AND DISCUSSION

### Content-based instruction (CBI)

CBI is an approach to language pedagogy that aims to provide context for language learning (Ed 2000). Ship simulators are becoming increasingly popular in maritime education and training, and there is potential for utilizing them for content-based instruction in Maritime English learning. Here are some search results that can provide insights into the pedagogical approaches and noteworthy practices of utilizing simulators for content-based instruction in Maritime English learning. While certain aspects of Content-Based Instruction (CBI) have been present in the realm of foreign and second language education for an extended period of time, the authentic CBI methodology, which represents an initial endeavor to merge the instruction of both content and language, was first introduced in the United States and Canada during the latter part of the 1980s. The process of integration was extended and formalized through the implementation of Content and Language Integrated Learning (CLIL), which represents a distinct European iteration of the CBI approach. CLIL is a

comprehensive term that encompasses all forms of content-based instruction. It pertains to language acquisition in educational settings that have a dual focus, wherein a target language is utilized for imparting non-linguistic subject matter to students. The implementation of this approach may be facilitated by the utilization of maritime-themed educational materials by the instructor of Maritime English or by the employment of English as the medium of instruction by the subject teacher. Content and Language Integrated Learning (CLIL) encompasses a wider scope than Content-Based Instruction (CBI) as it is not restricted solely to English for Specific Purposes (ESP) and higher education. The benefits of Content and Language Integrated Learning (CLIL), it has the potential to elevate the expectations of both teachers and learners, cultivate the risk-taking and problem-solving abilities of learners, enhance their vocabulary acquisition and grammatical proficiency, stimulate and inspire student autonomy, transcend limited foreign language topics, promote linguistic spontaneity through language-based learning, and foster study skills and concentration by facilitating foreign language-based learning (Coyle 2007).

The following advantages when justifying the adoption of the CBI approach (Grabe and Stoller 1997):

- During the process of learning content, students are presented with a significant amount of language. It is imperative that this incidental language is both comprehensible and connected to their immediate prior learning, while also being relevant to their individual needs.
- The pedagogical approach of contextualized learning is endorsed by the CBI, whereby students are instructed in practical language skills that are integrated within pertinent discourse contexts, as opposed to being presented as detached linguistic components.
- The utilization of logically structured content sources enables students to draw upon their pre-existing knowledge in order to acquire supplementary language and content-related information.
- The exposure of students to intricate information and their active engagement in challenging activities can potentially result in the development of intrinsic motivation.
- The implementation of strategy instruction and practice in the context of theme units is highly compatible with the Cognitive Behavioral Intervention (CBI) approach. This is due to the inherent need for and repetition of crucial strategies across diverse learning tasks and subject matter.
- Competency-based instruction (CBI) facilitates the integration of enhanced flexibility and adaptability into the curriculum and activity sequences.
- CBI is conducive to classroom activities that prioritize the needs and interests of students.

Despite its widespread use, the CBI approach has faced criticism and unresolved issues and challenges persist. The primary challenges and concerns revolve around:

- What type and quantity of content are most effective in facilitating language acquisition?
- The utilization of content as a vehicle for language instruction is prevalent, however, the acquisition of language skills takes precedence over the academic or cognitive skills linked to the content being imparted.
- The approach of CBI can be characterized as a philosophical perspective rather than a mere methodology.
- Given that language acquisition is partially incidental and that Content-Based Instruction (CBI) does not prioritize explicit language learning, certain students may perceive that their language proficiency is not advancing. Consequently, they may opt to rely on their native language as it may seem more effortless and efficient.
- It is possible that educators may have insufficient training in content-based instruction (CBI) and limited access to instructional resources. The CBI approach primarily employs genuine materials and tasks that frequently necessitate significant modification for language instruction objectives.
- The necessity of cooperation between the language instructor and the subject matter expert is crucial, although it may not always be feasible.
- Challenges may arise in evaluating both the content knowledge and linguistic proficiency of individuals within the educational or Maritime Education and Training framework.
- There exists a proclivity among English language instructors to impart subject matter knowledge, while subject matter educators tend to focus on language instruction.

Formative Assessment in Maritime Simulator-Based Higher Education (Karahalil, Lützhöft, and Scanlan 2023). This paper proposes a formative assessment framework for maritime simulator-based higher education. The framework aims to provide a more objective and structured approach to assessment, which can help improve the quality of maritime education. The paper can provide insights into the assessment methods that can be used in simulator-based training and education. Deep Learning Elements in Maritime Simulation Programs: A Pedagogical Exploration of Learner Experiences (Jamil and Bhuiyan 2021). This paper explores the learning and teaching of a maritime simulation program to understand its deep learning elements. The paper can provide insights into the pedagogical approaches that can be used in simulator-based training and education.

