LEARNER'S NEEDS ANALYSIS AND THE USE OF TECHNOLOGY IN AN ESP CLASS

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Abstract:

This study surveys the teaching of English for Specific Purposes (ESP) within the context of the Merchant Marine Academy, focusing on the needs, goals, and attitudes of fifth-semester students toward Maritime English. A questionnaire was used to collect data on students' perceptions of the course, their learning preferences, and the challenges they may face. Findings suggest that while students acknowledge the importance of Maritime English for their future careers, they struggle with theoretical aspects and terminology memorization. The study underlines the role of the ESP teacher in bridging this gap and highlights the need for integrating technology to enhance learning. By incorporating multimedia resources, digital tools and online platforms, the teaching of Maritime English can be more engaging, effective, and aligned with real-world maritime communication requirements.

Keywords: English for Specific Purposes, Maritime English, technology in the classroom, the teacher's role

1. Introduction

English for Specific Purposes (ESP) is a specialized branch of English language teaching that focuses on designing courses tailored to learners' professional and academic needs. As defined by Johnson & Johnson (1998:105), ESP courses are structured for groups with identifiable purposes and specific linguistic requirements. This study examines a class of Merchant Marine Academy students through a questionnaire to determine their learning needs, goals, and attitudes toward Maritime English. The findings aim to inform curriculum adjustments that enhance students' engagement and competence by incorporating relevant content, suitable teaching methodologies, and modern technological tools.

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2. A descriptive account of the ESP teaching situation

The individuals being discussed are students currently in their fifth semester at the Merchant Marine Academy of Crete, all of whom are mandated to attend classes in this state institution with a curriculum set by the Ministry of Shipping and Island Policy, leaving no room for optional subjects. Maritime English is crucial for their academic and professional success. Divided into two groups, each consisting of 28 adult male students from various national and cultural backgrounds, the majority use Greek as their primary language and English as their second language, with some students from Ukraine, Albania, and the Philippines proficiently switching between languages during lessons. According to Dudley-Evans & St John (1998) classification of the ESP situation, it can be said that it is Category 3, as while all the other courses are conducted in the official language (Greek), this specific subject is ancillary, with only two teaching hours a week and treating English as a foreign language.

The classroom setup is conventional, featuring rows of desks and a projector for visual aids even though there is no available audiovisual material from the Ministry and it lies exclusively on the teacher to look for relevant to the subject videos online. Internet is also not provided in the classroom, which makes the whole procedure even more complicated. The designated course book, "Maritime English, Volume II," supplied by the ministry, caters to the needs of semesters IV, V, and VI. With 15 units, the book covers diverse technical aspects of maritime engineering and seafaring professions. Its difficulty spans from Upper Intermediate (B2) to Proficiency (C2), posing a challenge for most students at the B' level, except for a few who are quite proficient in English. As there is no companion or other aid available, the teacher's guidance is crucial for students to navigate the book and reach the required competency. The book not only addresses the engineering aspects of their future profession but also emphasizes the importance of acquiring linguistic proficiency in English, as it can be inferred by the use of difficult vocabulary and complex texts. This is crucial, given their future multicultural working environment, where English serves as a Lingua Franca among non-native speakers. So, it is apparent that in this particular ESP situation, the choice of the material was made with having in mind not only the study skills of the attendants but the subject-matter and the language best to be used for the teaching of this course.

The class in question seems to cover most of the points made by Robinson (1991) as to what constitutes a course of English for Specific Purposes: it is constrained by a limited period of time, roughly 6 months, during which objectives stated by the curriculum need to be met. Whether or not this curriculum derives from detailed needs analysis has to be investigated further.

