Research on Marine English Teaching Mode based on Simulator: Innovative Method to Improve Students' Practical Ability

Juan Liu

Hainan Vocational University of Science and Technology, Haikou Hainan 571126

Abstract: With the rapid development of the global shipping industry, navigation English, as an important language of international shipping communication, its teaching quality directly affects the practical working ability of navigation practitioners. This paper discusses the navigation English teaching mode based on simulator, and improves students' practical ability by introducing simulator teaching. The research shows that the simulator teaching not only significantly enhances the students' language application ability, but also effectively improves their strain ability and operation level in the practical work. This innovative teaching method provides a new way for navigational English teaching, ensuring that students accumulate rich practical experience in a safe environment and laying a solid foundation for their future career development.

Keywords: Nautical English; Simulator teaching; Practical ability and innovative method

1. Introduction

In the context of rapid globalization, the international shipping industry has become increasingly interconnected. As a bridge of communication, nautical English has become increasingly prominent. Nautical English is not only the common language of the shipping industry but also a key tool to ensure navigation safety, improve work efficiency, and promote international cooperation. However, traditional nautical English teaching methods mainly rely on classroom teaching and textbook learning. Under this single teaching mode, although students can accumulate certain theoretical knowledge, the cultivation of practical operation and application ability is seriously insufficient. Classroom teaching usually focuses on grammar and vocabulary explanation, while textbook learning often lacks vivid scenes and real interaction. This disconnection between theory and practice leads to students who can only mechanically repeat the knowledge they learn when facing practical work, but are unable to flexibly use language to solve practical problems. The navigation working environment is complex and changeable, which requires practitioners to communicate and operate quickly and accurately in emergencies. However, traditional teaching methods cannot effectively simulate real navigation scenes and emergency situations, and the students' response ability and practical experience cannot be fully exercised. To make up for this deficiency, the simulator-based teaching mode has gradually become an innovative and effective teaching method.

2. Overview of the Simulator Teaching Mode

The simulator is a high-tech teaching tool that, through highly simulating the actual navigation environment, allows students to conduct operation training in a virtual environment, achieving the effect of real training. It can truly reproduce the operation interface and system of a ship, allowing students to interact with instruments and equipment consistent with those on real ships. It also provides realistic navigation scenes, including different weather conditions, sea state changes, and various complex navigation environments. The flexibility and controllability of the simulator teaching mode allow teachers to adjust the training content and difficulty according to the teaching objectives and students' learning progress, and to monitor the students' operation processes in real time, identify problems promptly, and provide guidance. By providing realistic navigation scenes and diversified training tasks, the simulator teaching mode greatly improves students' practical operation ability and response ability, compensating for the shortcomings of traditional teaching methods, and bringing a new experience to nautical English teaching. With continuous technological progress and the improvement of simulation technology, the application prospects of simulators in navigation education will be broader, providing more powerful support for the cultivation of high-quality navigation talents.

3. Advantages of Simulator-Based Nautical English Teaching

3.1 Improving Language Application Ability

By simulating actual navigation scenes, students need to use nautical English for various operations and communications in the simulator, which helps improve their language application ability. Conversations and instructions in the simulator are conducted according to international standards, allowing students to master professional terms and expressions more quickly in this environment. In the simulator, students not only need to understand and execute instructions but also communicate effectively in various situations, including daily communication with the crew, contact with the port, and emergency dialogue in response to emergencies. The simulator provides various scenarios, such as navigation in severe weather conditions, equipment troubleshooting, and emergency avoidance operations, allowing students to use nautical English in these scenarios, better understanding and applying professional terms and expressions. Responding to emergencies requires students to communicate quickly and accurately in English, testing their language skills while exercising their rapid response and decision-making abilities in high-pressure environments. Through continuous practice and practical operation, students can use nautical English more freely, improving the practical application ability and fluency of the language. The simulator can also be personalized according to different students' levels, providing basic to advanced language training. Beginners can gradually become familiar with the basic vocabulary and expressions of nautical English through relatively simple dialogues and operational tasks, while advanced learners can challenge their language application ability and comprehensive skills in more complex operations and emergencies.

3.2 Enhancing Practical Resilience

The simulator can simulate various emergencies, such as bad weather and equipment failure, where students need to communicate and operate in English. This training can effectively improve students' response and problem-solving abilities, enabling them to deal with emergencies more calmly in practical work. Through repeated practice in the simulator, students can become familiar with the processing of various emergency situations and exercise their calmness and decision-making abilities in high-pressure environments. The simulator provides highly realistic emergency simulations, such as sudden mechanical failures, fire alarms, and collision risks. Students experience these situations in a virtual environment and can constantly adjust and improve their coping strategies. This contextualized training not only improves students' practical skills but also enhances their psychological quality, enabling them to respond quickly and make correct decisions in the face of sudden problems. Additionally, the simulator allows students to try and error and learn in a safe environment, accumulating valuable practical experience and avoiding mistakes due to a lack of experience in real voyages.