**Ship Simulators-Based in Maritime English Learning**

Maritime English is a specialized form of English language used in the maritime industry. It is essential for seafarers to have a good command of Maritime English to ensure safety and effective communication on board. Ship simulators are becoming increasingly popular in maritime education and training(Ferreira 2021). This paper aims to explore the potential of utilizing ship simulators for content-based instruction in Maritime English learning.

The Approaches of Teaching and Learning Maritime English: Some Factors to Consider (Ahmmed, n.d.). This study explores the approaches of teaching and learning Maritime English and identifies the language abilities that maritime students mostly need, such as reading, writing, and spoken English. The paper can provide insights into the specific language skills that need to be integrated into Maritime English learning using simulators. According to (Kim et al. 2021) maritime simulator-based training and education practices are an integral part of seafarer training. The paper discusses the continuum of simulator-based maritime training and education, from basic to advanced levels. It highlights the importance of simulator-based training in enhancing seafarers' skills and knowledge. Immersive and Non-Immersive Simulators for Education and Training in Maritime Domain (Dewan et al. 2023) provides a review of immersive and non-immersive simulators for education and training in the maritime domain. The paper compares simulator-based training with conventional training and highlights the quality and effectiveness of simulator-based training. Tasks and Instructions on the Simulated Bridge (Sellberg and Lundin 2017) explores the use of simulators in maritime education, taking an interest in how navigation training is achieved by using simulated tasks and instructions on the bridge. The paper highlights the importance of discourse analysis in understanding the use of simulators in maritime education.

Maritime English in the Bridge Simulator (Ferreira 2021)explains how ship simulators are used for Maritime English classes at Ecole Navale, the French Naval Academy. The paper proposes a pedagogical approach that integrates Maritime English learning with ship handling skills. The approach can help seafarers develop their Maritime English skills in a practical and interactive way.The findings indicate that in the teaching of Maritime English for marine pilots, it is important to provide learners with meaningful learning experience by using role plays and simulations and address the communicative competence comprehensively (Sari and Sari 2020)

The utilization of role play as a pedagogical approach has demonstrated efficacy in the context of Maritime English instruction that is supported by simulators. The pedagogical and instructional procedure comprises four stages, namely, preparation, task assignment, practical training, and debriefing (International Maritime Organization 2015).

- *Preparation involves the identification and specification of teaching objectives and associated tasks. It is imperative that all pedagogical endeavours incorporate and reinforce the designated instructional aims and intended educational achievements. Preparation encompasses various aspects such as the careful selection of appropriate teaching and training scenarios, ensuring the availability and adequacy of teaching and learning materials, reserving simulators, implementing monitoring systems, identifying suitable communication tools, and securing other essential facilities.*
- *As per the pedagogical needs, pupils are segregated into cohorts of a magnitude ascertained by the envisaged scenarios. It is advisable to provide the students with a comprehensive briefing regarding the*

*specifications of the mission and the intended target. It is recommended that each student be designated a specific "role" within their group, and that these roles be communicated to the supervising teacher.*

- *The practical training involves the execution of a simulation process by members of each training group, with the sole use of the English language for communication. It is recommended that the teacher actively participate in the process and provide oversight throughout its entirety. The utilization of audio or video to document the simulation is highly advantageous. It is important to acknowledge that the effectiveness of this pedagogical and instructional approach is contingent upon the level of expertise and proficiency in maritime knowledge exhibited by the instructors. On numerous occasions, the implementation of such training can be carried out as a "twinning" endeavour, in conjunction with professional maritime courses.*
- *Following the simulation training, it is recommended that the teacher conducts a debriefing session with each student. This session should involve a thorough evaluation of the student's use of professional language and coordination during the simulation. The assessment should focus on important vocabulary, phrases, and expressions used by the student. Additionally, the student's ability to summarize or replay their performance during the simulation should be evaluated. The teacher should encourage students to identify and correct their own linguistic errors during this session.*

*Proficiency in the technical aspects of seafaring is a prerequisite for operating a ship simulator. It is imperative that English educators with restricted proficiency in the technical facets of seafaring are afforded genuine prospects to collaborate with personnel from other departments, with the aim of augmenting their comprehension. Enhancing one's proficiency in English can also prove advantageous for technical instructors. In accordance with a CBI methodology, sustained interdepartmental collaboration necessitates formal endorsement, synchronization, and assessment to achieve optimal outcomes (International Maritime Organization 2015).*