The classes can be characterized as homogeneous, as the language is taught to adults of the same age who all share a common goal, that of succeeding in graduating from the academy successfully. The attempt, though, to try and place the aforementioned course into a specific category of ESP has proven to be a challenging one. According to Robinson's (1991) classification, the course can be classified as English for Academic Purposes (EAP) as it was designed to cater for the needs of scholars who study in an

Academy. Attendance to classes is mandatory and the syllabus provides the necessary information accompanied by tasks that are needed to succeed in the final examinations. Simultaneously the class prepares the students to enter a specific occupational field, that of marine engineers. It aims to help them develop fluency in English necessary for this particular discipline with various communication scenarios on the job, technical information and reading of manuals. In that sense, the classification of EAP can overlap with that of English for Occupational Purposes (EOP), justifying "*the fluid nature of the types of ESP*" mentioned by Dudley-Evans &St John (1998:8). Under the umbrella term of EOP, another distinction can occur. This course can be characterized as English for Vocational Purposes since it is offered to non-professionals who wish to apply for a correspondent job position, and more specifically as Vocational English, training them for a particular occupation. The unique nature of this academy, though, demands that students complete the mandatory four months of embarking on a ship and acquire a minimum amount of job experience by the end of the second semester, thus constituting the scholars of the 5th semester already experienced in the actual field of work. In this way they attend a course of Vocational English, having not only the basic knowledge but the attitude of a novice professional. From the above, it can be inferred the necessity of the involvement of the ESP teacher with the occupation he or she is asked to teach (Sifakis, 2018) and, consequently, the need to involve an expert in the field as an advisor and the major source of information and guidance.

In the general context of ESP, the need to reach an understanding of many different teaching situations produced the notion of the Specificity Continuum (Dudley-Evans & St John, 1998). They suggested this as a spectrum that represents the degree of specialization in the language instruction provided. In the case of Maritime English V, common-core English, with some focus on major skills (such as text comprehension) or micro-skills (skimming or scanning), is used as a means to emphasize the teaching of English for Specific Academic Purposes by analyzing the language of this particular discipline and using specialized vocabulary (Blue, 1982). That attempt to integrate the studying of skills prominent in English for General Academic Purposes (EGAP) and the more specialized needs of English for Specific Academic Purposes (ESAP) is evident, thus constituting ESAP a developmental outcome of EGAP with a focus on more discipline particular tasks (Turner, 1996 in Dudley-Evans & St John, 1998).

In terms of categorizing the material taught to the scholars, it can be placed in Position 5 of the Specificity Continuum. The students are exposed to extremely specialized language and content, such as engineering terms, manuals and machine specifications. Parallel to that, it can be argued that as common-core English is used, there is an overlapping of positions again, placing the course potentially in Position 4 since there is some effort to pay attention to particular skills such as listening comprehension or, as said before, understanding of the written word. A token to the above is that the book strives not only to teach the subject-specific material but, as indicated by its level of lexical demands (that range from a B2 to a C2 level), to ensure that the degree of linguistic proficiency is mastered.

As far as the content is concerned, topics and themes of authentic or at least simulated material are used in order to introduce the language and specific terminology. In the majority of the lessons, the sole focus is to use this content to teach mostly particular vocabulary, while there is no focus on grammatical forms or genres.

3. Integrating Technology in Maritime English Instruction

In an attempt to address students' challenges in theoretical understanding of the subject, memorization and active engagement, technology can play a pivotal role in Maritime English instruction. Leaving aside the obvious obstacles mentioned in section 2, namely the lack of internet connection available in the classrooms, there are numerous digital tools that can enhance the learning experience. Platforms such as Google Classroom can provide structured course content, assignments and quizzes, allowing students to review materials at their own pace. Another common practice could be to incorporate Multimedia Resources, using platforms like YouTube, TED-Ed, and maritime-specific online sources, where videos are available that can provide real-world examples of communication in maritime settings. Virtual reality (VR) and augmented reality (AR) applications can immerse students in Simulated Learning Environments, such as shipboard environments, helping them practice real-world communication scenarios. Speech Recognition & AI-Based Tools can offer pronunciation practice and interactive language exercises adapted to maritime terminology. Students can be encouraged to interact in English outside class hours, reinforcing practical usage through online communication tools such as forums and discussion boards. Podcasts & Audio books can offer exposure to the authentic spoken English through maritime industry podcasts or even audiobooks that can improve listening comprehension skills. Last but not least, mobile apps and games such as Duolingo or Quizlet can be helpful in memorizing technical vocabulary through learning experiences that can be interactive and even competitive. By leveraging the above technologies, instructors can easily cover the distance between theoretical content and practical application, producing more effective learning outcomes.

