Evaluating Students' Competence in ESP: A Study in Naval Architecture Department of Politeknik Negeri Bengkalis

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Abstract: This study evaluates students' competence in English for Specific Purposes (ESP) in Naval Architecture Department of Politeknik Negeri Bengkalis. ESP subject is tailored to meet the specific language needs of students in specialized fields, aiming to enhance their communication skills in professional contexts. This study employed quantitative method, specifically a descriptive study. Using a purposive sampling technique, the samples of this study were 17 students of Naval Architecture Department of Politeknik Negeri Bengkalis. This study used a test to assess students' competence in English for naval architecture. Key areas of focus included types of ships, parts of ships, ship materials, and ventilation and coating system. The findings indicated a varying level of competence. The highest score was 77.5 and the lowest score was 47.5. Regarding the average scores of each topic, the highest average score was in the topic of types of ships (98.2), followed by parts of ships (65.9), ship materials (54.7), and ventilation and coating system (44.7). This study concludes that a good approach to teaching ESP is essential for better preparing students for their professional careers especially in the shipping industry. As an implication for the lecturers of English for Naval Architecture, the topics of parts of ships, ship materials, and ventilation and coating system, without neglecting other topics out of the focuses of this study, need to be learned more by the students of Naval Architecture Department.

Keywords: students' competence, ESP, Naval ArchitectureIntroduction

INTRODUCTION

The role of English in global communication has expanded significantly, especially in specialized professional contexts such as shipping industry. English for Specific Purposes (ESP) is a branch of English language education that aims to equip learners with the linguistic tools necessary for their particular field of study or work (Hutchinson & Waters, 1987 in **[1]**). This study focuses on evaluating the ESP competence of students in the Naval Architecture Department at Politeknik Negeri Bengkalis. Naval architecture, being a technical discipline, demands not only an understanding of complex engineering concepts but also the ability to communicate those concepts in English, both in academic and professional settings. This study aims to assess how well students can navigate the specialized language demands of their field.

ESP courses are tailored to meet the language needs of students in specialized fields, going beyond general English language skills to provide instruction on specific terminology, communication forms, and professional contex **[2]**. For students in the Naval Architecture Department, proficiency in ESP is crucial not only for academic success but also for their future careers. Mastery of the technical vocabulary and language related to ship design, construction, and maintenance is essential. This linguistic competence enables students to engage with technical documents, communicate effectively with professionals in the field, and participate in global maritime operations. Given that the maritime industry operates on a global scale, the ability to communicate technical information clearly and accurately in English is vital. It plays a significant role in determining students' readiness for the workforce and their capacity to succeed in an international, English-dominated environment. In this context, the mastery of ESP equips students with the specialized communication skills necessary to meet the complex language demands of the naval architecture industry, ensuring both academic and professional competence.

To meet the specialized language needs of students in the Naval Architecture Department, the ESP curriculum at Politeknik Negeri Bengkalis has been developed with a strong focus on maritime-specific content. This curriculum is designed to provide students with the linguistic tools necessary to navigate the technical aspects of the maritime industry. Key topics include the types of ships, ship components, shipbuilding materials, and essential systems such as ventilation and coating. These areas are integral to students' comprehension of core industry concepts, as they address the fundamental knowledge required in naval architecture and related maritime operations (Robinson, 1991).

The primary aim of this study is to evaluate the effectiveness of the current ESP curriculum by assessing students' competence in these maritime-specific areas. By measuring their understanding and application of specialized language related to ship design, construction, and maintenance, the study provides a comprehensive analysis of the curriculum's strengths and areas for improvement [3]. Through this evaluation, insights into the efficacy of the instruction can be gained, highlighting both the successes of the current approach and identifying potential gaps in language instruction that may require further refinement to better prepare students for the demands of the global shipping industry.

The findings of this study hope to provide valuable insights for refining the ESP curriculum by identifying specific areas where students may struggle with language competence. By pinpointing gaps in students' understanding and application of maritime-specific terminology and communication, the study can inform targeted language instruction that directly addresses these weaknesses. Such adjustments will help to enhance students' proficiency in the technical language of naval architecture, ensuring that the curriculum aligns more closely with the linguistic demands of the field.

Additionally, the study emphasizes the critical role of contextualized language learning in preparing students for the global maritime industry, where English serves as the lingua franca. Effective communication in English is essential for professionals to engage in international collaboration and operate within a globally connected industry. By focusing on language instruction that mirrors real-world professional contexts, the curriculum can better equip graduates to meet the specific communication challenges of the shipping industry, thereby improving their career readiness and professional competence ([4]; [5]).

METHODS

This study employs a quantitative research approach, specifically a descriptive design to describe the evaluation of students' competence in English for Specific Purposes (ESP) in Naval Architecture Department of Politeknik Negeri Bengkalis. The descriptive method was chosen because it provides a clear description of the students' competence [6]. This method allows for a detailed exploration of the students' ESP competence. The population was the students of Naval Architecture Department of Politeknik Negeri Bengkalis. This study used purposive sampling technique. The samples were 17 students of Naval Architecture Department. They were in the third semester. They had learned general English in the second semester and were about to learn ESP in their ongoing third semester.

