

Modular ESP Teaching Design of Maritime English Based on STCW Requirements for Higher Vocational Seafarer Majors

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Abstract: The Standards of Training, Certification and Watchkeeping for Seafarers (STCW) Convention establishes statutory requirements for seafarers' practical proficiency in maritime English, which is directly related to navigation safety and international shipping operations. However, current maritime English instruction in higher vocational colleges focuses more on theoretical knowledge, such as vocabulary and grammar, while neglecting practical onboard applications, leading to a disconnect between students' examination performance and actual job requirements. To address this issue, this study constructs a five-module English for Specific Purposes (ESP) teaching model tailored to the post requirements of seafarers. A one-semester teaching comparison experiment was conducted between two parallel classes in a higher vocational college, and the results show that the modular teaching model significantly improves students' maritime English test scores and practical application abilities, especially in scenario-based communication and emergency expression. This research provides a replicable and practical scheme for professional English teaching reform in maritime higher vocational colleges, helping to bridge the gap between classroom teaching and maritime workplace demands.

Keywords: Maritime English; ESP; STCW Convention; Modular Teaching; Higher Vocational College; Seafarer Training.

1. Introduction

With the ongoing globalization of ocean shipping, the International Maritime Organization (IMO) and the STCW Convention have established mandatory requirements for standardized maritime English communication skills among seafarers [1]. As the primary language of international maritime communication, maritime English is not only a basic tool for seafarers to complete various onboard tasks but also a key guarantee for the safe navigation of ships and the smooth development of international maritime business. For higher vocational colleges, which are important bases for cultivating front-line seafarers, it is crucial to cultivate students' practical maritime English proficiency that meets the requirements of international conventions.

However, the current maritime English teaching in higher vocational colleges has prominent problems. Most teaching modes are fragmented, focusing on the rote memorization of words and grammar, and lack systematic scenario training such as VHF (Very High Frequency) radio communication, emergency response, and port business. This leads to a situation where students can pass written examinations but cannot effectively communicate in actual onboard scenarios, resulting in a serious disconnection between their learning outcomes and job requirements after boarding [2]. Against this background, this study takes post-competency as the core, constructs a modular ESP curriculum system for maritime English, and verifies its teaching effectiveness through empirical research.

2. Theoretical Basis & Literature Review

The core connotation of ESP (English for Specific Purposes) lies in taking the future career post needs of learners as the guidance, focusing on cultivating learners'

ability to use English to complete professional tasks, which is highly consistent with the talent training orientation of higher vocational colleges [3][4]. Different from general English teaching, ESP teaching emphasizes the combination of language knowledge and professional scenarios, and its teaching content and methods are closely related to the actual work needs of the target post. Task-based language teaching and production-oriented approaches provide feasible instructional ideas for vocational ESP classroom practice [5][6].

The STCW Convention, as the core international convention for seafarer training, certification and watchkeeping, has clear assessment criteria for maritime English proficiency, covering three key aspects: oral communication ability (such as VHF radio communication and onboard daily communication), emergency report ability (such as reporting various dangerous situations at sea), and reading and writing ability of maritime documents (such as cargo documents and inspection forms). These criteria provide a clear standard for the design of maritime English teaching in higher vocational colleges.

In terms of research on maritime English teaching, foreign scholars have long focused on scenario simulation and task-driven teaching methods, and have formed relatively mature teaching systems combined with actual maritime work scenarios [7]. In China, with the deepening of vocational education reform, more and more high vocational colleges have begun to explore modular teaching reform in maritime English teaching [8][9]. Nevertheless, most of the existing studies lack a complete and operable modular design that fits the learning situation of higher vocational students and the actual needs of seafarer posts [10]. There is still a gap between the teaching design and the specific requirements of the STCW Convention, which highlights the research value of this paper.

3. Research Design

3.1. Research Questions

This study mainly focuses on the following three research questions: First, how to split the maritime English ESP curriculum modules for higher vocational seafarer majors based on the STCW Convention's requirements for seafarers' job competencies? Second, can the modular scenario-based teaching model improve students' maritime English test performance and practical expression ability? Third, what is students' acceptance of this new teaching model and what improvement suggestions do they put forward?