4. Implementation of the Simulator Teaching Mode

4.1 Teaching Plan Design

When implementing the simulator-based nautical English teaching model, it is necessary to design a reasonable teaching plan. The teaching plan should include theoretical knowledge teaching, simulator operation training, and emergency response drills. Theoretical knowledge teaching is the foundation, helping students understand the basic concepts and professional terms of nautical English. Simulator operation training is the core link, improving students' language application ability and operational skills through practical operation. Emergency response drills are an indispensable part, simulating various emergencies, allowing students to practice their response and decision-making abilities in high-pressure environments. Each part should be planned in detail and closely combined with practical work to ensure students can apply the knowledge in their studies.

4.2 Teacher Training

Teachers need to have high technical levels and practical operation experience when implementing the simulator teaching mode. Therefore, schools should conduct professional training for teachers, enabling them to master the operation method of the simulator and apply it flexibly in teaching. The training should include technical operation of the simulator, teaching methods, and emergency handling skills. Through professional training, teachers can effectively use the simulator for teaching and provide accurate guidance and feedback to students during the teaching process, ensuring the quality and effect of teaching.

5. Case Analysis

5.1 Case 1: Emergency Risk Avoidance Operation Training

A navigation college introduced simulator teaching in the nautical English course to conduct emergency avoidance operation training. During this training process, students were in a highly simulated navigation environment, and the simulator reproduced various possible emergency scenarios. Students needed to use English to communicate and coordinate with their peers and other simulated ships in real time, ensuring the accuracy and timeliness of operations. Through this interaction, students not only learned how to respond quickly in emergencies but

also improved their practical skills and teamwork spirit. Ultimately, the students successfully completed the operation task in the simulated emergency avoidance situation, demonstrating high adaptability and English communication levels.

5.2 Case 2: Equipment Fault Response Drill

In the equipment failure response drill, a navigation college used the simulator to simulate the real situation of ship equipment failure. In this environment, students faced sudden equipment failures, requiring them to use English for detailed equipment inspection and troubleshooting. The simulator provided various equipment failure types. During the drill, students needed to gradually diagnose problems, propose solutions, and implement repair measures. The whole process required students to communicate in English with technical support from team members and simulation, report problems, and coordinate actions. This training not only helped students master ways to deal with equipment failures but also significantly improved their English expression skills and response abilities. During the simulator drills, students gradually accumulated experience in handling equipment failures and learned how to stay calm and effectively solve problems in emergencies.

6. Conclusion

The simulator-based nautical English teaching mode, by simulating real navigation scenes and emergency situations, significantly improves students' language application and practical response abilities. This teaching mode not only compensates for the deficiencies of traditional teaching methods but also provides a safe and effective practice platform for students. Simulator teaching enables students to practice and improve their operational skills continuously in a highly simulated virtual environment, enhancing their confidence and operational proficiency in practical work. By simulating various emergencies and complex tasks, students' resilience and decision-making abilities are improved. In the future, with the continuous development and improvement of simulation technology, the simulator-based teaching mode will play an increasingly important role in nautical English teaching, providing a solid foundation for cultivating high-quality navigation talents. This innovative teaching method helps students accumulate valuable practical experience in school and maintain efficient and professional performance in their future careers, elevating navigation education and training to new heights.

References

[1]   Yuan Gao.(2018).Problems and Countermeasures of College English Teaching in Navigation Majors.(eds.)Proceedings of 2018 6th International Education, Economics, Social Science, Arts, Sports and Management Engineering Conference(IEESASM 2018)(pp.363-366). Shandong Jiaotong University.

[2]   Gaydukova M.A..(2017). English Radio Telephony Phraseology Speech Simulators as a Means of Intensifying Professional English Teaching Process. Tomsk state pedagogical university bulletin(10), 142-149.

[3]   Xiaoning Liu.(2024). Strategies and Methods for Cultivating Innovation Ability in College English Teaching.Advances in Educational Technology and Psychology(4).

[4]   Ying Zhang.(2023).Research on Cultivating Autonomous Learning Ability in Open University English Teaching Against the Background of Lifelong Education.(eds.)Proceedings of the 10th International Conference on Education, Language, Art and Inter-cultural Communication (ICELAIC 2023)(pp.225-231).Dalian Vocational & Technical College (Dalian Open University);doi:10.26914/c.cnkihy.2023.086407.

[5]   Li Xiaojing & Luo Haijun.(2023). Research on Teaching Strategies for Cultivating College Students' Self-regulated Ability of English Learning in a Web-based Learning Environment. Advances in Educational Technology and Psychology(15).