4. Theory types of needs analysis and the instrument adopted for this research

In this endeavour to analyze the needs of this particular ESP situation, more than one needs analysis theories were taken into account. The theories utilized in this survey are the following two: the Present Situation Analysis and the Learner Situation Analysis, focusing on their needs, lacks and preferences. Since the Target Situation Analysis, introduced by Munby (1977), focuses mostly on the occupational domain, asking objective questions about the profession itself, it was left aside due to the possibility that some scholars might not have completed their apprenticeship yet and hence will not have practical knowledge on the job. Since one of the main stakeholders in needs analysis is the learners, some points of the Present Situation Analysis introduced by Richterich & Chancerel (1977/80) were utilized. This is a learner-centered model, placing the learner's

strengths and weaknesses as its basis. Questions 3, 4, and 5 of the questionnaire (Appendix 1) try to create an idea of the learners' competence level. Utilizing the "*diagnostic strength of this model*" (Allwright & Allwright, 1977) and recognizing the importance of analyzing the learners' needs, the main inspiration of this questionnaire is Hutchinson & Waters' (1987) Learning Situation Analysis. A comprehensive needs analysis opts to illuminate the target situation, considering the context and tasks for which learners will actually apply the language (Zorbas et al., 2018). Parallel to that, subjective needs must be considered by taking into account students' expectations from the course and their attitudes towards both the second language and the learning process. Hutchinson and Waters (1987) advocate highlighting the learners' deficiencies in order to determine the distance between the present situation and the desired competency. This helps determine the necessary steps to bridge the gap, all while being mindful of potential teaching constraints and the learners' attitudes throughout the process. Questions 8 to 13 (Appendix 1) tend to investigate the motivations and confidence of the students in acquiring the target language. The following section of the questionnaire (section 3) focuses on their strengths and difficulties as far as the particular course of English is concerned, as well as on strategies and activities that might be helpful in mastering the knowledge. Section 4 of the questionnaire focuses on the personal opinions and attitudes of the learners towards the book itself and their personal preferences towards some skills and means of teaching. The last section delves into investigating how important the use of technology is for the students and whether they consider it a useful and practical tool for mastering the subject of Maritime English.

The chosen method for collecting the data in this research is the questionnaire, as described by Brown (2001), meaning a written instrument with a number of questions presented to the participants, asking them to select among existing answers or provide their own (Brown, 2001). This method was chosen as the sample is quite large (56 participants) and the method of a structured interview or focus groups did not seem feasible or easily organized. No more than 37 items are presented to the participants divided into four sections and most questions or statements are measured in a Likert scale with three or more response options. There are a few open-ended questions for them to provide their own reply when the answer cannot be foreseen or when their opinion is needed. There are factual questions to indicate who the respondents are and their demographic characteristics (questions 1-6) and attitudinal questions to investigate their opinions, interests, and beliefs (questions 14-37). Prior to the beginning of the questionnaire, participants received a welcoming letter providing instructions, reassuring them of their anonymity and encouraging them to answer all items with sincerity. Lastly, the questionnaire was pilot-tested in advance by a small number of learners to ascertain the clarity of the questions and avoid any possible confusion.

4. A description of the gathered data

Viewing the ESP process, the ESP student is elevated to not only being the key stakeholder but also to an active participant in it. He is not to be treated as a child; apart

from the fact that he is an adult, he is conscious of both the learning process and of his own learning preferences and style (Rogers, 1996)

