

ASSISTANCE IN LEARNING PLANE SAILING TO IMPROVE UNDERSTANDING OF MARINE NAVIGATION

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ABSTRACT

Plane sailing is a fundamental component of nautical science that plays a crucial role in supporting safe and effective marine navigation. However, many cadets and maritime community members still experience difficulties in understanding plane sailing concepts and applying them in real navigation situations. This community service program aims to improve participants' understanding of marine navigation through assistance in learning plane sailing. The program was implemented through instructional training, practical exercises, guided problem-solving sessions, and continuous mentoring. The results show a significant improvement in participants' comprehension of plane sailing principles, navigational calculations, and practical application in marine navigation. This program demonstrates that structured learning assistance in plane sailing effectively enhances navigational competence and supports maritime safety.

Keywords: Community Service, Plane Sailing, Marine Navigation, Nautical Science, Maritime Education

INTRODUCTION

Marine navigation is a critical competency in maritime activities, particularly for seafarers, cadets, and coastal communities engaged in sea transportation and fishing. One of the essential foundations of marine navigation is plane sailing, which provides basic methods for calculating distance, course, difference of latitude, and departure.

Despite its importance, plane sailing is often perceived as a difficult subject due to its mathematical nature and abstract concepts. Limited instructional support, lack of practical examples, and insufficient learning assistance can reduce learners' understanding and confidence in applying plane sailing in real navigation scenarios.

Therefore, this community service program focuses on providing assistance in learning plane sailing to enhance participants' understanding of marine navigation. Through guided learning and practical application, the program aims to strengthen navigational competence and contribute to maritime safety.

PROBLEM IDENTIFICATION

Based on preliminary observations and discussions with participants, several problems were identified:

1. Limited understanding of plane sailing concepts and terminology.
2. Difficulties in performing navigational calculations accurately.
3. Lack of practical experience in applying plane sailing to real navigation cases.
4. Low confidence in using navigational charts and tools.
5. Insufficient learning support and mentoring in nautical subjects.

These challenges highlight the need for structured assistance and practical-oriented learning approaches in plane sailing education.

METHODOLOGY

Target Participants

The participants of this community service program consisted of maritime cadets and members of coastal communities involved in maritime activities, particularly those requiring basic navigation skills.

Implementation Methods

The program was implemented using the following methods:

1. **Instructional Training**

Training sessions were conducted to explain fundamental concepts of plane sailing, including course, distance, difference of latitude, and departure, using clear and contextual explanations.

2. **Practical Exercises**

Participants engaged in guided exercises involving navigational calculations and chart work to strengthen conceptual understanding and practical skills.

3. **Learning Assistance and Mentoring**

Continuous assistance was provided through small-group mentoring, problem-solving discussions, and individualized guidance.

4. **Evaluation**

Program effectiveness was evaluated through pre-test and post-test assessments, observation of participant performance, and feedback questionnaires.

RESULTS AND DISCUSSION

The implementation of the community service program produced positive outcomes:

1. **Improved Conceptual Understanding**

Participants demonstrated a clearer understanding of plane sailing concepts and navigational terminology.

2. **Enhanced Practical Skills**

The ability to perform navigational calculations and interpret charts improved significantly after guided practice sessions.

3. **Increased Learning Confidence**

Participants showed greater confidence in applying plane sailing principles to navigation problems.

4. **Support for Maritime Safety**

Improved understanding of navigation fundamentals contributes to safer maritime operations and better decision-making at sea.

These findings indicate that learning assistance in plane sailing is effective in improving navigational competence. The combination of theoretical explanation and practical application plays a key role in strengthening learning outcomes.

CONCLUSION

This community service program successfully improved participants' understanding of marine navigation through assistance in learning plane sailing. Instructional training, practical exercises, and continuous mentoring enhanced both conceptual knowledge and practical skills. Plane sailing learning assistance is an effective approach to strengthening navigational competence and supporting maritime safety. Sustainable and continuous learning programs are recommended to maximize long-term impact.

RECOMMENDATIONS

1. Extend learning assistance programs to other navigation subjects.
2. Integrate simulation and digital navigation tools in plane sailing learning.
3. Strengthen collaboration between maritime institutions and coastal communities.
4. Conduct regular evaluation to improve learning effectiveness.

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