The primary tool used for data collection was a test designed to measure students' competence in ESP. The test was developed based on the ESP curriculum and covered key areas that are crucial for students in the field of naval architecture. These areas included the types of ships, parts of ships, ship materials, and ventilation and coating systems, all of which are essential for students to understand and communicate effectively in their future careers in the shipping industry [7]. The test consisted of objective questions to assess students' knowledge of English for naval architecture. Data from the test were analysed to determine the range of students' competence in ESP. The average scores of each topic were also analysed. The analysis highlighted areas where students excelled and others where improvement was needed.

RESULT AND DISCUSSION

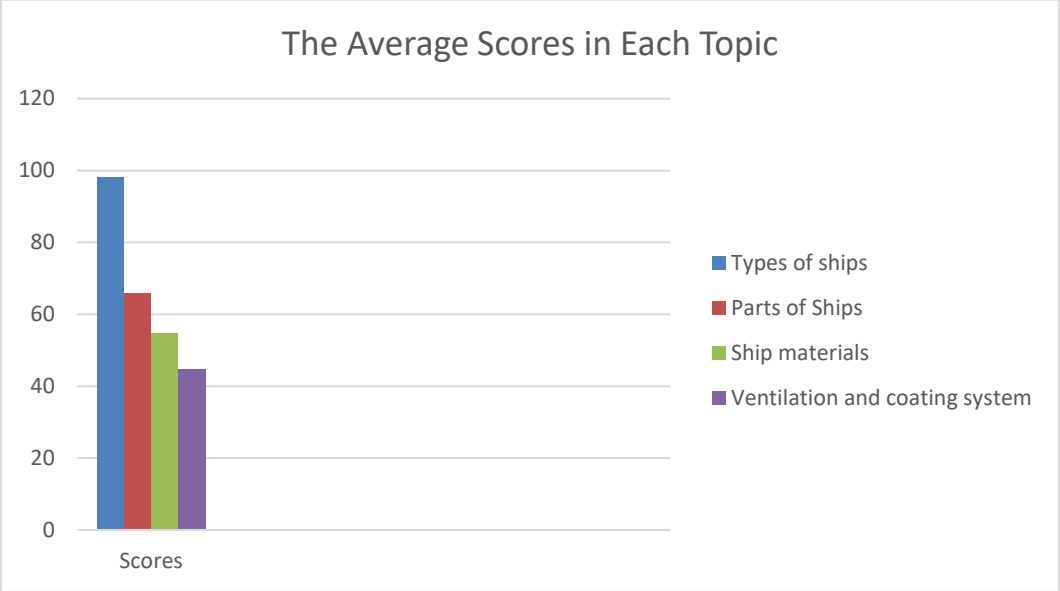
This section presents the findings of the study, which aimed to evaluate the competence of students in English for Specific Purposes (ESP) within the Naval Architecture Department at Politeknik Negeri Bengkalis. The results are based on test scores that assessed students' understanding of key technical topics related to naval architecture. These topics included types of ships, parts of ships, ship materials, and the ventilation and coating systems used in shipbuilding. The findings reveal a varying level of competence among the students, indicating both strengths and areas for improvement in the current ESP curriculum. The test results can be seen in the following table.

NO.	NAME	SCORE
1	RCS	62.5
2	RBS	70
3	DL	77.5
4	MIA	70
5	KS	75
6	TMP	77.5
7	RYJ	77.5
8	MR	70
9	DA	67.5
10	MH	62.5
11	MS	67.5

12	MVA	52.5
13	MM	47.5
14	EI	57.5
15	NM	60
16	SAK	62.5
17	IW	62.5

The test results show a wide range of scores, with the highest score being 77.5 and the lowest score 47.5. This disparity suggests that while some students have a strong grasp of the technical English terminology required for their field, others are struggling to meet the expected competency levels. These results align with previous research that emphasizes the challenges of teaching ESP in highly specialized fields, where students are required to not only learn a new language but also master a technical vocabulary ([8]; [9]). The average scores of students in each topic can be seen in the following table:

NO.	NAME	SCORE			
		Types of Ships	Parts of Ships	Ship Materials	Ventilation and Coating Systems
1	RCS	90	70	40	50
2	RBS	100	70	40	70
3	DL	100	70	80	60
4	MIA	100	60	90	30
5	KS	100	90	60	50
6	TMP	100	70	90	50
7	RYJ	100	70	80	60
8	MR	100	60	80	40
9	DA	100	80	60	30
10	MH	90	70	60	30
11	MS	100	90	40	40
12	MVA	100	10	40	60
13	MM	100	60	10	20
14	EI	90	60	20	60
15	NM	100	70	40	30
16	SAK	100	80	40	30
17	IW	100	40	60	50
AVERAGE		98.2	65.9	54.7	44.7