In the case of the Academy, the scholars of the fifth semester are young adults from the age of 20 to 24, the majority of whom have attended English language lessons before and have acquired a degree. Most of them have also gained experience in the occupation itself, as they have finished the four months of apprenticeship. This renders them capable of expressing opinions about their academic level and how it will affect their vocational fulfillment. Through their answers to questions 8 to 13, their attitude towards the importance of learning English is indicated. For questions 9 and 10, the majority answered that it is very important to get competence in the target language in order to excel professionally in the future. This indicates that they have both a concrete goal and an expectation as to why Maritime English is necessary. Unfortunately, when asked about the difficulty of learning Maritime English (question 14) and about memorizing terminology, the majority of learners state that they find it extremely or very difficult to learn the terms and engage in the process of memorization. The above answer is expected, though, since the nature of this school is not theoretical, even though the book of the English course tends to overanalyze the material theoretically. Supportive of the above are the answers to questions on whether reading tasks are useful. 47 out of 56 scholars deny the importance of reading theory as they find it mundane and not of great value. In contrast to that, they find the practice of speaking in the target language (question 18) extremely or very valuable. In the same spirit, when asked about the usefulness of listening tasks and extracts of actual authentic material, most of scholars emphasize the fact that it is helpful for the future (questions 21 and 22).
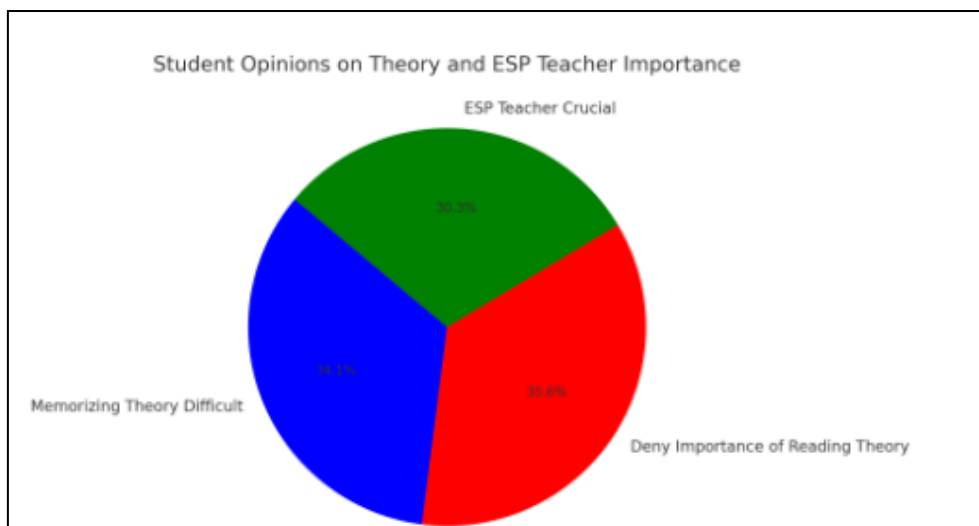
Since an effort was made with the book to include authentic or simulated material, they recognize it with their answers to questions 27 and 28. Simultaneously, they consider that the level of difficulty is quite high. Thus, the role of the teacher, or rather the ESP practitioner (Sifakis, 2018), is crucial (questions 25 and 30). When asked whether the use of technology and multimedia, such as videos, in the classroom is useful, the majority of participants answered positively (questions 31 to 32). It is a misfortune that there is no

internet access or the use of an interactive board available and so the ESP teacher is constrained to the use of the book only.
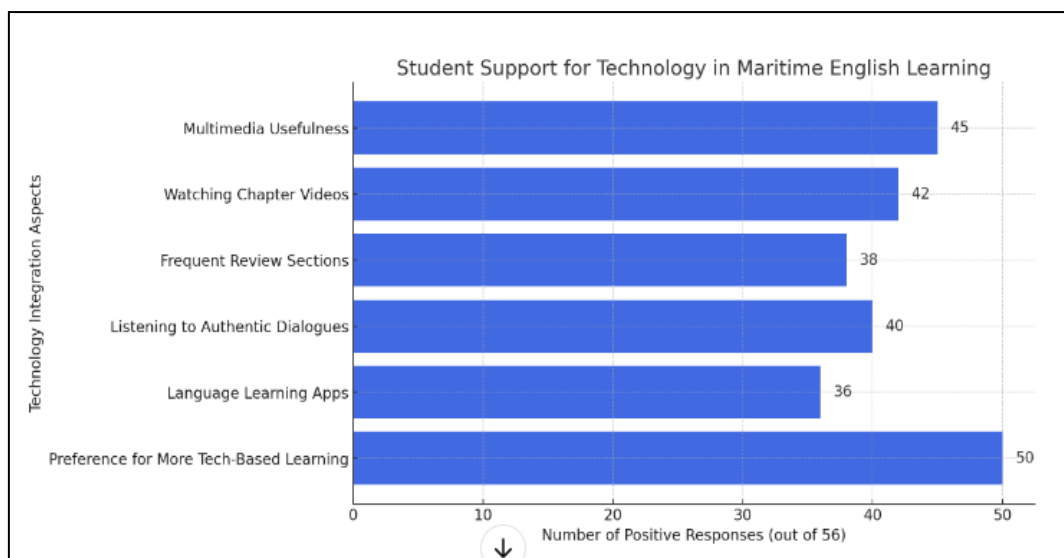
The survey results highlight challenges such as memorizing technical terminology and understanding theoretical content. Many students seem to be more comfortable with speaking and listening exercises, thus indicating a need for a more interactive approach. Students also demonstrate a preference for multimedia and technology-based learning, recognizing the benefits of videos, audio materials, and interactive tools in improving comprehension. However, classroom limitations, such as internet access and a lack of multimedia resources, can create restrictions to the learning process.