3.2. Research Subjects

The research subjects are two parallel classes of the Navigation Technology major in a local higher vocational college, with a total of 86 students. Among them, Class A (43 students) is set as the experimental class, adopting the modular ESP teaching model constructed in this study; Class B (43 students) is set as the control class, adopting the traditional lecture-based teaching model. The two classes have the same entrance English foundation (the average score of the college entrance examination English is around 85 points), the same teaching hours (4 hours per week, 16 weeks in total), the same teaching materials and assessment content, ensuring the comparability of the research results. This research adopts a typical quasi-experimental research paradigm without random grouping [11].

3.3. Research Tools

Three research tools are adopted in this study to ensure the objectivity and comprehensiveness of the data: First, a unified final maritime English test paper, which includes three types of questions: SMCP (Standard Marine Communication Phrases) usage, emergency oral expression, and maritime document reading, focusing on examining students' practical application ability. Second, an anonymous after-class questionnaire, which mainly investigates students' learning interest, practical confidence and recognition of the curriculum, with a total of 12 questions, using a 5-point Likert scale [12]. Third, semi-structured interviews with a small number of teachers and students, selecting 3–5 students from the experimental class with different English levels to conduct in-depth interviews, aiming to understand their real feelings and improvement suggestions on the modular teaching.

3.4. Research Procedures

The research lasted for a complete semester (16 weeks). Before the experiment, a pre-test was conducted on the two classes to confirm that there was no significant difference in their English proficiency. During the experiment, the experimental class implemented modular ESP teaching, arranging different post module teaching contents according to the teaching progress, and carrying out scenario simulation and task-driven teaching activities; the control class followed the traditional teaching mode, focusing on textbook explanation, vocabulary and grammar teaching, and exercise training. At the end of the semester, the unified final test was organized, the questionnaire was distributed to all students in the experimental class, and the semi-structured interviews were conducted. Finally, all data were collected and analyzed statistically.

4. Implementation of Modular Maritime English ESP Teaching

4.1. Five Core Post Modules

Based on the STCW Convention requirements and the actual post needs of seafarers, this study constructs five core post modules for maritime English ESP teaching, covering the key communication scenarios of seafarers' onboard work [13]:

Module 1: VHF Radio Communication (SMCP Standard Marine Communication Phrases). This module focuses on the standard expressions of VHF radio communication in various scenarios, including bridge watchkeeping, ship collision avoidance, navigation warning, berthing and unberthing communication. Students are required to master the fixed SMCP phrases and be able to complete smooth and standard VHF communication in simulated scenarios, which is the most basic communication skill for seafarers [14][15].

Module 2: On-board Emergency Response English. Aiming at various emergency situations at sea, this module teaches students the English expression of emergency reports and external communication, including ship fire, stranding, water ingress, man overboard, ship abandonment, oil spill and other dangerous situations. The teaching focuses on training students' ability to quickly and accurately report the situation, take emergency measures and communicate with relevant departments in English.

Module 3: Port Entry & Inspection Business English. This module covers the English communication in port entry and inspection business, including pilot handover, joint inspection by customs, immigration and quarantine, cargo document filling, and communication with ship agents. Students need to master the professional vocabulary and sentence patterns of port business, and be able to complete various port inspection tasks independently in English.

Module 4: Engine Room Equipment Fault Description & Maintenance. For the communication needs between deck department and engine department, this module teaches students the English expression of engine room equipment fault reporting, machine condition description, and communication with chief engineers and maintenance personnel. The teaching focuses on professional terms of marine engineering and the ability to accurately describe fault phenomena and maintenance requirements.

Module 5: Cross-cultural Watchkeeping & Crew Cooperation. Aiming at the multicultural working environment of international ships, this module trains students' English communication ability in cross-cultural watchkeeping handover, daily work communication on board, and English expression of ship safety meetings. It focuses on cultivating students' cross-cultural communication awareness and ability to cooperate with crew members from different countries [16].

