

EVALUATION OF THE IMPLEMENTATION OF SHIPPING TRAINING POLICY AT THE BAROMBONG SHIPPING POLYTECHNIC

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ABSTRACT

Introduction: This study examines the implementation of maritime training policies at Politeknik Pelayaran Barombong, a maritime vocational school in Makassar, Indonesia. The maritime sector plays a critical role in Indonesia, an archipelagic nation dependent on sea transportation for logistics and industry. This research investigates how the institution's training programs align with international standards and their effectiveness in preparing skilled seafarers. **Methods:** A qualitative descriptive approach was employed, using interviews, direct observations, and documentation to gather data from key informants at Politeknik Pelayaran Barombong, including instructors and maritime experts. **Results:** The study finds that Politeknik Pelayaran Barombong has successfully implemented maritime training policies, ensuring infrastructure adequacy and adherence to international standards such as STCW. However, challenges remain in achieving optimal graduation rates, especially for participants with lower educational backgrounds. Despite these challenges, 85% of graduates are absorbed into the maritime industry within six months. **Discussion:** While the training policy implementation has been largely successful, improvements are needed in graduation rates and addressing the challenges faced by students. Engaging more external industry stakeholders could help bridge gaps between academic curricula and industry needs.

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INTRODUCTIONS

Sea transportation plays a crucial role in supporting community activities and the distribution of goods, especially in Indonesia, an archipelagic country with thousands of islands (Aflah et al., 2023; Lim, 2025). Ships and boats as means of sea transportation are not only vital for inter-island transportation but also to support national infrastructure development and industry, including the shipping industry and shipyards, which are expected to become strategic sectors in the future (Amira, 2018). In line with this, the Indonesian government launched the sea toll program during the 2014-2019 period, aiming to improve the logistics system connecting various islands in Indonesia, as well as establishing Indonesia as the global maritime axis (Sa'adah et al., 2019).

The importance of sea transportation in human life can also be seen in the Quran, specifically in Q.S Hud (11:40), which reads:

حَتَّىٰ إِذَا جَاءَ أَمْرُنَا وَفَارَ النَّسُورُ ثُلَّا اخْمَلَ فِيهَا مِنْ كُلِّ رَوْحِينِ اثْنَيْنِ وَأَهْلَكَ أَلَا مِنْ سَقَ عَلَيْهِ الْقُوْلُ وَمَنْ أَمْنَ ۖ وَمَا أَمْنَ مَعَهُ أَلَا قَلِيلٌ ۖ

"... We said to Noah: Put into the ark a pair of animals and members of your family except for those who have been affected by the previous decree and also those who believe."

In addition, Q.S Al Jaziyah (45:12) also describes the importance of the role of the sea in the life of mankind:

اللَّهُ الَّذِي سَخَّرَ لَكُمُ الْبَحْرَ لِتَجْرِيَ الْفَلَكَ فِيهِ بَأْنَهُ وَلِتَتَقَرَّبُوا مِنْ قُصْلَهِ وَلِطَعْنَكُمْ شَكْرُونَ ۖ

"It is God who has subdued the sea for you so that ships may sail on it at His command, that you may seek a portion of His bounty, and that you may be grateful."

These two verses show how ships were used as a means of transportation to carry people and goods, as well as a means of picking up God's gifts in various parts of the world. Therefore, the sustainability of efficient sea transportation requires a strong shipping industry to support the global economy and help realize Indonesia as the world's maritime axis.

The ever-changing international technological and regulatory developments demand the improvement of the competence and skills of the workforce in the shipping sector (Gekara & Thanh Nguyen, 2018). This makes shipping schools have a strategic role in preparing prospective seafarers who are competent and professional through comprehensive training programs (Victoriano et al., 2022). The training policies at shipping schools aim to meet competency standards set by international organizations such as the IMO (International Maritime Organization) and refer to the STCW (Standards of Training, Certification, and Watchkeeping for Seafarers) convention to improve shipping safety and operational efficiency of ships (Sudewo, 2022).

The education and training policy at Barombong Shipping Polytechnic refers to Law No. 17 of 2008 on Shipping and related regulations, such as PM of Transportation No. 140 of 2016 and PR-BPSDMP 01 of 2023 (Indonesia, 2008). The policy includes various training programs to produce competent seafarers in line with international standards, such as seafarer formation, upgrading, and skills training, which encompass essential certifications to meet global needs (Picpican, 2024).

Based on the background, the main problem is the inability of shipping schools, especially Barombong Shipping Polytechnic, to fully produce graduates who meet global shipping industry standards. The study addresses the following questions: (1) How is the shipping training policy implemented at Barombong Shipping Polytechnic? (2) What are the results of the policy's implementation? (3) What is the impact of this policy on the absorption of graduates in the industry?

This research provides both theoretical and practical benefits. Theoretically, it enriches understanding of education and training policy implementation in the shipping sector, particularly regarding the development of seafarers' competencies in Indonesia. The findings can serve as a reference for future studies and offer insights into the challenges faced by maritime educational institutions. Practically, the research provides evaluation material for Barombong Shipping Polytechnic to improve its training policy and offers recommendations to better align training outcomes with global shipping industry needs.

Despite Indonesia being one of the largest seafarer-supplying countries, there is still a shortage of certified officer seafarers (Sudewo, 2022). According to the 2021 Seafarer Workforce Report released by ICS (International Chamber of Shipping), there are 2.09 million seafarers working on more than 74 thousand commercial ships globally, with a great opportunity to fill seafarer officer vacancies, which is expected to reach 90 thousand by 2026 (BIMCO, 2021). This indicates the need for enhanced education and training at shipping schools to meet the global shipping industry's requirements.