- *Interdepartmental meetings can be scheduled to facilitate the integration of the English language curriculum with other academic disciplines when developing the syllabus for a new academic term. It is recommended that the Heads of Department coordinate this meeting. It is recommended that Heads of Department conduct an assessment of the degree of overlap present in the syllabi to ensure that the English syllabus is appropriately aligned with the content covered in other subjects. It is recommended that the timetable includes scheduled sessions for the purpose of instructor observation and cross-curricular teaching, as outlined below. It is recommended that designated English educators engage in collaborative efforts with their counterparts from other academic departments to uphold interdepartmental connections.*
- *It is suggested that the Heads of Department schedule regular and structured sessions for English and technical instructors to observe each other's classes. This will facilitate a collaborative learning environment and promote professional development among the instructors. This will facilitate mutual comprehension of the learning objectives and competencies that students are expected to acquire in various domains.*
- *The practice of cross-curriculum teaching involves soliciting input from departmental leaders to determine the feasibility of English instructors collaborating with technical instructors to facilitate the integration of content and language learning, in addition to utilizing observation as a teaching tool. It can be argued that students stand to gain significant advantages from perceiving the applicability of English language skills in their vocational education. This program offers the supplementary benefit of enhancing the technical comprehension of English instructors while simultaneously enhancing the linguistic proficiency of technical instructors. English educators could potentially showcase the significance of interactive and student-centred pedagogical approaches to their colleagues.*
- *To facilitate the sharing of materials, it is recommended that English instructors collaborate with their designated technical counterparts to evaluate the suitability of technical materials for language instruction. English educators can modify visual aids, illustrations, and statistics to facilitate reading, writing, and oral communication activities, as indicated in the corresponding sections above. The pedagogical facilitators have the potential to incorporate English language materials into their instructional practices. English educators may require to emphasize that their responsibility is not to instruct the subject matter but*

*to instruct the language skills that are essential to comprehend the subject matter. Therefore, the identical material can be utilized by the English instructor and the technical instructor in distinct manners, for varying objectives.*

- *In order to comprehensively evaluate the preparedness of students for practical skills required in maritime settings, it is imperative for English instructors to ascertain the methodologies employed by technical subject educators. In the event that students are mandated to undertake assignments that entail a communicative component, it is recommended that the English instructor utilize these tasks as a framework for instructing language and honing communication proficiencies and tactics. By doing so, the English instructor can ensure the utilization of genuine assignments and materials.*
- *Conducting onboard research can be a valuable experience for individuals affiliated with an institution that possesses a training vessel. If feasible, one may consider embarking on a voyage alongside cadets to gain firsthand knowledge and insights. Determine the recurrent situations and working conditions that seafarers encounter and communicate within. The aforementioned encounter has the potential to be utilized in educational settings to construct scenarios for the purpose of simulating real-life situations, engaging in role-playing activities, and delivering presentations. It is recommended to document and capture verbal exchanges and correspondence for the purpose of linguistic exercises, such as dialogues and auditory exercises. It should be noted that refinement and recording modifications may be necessary to enhance the quality of the recording. It is important to also take into account the legal ramifications of recording while on board.*
- *To obtain authentic materials and documents for training purposes, it is recommended to request the Head of Department to contact local ship owners, managers, and agents for sourcing realia. Permission should also be sought from these sources to use the obtained materials. Utilize the aforementioned texts as the foundation for the assignments proposed in this exemplar course, retaining the primary documents for duplication in future instances and revising them as necessary.*
- *One potential strategy for enhancing the educational experience of students is to invite a guest lecturer to speak to the class. This individual could be a fellow staff member, a visitor, or a seafarer on leave who is proficient in the English language. The purpose of the lecture would be to provide insight into a particular aspect of seafaring. It is advisable to equip students with adequate preparation by engaging in exercises that focus on listening sub-skills such as note-taking skills. Prior to the commencement of the speaker's presentation, it is recommended to assign a task to the students that is pertinent to their attentive listening. It is imperative to provide clear instructions to the students as any interruptions during the speaker's discourse may not be feasible. It is recommended to incorporate a post-listening task that involves writing a report, engaging in a simulation based on the topic, conducting further research on the subject matter through reading, or a combination of these activities. In the event that technical instructors are unable to provide support for this task, it may be advisable to establish reciprocal arrangements with other instructors of the English language.*
- *Weekly technical quizzes can be organized to facilitate peer testing among students on subjects that they have previously studied in other disciplines. Determine the subject matter that has been the focus of their academic pursuits and allocate distinct themes to each cohort. Each group is expected to generate a predetermined quantity of inquiries in the English language pertaining to their assigned topic, ensuring that they possess accurate responses. It is recommended that students inscribe each inquiry on an individual card, with the corresponding response inscribed on the reverse side. Aggregate all the inquiries and organize a contest among cohorts: individuals from diverse groups ought to randomly select a card and recite it to the audience. The initial respondent to provide an accurate response is granted a single point on behalf of their team. Incorporate a system of point allocation and deduction for various aspects of English pronunciation, grammar, and vocabulary, commensurate with the specific areas of focus that have been targeted in the students' practice sessions, in addition to awarding points for accurate responses. Providing incentives in the form of points for the correction of language errors may serve as a motivating factor.*
- *Incorporating technical presentations into the classroom routine involves assigning pairs or groups of students to deliver presentations in English to the class on topics they have studied in other subject areas. This opportunity will enable individuals to reinforce their knowledge acquired from other departments and review specialized vocabulary in the English language. It is imperative that students are required to produce*