4.2. Classroom Teaching Implementation Methods

In order to ensure the implementation effect of modular teaching, diversified classroom teaching methods are adopted: First, scenario simulation. Relying on the ship simulation training room, the bridge VHF intercom simulation exercise is carried out to restore the real onboard communication scenarios, so that students can practice in a simulated working environment [17]. Second, task-driven teaching. Teachers set up typical tasks such as "reporting a ship fire" and

“completing pilot handover”, and students complete oral English emergency broadcasting and communication tasks independently or in groups, improving their practical ability in the process of completing tasks. Third, integration of post, course, competition and certificate. The teaching content is aligned with the test points of the maritime bureau’s seafarer English assessment, and the competition mechanism is introduced to stimulate students’ learning enthusiasm [18]. Fourth, embedded curriculum ideology and politics. In the teaching process, the awareness of great power responsibility of ocean seafarers, marine environmental protection and maritime safety legal awareness are integrated to cultivate students’ professional ethics and sense of mission.

5. Data Results & Analysis

5.1. Comparison of Written Test Scores

Descriptive statistics for post-test performance of both groups are presented in Table 1. The experimental-class average score reached 82.60 (SD = 5.72), noticeably higher than the control-class average of 71.30 (SD = 6.15). For scenario-based oral tasks, emergency-incident narration, and SMCP-phrases application, the experimental class obtained substantially higher marks, with mean-score differences exceeding 15 points. By contrast, performance on basic-vocabulary and grammar questions revealed no meaningful inter-group difference. These findings demonstrate that modular ESP teaching improves practical maritime-English proficiency, especially competences required for authentic shipboard-communication scenarios specified under the STCW Convention.

Table 1. Descriptive Statistics of Post-test Scores for Experimental and Control Groups

Group	N	Mean	SD
Experimental Class	43	82.60	5.72
Control Class	43	71.30	6.15

Note. Maximum score = 100. Experimental class received modular ESP maritime-English teaching; control class received conventional lecture-based teaching. N = number of students; SD = standard deviation.

5.2. Statistical Results of Questionnaire Survey

The questionnaire survey results of the experimental class show that 93% of the students believe that the modular teaching content is closer to the real onboard work, and 89% of the students think that this teaching model has improved their confidence in maritime English communication. In terms of learning interest, 87% of the students said that the scenario simulation and task-driven teaching methods have increased their enthusiasm for learning maritime English. In addition, 85% of the students believe that the modular teaching has helped them better understand the professional English knowledge related to seafarer posts, and laid a solid foundation for their future work on board.

5.3. Interview Summary

The results of semi-structured interviews show that most students recognize the effectiveness of modular teaching, but also put forward some difficulties and improvement suggestions. The main difficulties include that it is still difficult to keep up with the fast-speed VHF real-time dialogue, and the coherent expression of complex maritime accidents needs to be strengthened. Some students suggested

that the proportion of scenario simulation training should be increased, and more real onboard communication cases should be introduced into the classroom. These feedbacks provide important references for the further optimization of the modular teaching model.

6. Conclusion & Implications

This study constructs a five-module maritime English ESP teaching model based on the STCW Convention requirements, and verifies its effectiveness through a one-semester teaching experiment. The research results show that this modular teaching model is highly compatible with the talent training orientation of higher vocational seafarer majors, which can effectively bridge the gap between classroom teaching and maritime workplace demands, improve students’ maritime English test performance and practical application ability, and enhance their professional identity and job confidence.

The practical implications of this study are as follows: First, this modular teaching model can be extended to maritime-related majors such as marine engineering and cruise crew, providing a reference for professional English teaching reform in maritime higher vocational colleges. Second, colleges can cooperate with shipping enterprises and senior ocean-going captains to jointly revise teaching materials and training handouts, so as to make the teaching content more in line with the actual needs of posts. Third, diversified assessment methods can be further improved to highlight the assessment of practical communication ability.

The limitation of this study is that the research samples are only two classes in one college, and the research scope is relatively small. In the future, the research can be expanded to more maritime higher vocational colleges, and the teaching effect can be tracked for a longer time to further verify the applicability and sustainability of the modular teaching model. It is hoped that this study can provide useful reference for the cultivation of high-quality seafarer talents with strong maritime English proficiency.

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