Competence in Types of Ships

Students demonstrated a high level of competence in the topic of ship types, achieving an average score of 98.2. This area encompasses the classification of various ship types, including cargo vessels, tankers, and passenger ships, which are foundational concepts within naval architecture. The strong performance in this topic may be attributed to the fact that ship classification is a fundamental component of the curriculum and is reinforced across both technical and language courses. This finding aligns with [10]'s research, which emphasizes the importance of conceptual clarity in foreign language learning within maritime education. Korneiko notes that acquiring foreign language competence in specialized fields requires a structured process involving educational, cognitive, and communicative activities that promote familiarity with key terminology. However, the variation in individual scores suggests that while most students are proficient in this area, some would benefit from further exposure to and practice with specific maritime vocabulary. As proficiency in ship classification is essential for effective communication in the maritime industry, additional focus on this topic could enhance students' readiness for professional environments where precise terminology is critical [11].

Competence in Parts of Ships

The test results indicated that students faced the most difficulty with the topic of ship parts, achieving an average score of 65.9. This area requires a precise understanding of specialized technical vocabulary—terms such as "hull," "deck," "keel," and "superstructure"—which are fundamental to comprehending ship design and construction. The lower performance in this topic suggests a need for more targeted instruction on both the technical terminology and its practical applications within naval architecture.

The challenges students encountered with ship part vocabulary may be attributed to the complexity and specificity of the terms, which often demand a deep level of familiarity [12]. Addressing these challenges could involve enhancing the curriculum with hands-on learning activities and incorporating visual aids to reinforce comprehension of these essential concepts [13]. Such instructional strategies could improve students' ability to grasp and retain technical terms, thereby strengthening their overall competence in the specialized language of naval architecture.

Competence in Ship Materials

The topic of shipbuilding materials requires students to understand the range of materials utilized in ship construction, such as steel, aluminum, and composite materials, along with their properties, applications, and roles in naval architecture [3]. Given that material knowledge is foundational in this field, the students' lower-than-expected performance—reflected in an average score of 54.7—raises concerns about the adequacy of current language instruction in this area. This finding indicates a potential gap in the curriculum, suggesting the need for more targeted technical English language training focused specifically on material properties, applications, and their critical significance in ship design and maintenance.

Enhancing this area of the curriculum would align with research advocating for context-based language learning in ESP courses, which highlights the value of teaching technical vocabulary and concepts within relevant professional contexts. Strengthening students' understanding of shipbuilding materials through tailored ESP

instruction would better prepare them for the specific communication demands of the maritime industry, thereby improving both their academic performance and future professional readiness [8].

Competence in Ventilation and Coating Systems

The lowest scores were observed in the topic of ventilation and coating systems, with an average score of 44.7. This area is particularly technical, requiring students to understand specialized language associated with complex systems and their specific functions within shipbuilding. The low performance in this domain underscores the need for enhanced curriculum coverage that addresses both the technical content and corresponding linguistic competencies. To improve student competence, a more integrated instructional approach may be beneficial, combining technical knowledge with targeted language support [14]. Such an approach would help students not only to comprehend these complex systems but also to communicate effectively about them in professional contexts. This alignment of technical understanding with language proficiency is essential for preparing students to engage confidently in industry-specific discussions and tasks.

The results of this study suggest that while students possess a basic level of competence in ESP, there is a clear need for curriculum adjustments. Specifically, the curriculum should place greater emphasis on the more challenging technical areas, such as ship parts, materials, and ventilation and coating systems. One recommendation is to incorporate more interactive and practical language learning activities, such as simulations, project-based learning, and problem-based learning. These methods have been shown to be effective in improving students' technical vocabulary and communication skills in other specialized fields [7].

Moreover, a balanced approach to ESP instruction is necessary to ensure that students are not only gaining technical knowledge but are also able to apply this knowledge in professional communication. This means providing equal focus on both the written and oral aspects of language use in professional settings. By doing so, students will be better prepared to engage with international colleagues and clients in the global maritime industry, where English is the primary language of communication. The findings suggest that there is a need for curriculum adjustments that place more emphasis on specific areas of language learning relevant to their professional goals.

CONCLUSIONS

In conclusion, the findings of this study highlight the varying levels of competence among students in the Naval Architecture Department when it comes to ESP. While there is evidence of some proficiency in areas like ship types, the results indicate a need for stronger emphasis on more complex topics such as ship parts, materials, and ventilation and coating systems. To better prepare students for their future careers, it is essential to implement curriculum changes that promote a more balanced and integrated approach to teaching ESP. As an implication for the lecturers of English for Naval Architecture, the topics of parts of ships, ship materials, and ventilation and coating system, without neglecting other topics out of the focuses of this study, need to be learned more by the students of Naval Architecture Department.

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