To minimize these challenges, the integration of digital tools into the Maritime English curriculum can enhance learning outcomes. Language-learning apps, virtual simulations, and interactive e-learning platforms can reinforce theoretical knowledge while making learning more immersive and practical. By incorporating all the above, educators can offer a more engaging and effective approach to covering modern learning needs. Given these findings, integrating technology into the curriculum could significantly improve learning outcomes. Digital tools can reinforce theoretical knowledge, provide immersive learning experiences, and increase engagement.

4. Conclusion

From all the above, it can be easily deduced that while the students appreciate the use of authentic material from the book, they do not find it easy to navigate the material without the guidance of an ESP teacher, and they struggle to deal with theory and memorization. The use of multimedia and listening, as well as more chances to use the terminology through oral practice, will render them more confident in using the language in their occupational environment. A combination of multimedia, gamification, VR simulations, and online resources can enhance engagement and retention of maritime-specific terminology and communication skills.

Taking the ESP learners' experience and expectations into account, the ESP practitioner ought to incorporate the latest technological advances in the syllabus in order to fulfill a positive outcome from this course. The ESP teacher plays a pivotal role in integrating these tools into the syllabus, ensuring that students develop the linguistic and practical skills required for success in their future careers. Future research should explore the effectiveness of specific digital interventions and their impact on student performance in Maritime English. By leveraging technology, the ESP curriculum can evolve to better meet the needs of maritime students, equipping them with the language proficiency and practical communication skills necessary for their professional endeavors.

Conflict of Interest Statement
The author declares no conflicts of interest.

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Evangelia Giovanoglou is an English Language teacher. She received a Bachelor's degree in English Language and Literature from the Aristotle University of Thessaloniki, Greece and a Master's degree from the Hellenic Open University, Greece. She has been active in teaching English as a foreign language in the private sector since 2007.Her current field placement is with the Merchant Marine Academy of Crete, Greece as a visiting professor for the subject of Maritime English. She is interested in intercultural classes and teaching English for Specific Purposes.

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Appendix: Questionnaire

Section 1: Demographic Questions

1. Select your age group:
   a. 18-20
   b. 21-25
   c. 26-30

2. What is your native language?
   a. Greek
   b. Albanian
   c. English
   d. Other _____

3. Have you studied English before your studies at the Merchant Marine Academy?
   a. Yes
   b. No

4. If yes, for how many years?
   a. 2-3 years
   b. 4-6 years
   c. 7-9 years
   d. Other _____

5i. Have you obtained certification for your English proficiency level?
   a. Yes
   b. No

5ii. If yes, at which level?
   a. B1
   b. B2
   c. C1
   d. C2

5iii. If yes, which institution issued the certificate? _____

6. Have you completed the required 4-month internship after the second semester?
   a. Yes
   b. No

Section 2: Attitudes and Motivation Towards Language Learning

7. How important is it for you to achieve fluency in English?
  a. Extremely important
  b. Very important
  c. Fairly important
  d. Slightly important
  e. Not important

8. What is your main reason for learning English?
  a. Academic
  b. Professional
  c. Recreational
  d. Communication
  e. Other _____

9. How important is English for your career?
  a. Extremely
  b. Very
  c. Moderately
  d. Slightly
  e. Not at all

10. How often do you use English outside the classroom?
  a. Almost always
  b. Often
  c. Sometimes
  d. Rarely
  e. Never