*visual aids to augment their presentations. These visual aids may include illustrations, diagrams, or annotations on oversized sheets of paper, the chalkboard, or an overhead projector. Please refer to the section on 'Teaching Speaking' for suggestions on presentations that promote fluency. It is recommended to prompt fellow students to engage in the presentation by posing questions or taking notes, and subsequently preparing brief reports on the topic.*

- *Consult with professionals: Assign a technical field for a group or duo of learners to investigate prior to the session (refer to the 'From research to writing' segment in the process writing division). The researching pupils may take notes if they desire, but are not required to produce a formal report at this point. In the interim, kindly instruct the remaining pupils to engage in a collaborative ideation process aimed at generating a multitude of inquiries pertaining to the subject matter. On the designated day, the proficient students are expected to endeavour to respond to the inquiries posed by their peers. To optimize classroom performance, it is recommended to engage in preparatory exercises that involve the use of functional phrases and techniques for managing challenging inquiries, interjections, corrections, topic transitions, and other related scenarios. If feasible, it is recommended to invite a subject matter expert to participate in the discussion, with the purpose of rectifying any inaccuracies or resolving any disagreements pertaining to the responses, rather than providing direct answers. Conclude the lesson by instructing the students to compose a written narrative that reflects the ideas and concepts that were deliberated upon during the course of the discussion.*
- *The implementation of peer teaching involves the organization of student groups to instruct lower-level cadets on a technical subject matter in the English language, while being closely monitored by a supervisor. The instructional approach may involve a variety of methods such as visual aids, group discussions, practical demonstrations, among others. This approach is expected to create an authentic communicative environment that can effectively stimulate the interest and engagement of all students. It is imperative to ensure that senior students are afforded ample time to engage in deliberate practice and are adequately equipped for their tasks. It is recommended to provide pre-instruction of any specialized terminology to less experienced students. Conduct an observation of the students' instructional delivery and provide constructive feedback pertaining to both linguistic and substantive aspects. If feasible, it is recommended to arrange for the recording of the sessions and to prompt the student instructors to conduct self-evaluations of their instructional performances. This particular activity has the potential to function as a simulation for a training scenario that takes place on board a vessel.*

## CONCLUSION

Competency-Based Instruction (CBI) has demonstrated efficacy across various educational levels and instructional phases, yielding favourable outcomes in English for Specific Purposes (ESP) among post-secondary and academic level tertiary students. As such, CBI represents a valuable pedagogical tool for the instruction of Maritime English. The utilization of learning strategies in content-based learning and instruction is a practice that is also commonly employed in the Communicative Approach.

The implementation of Content-Based Instruction (CBI) has been found to yield superior outcomes in terms of both content and language acquisition. The approach has been found to enhance student motivation. The process of acquiring natural language is contextual in nature, as it is intrinsically linked to the meaning and practical application of language in real-life situations. Information that is thematically organized and presented coherently is more easily retained in memory. The focal point is placed on pertinent and significant subject matter. The CBI (Cognitive Behavioural Intervention) facilitates cognitive engagement. The Cognitive Behavioural Intervention (CBI) facilitates the engagement of cognitive processes such as problem-solving, reflection, making inferences, and deeper processing. The CBI methodology facilitates the development of cognitive abilities. The process of scrutinizing and comprehending information through the utilization of cognitive abilities such as identifying primary concepts, recognizing attributes and components, identifying relationships, and patterns. The CBI advocates for the implementation of cooperative learning strategies. The CBI promotes and fosters collaboration and cooperation among individuals within a group setting. The aforementioned CBI strategies hold equal validity in the context of both learning and teaching Maritime English. It is recommended that the ME teacher possess expertise in both the Communicative Approach and CBI, and utilize a combination of these approaches in order to enhance the teaching and learning of Maritime

English. The utilization of a ship simulator can enhance comprehension of both linguistic and technical facets of navigational communication.

*In conclusion, utilizing ship simulators for content-based instruction in Maritime English learning has the potential to enhance seafarers' skills and knowledge. The search results reviewed in this response can provide insights into the pedagogical approaches and noteworthy practices of utilizing simulators for content-based instruction in Maritime English learning. Further research is needed to explore the effectiveness of utilizing ship simulators for content-based instruction in Maritime English learning.*

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