11. How confident are you in your ability to communicate in English?
  a. Extremely
  b. Very
  c. Moderately
  d. Slightly
  e. Not at all

12. How much do you enjoy learning English?
  a. Extremely
  b. Very
  c. Moderately
  d. Slightly
  e. Not at all

Section 3: Learning Maritime English

13. How easy do you find learning Maritime English?
 a. Extremely
 b. Very
 c. Moderately
 d. Slightly
 e. Not at all

14. Which language skill do you find most difficult to acquire?
 a. Speaking
 b. Listening
 c. Reading
 d. Writing

15. Which language skill do you think you will use the most in the future?
 a. Speaking
 b. Listening
 c. Reading
 d. Writing

16. Which aspect of the language do you find the most challenging?
 a. Grammar
 b. Vocabulary
 c. Pronunciation
 d. Listening comprehension
 e. Other _____

17. Do you find speaking practice useful in learning English?
 a. Extremely
 b. Very
 c. Moderately
 d. Slightly
 e. Not at all

18. Do you find reading activities useful for learning English?
 a. Extremely
 b. Very
 c. Moderately
 d. Slightly
 e. Not at all

19. Do reading assignments help you better understand the language?
 a. Extremely
 b. Very
 c. Moderately
 d. Slightly
 e. Not at all

20. Do you find listening activities helpful for understanding spoken English?
 a. Extremely
 b. Very
 c. Moderately
 d. Slightly
 e. Not at all

21. Do you find listening to maritime-related dialogues useful?
 a. Extremely
 b. Very
 c. Moderately
 d. Slightly
 e. Not at all

22. Do you think repetition of words is an effective method for learning English?
 a. Extremely
 b. Very
 c. Moderately
 d. Slightly
 e. Not at all

23. Do you find maritime terminology and technical terms difficult to remember in English?
 a. Extremely
 b. Very
 c. Moderately
 d. Slightly
 e. Not at all

Section 4: Personal Opinions on Teaching Maritime English

24. Do you think the course book meets your future workplace and communication needs?
 a. Extremely
 b. Very
 c. Moderately
 d. Slightly
 e. Not at all

25. Is the course book realistic in terms of topics and vocabulary?
 a. Extremely
 b. Very
 c. Moderately
 d. Slightly
 e. Not at all

26. What other topics would you like to see included in the course book?

 _____

27. Do you think the difficulty level of the book is too high?
 a. Yes
 b. No

28. Do you find it easier to remember theory when there are frequent revision chapters?
 a. Strongly agree
 b. Agree
 c. Neutral
 d. Disagree
 e. Strongly disagree

29. Do you feel more confident using English when listening to authentic audio clips?
 a. Strongly agree
 b. Agree
 c. Neutral
 d. Disagree
 e. Strongly disagree

30. Do you think two (2) teaching hours per week are sufficient for learning Maritime English?
  a. Strongly agree
  b. Agree
  c. Neutral
  d. Disagree
  e. Strongly disagree

31. Do you find it easier to remember theory when there are frequent review sections?
  a. Strongly agree
  b. Agree
  c. Neutral
  d. Disagree
  e. Strongly disagree

Section 5: The Role of Technology in Learning Maritime English

32. Do you find the use of multimedia (videos, computers, and interactive boards) helpful in learning?
  a. Extremely
  b. Very
  c. Moderately
  d. Slightly
  e. Not at all

33. Do you enjoy watching videos related to each chapter?
  a. Strongly agree
  b. Agree
  c. Neutral
  d. Disagree
  e. Strongly disagree

34. Have you used any language-learning apps or online platforms to improve your Maritime English?
  a. Yes
  b. No

35. If yes, which technology tools have you found most useful?
  a. Mobile apps (e.g., Duolingo, Babbel)
  b. Online courses (e.g., Udemy, Coursera)
  c. Virtual reality simulations
  d. Interactive maritime-specific training programs
  e. Other: _____

36. How effective do you think language-learning apps are in improving your Maritime English?
  a. Extremely effective
  b. Very effective
  c. Moderately effective
  d. Slightly effective
  e. Not effective

37. Would you like to see more technology-based learning incorporated into your Maritime English courses?
  a. Yes
  b. No

End of Questionnaire