Barombong Shipping Polytechnic in Makassar, one of the 11 official shipping schools in Indonesia, plays a vital role in organizing education and training that adheres to the policies set by the Indonesian Ministry of

Transportation. However, challenges remain in ensuring that graduates meet global shipping industry standards, particularly regarding optimal graduation rates and the alignment of competencies with industry needs.

This study aims to analyze and evaluate the implementation of maritime training policies at Barombong Shipping Polytechnic, focusing on the effectiveness of the training programs. This research also seeks to identify the outcomes of the policy implementation, especially related to graduation rates and the alignment of competencies achieved with the established standards. Furthermore, this study aims to examine the impact of training policies on the absorption of graduates into the maritime industry and uncover the challenges faced in producing officer seafarers who are ready to compete in the global market.

This research offers both theoretical and practical contributions. Theoretically, it enriches insights into the implementation of education and training policies in the maritime sector, particularly regarding the development of seafarer competencies in Indonesia. The findings of this research can also serve as additional references for future studies reviewing maritime training policies and offer a deeper understanding of the challenges faced by shipping education institutions. Practically, this study can serve as an evaluation tool for Barombong Shipping Polytechnic to improve the quality of its training policies and provide useful recommendations to enhance the implementation of training programs to better meet the global maritime industry's needs.

This research fills a gap by analyzing maritime training policies at a specific Indonesian institution, Barombong Shipping Polytechnic, with a focus on the direct impact on industry employment—a topic not widely explored in previous studies. Therefore, this research contributes new insights into the effectiveness of maritime training policies, particularly in terms of the alignment between educational programs and industry demands.

Literature Review

Education and Training

Education is the process of changing individual behavior to achieve maturity through the teaching activities carried out (Byrd et al., 2025). Polytechnics, as one of the institutions of higher education, play a role in improving individual competence, especially in preparing professionals who are ready to contribute in the industrial world (ALINEA et al., 2024). As a final education for individuals, Polytechnic aims to increase students' potential to be ready to face the world of work (Nadeem, 2024). Higher education has different characteristics from primary and secondary education, with teaching methods and techniques that are more oriented towards the development of learning independence and motivation (Fadli et al., 2024).

This learning process not only involves the addition of knowledge, but also changes in students' behavior and ability to improve themselves according to their developmental stages (Fitria & Irmawita, 2020). Therefore, learning outcomes are an important indicator that describes the extent to which students are able to understand and master the material taught (Khusna et al., 2013). In this case, learning outcomes can be in the form of improvements in several aspects, such as intellectual skills, motor skills, and students' attitudes (Setiowati, 2014; Suprijono, 2009).

Bloom (Setiowati, 2014) proposed three domains in learning, namely cognitive, affective, and psychomotor domains. Each of these domains focuses on the development of certain aspects in the learner: the cognitive domain focuses on intellectual abilities, the affective domain focuses on attitudes and values, and the psychomotor domain focuses on physical skills (Hoque, 2016).

Education and training (diklat) have a very important role in maturing individuals through learning that involves these three aspects. This allows participants to grow and develop, both in cognitive, affective, and psychomotor aspects (Suhandi et al., 2013). Therefore, effective learning depends not only on the knowledge provided, but also on the ability to apply that knowledge in real life.

A policy is a plan or step formulated by the government or related institution to solve a certain problem. Public policy not only includes the decisions taken, but also its implementation involving various parties who have interests in the policy (Herdiana, 2018; Monica, 2021). According to Gusdiva, policy can also be understood as the basis that directs the planning and implementation of a program that aims to achieve certain goals (Gusdiva et al., 2024).

In the context of shipping education and training, public policies taken by the government, as reflected in various regulations related to seafarer education, have a direct impact on the development of Indonesian seafarers' competencies. This training education policy aims not only to improve the quality of human resources, but also to guarantee that the seafarers produced can meet the international standards set by organizations such as the IMO (International Maritime Organization).

The Concept of Public Policy Implementation

Public policy implementation refers to the implementation of policies that have been formulated by the government or public institutions to achieve desired goals (Maharaksa et al., 2025). According to Henriyani, implementation is an important stage in the policy process that focuses on concrete actions to realize policies (Henriyani, 2019). This stage involves various parties, including policy implementers, stakeholders, and communities who will receive the impact of the policy.

This implementation process can be divided into several steps, including policy interpretation, organization, and policy implementation (Aprilianto et al., 2014). In this process, abstract policies are translated into more concrete operational actions. Then, the organization and resources needed for policy implementation must be well prepared, including the provision of adequate facilities, infrastructure, and budget allocation.

Basically, successful policy implementation depends on several factors, such as the characteristics of the implementers, the available resources, and the existing bureaucratic structure (Knill et al., 2024). The policy implementation model used in this study refers to policy analysis by William N. Dunn which involves three main elements, namely policy actors, policy content, and policy environment (Dunn, 2015). Evaluation of the implementation of this policy is important to find out whether the policy achieves its goals and has the desired impact on the community.

Shipping training in Indonesia refers to various regulations set by the Transportation Human Resources Development Agency, including the Regulation of the Head of the Transportation Human Resources Development Agency Number PK.07/BPSDM-2016 which regulates the maritime competency education and training curriculum (Perhubungan, 2013). The curriculum includes education and training programs to form competent seafarers in accordance with international standards. This program consists of various educational paths, both formal and non-formal, which aims to produce seafarers with different levels of competence, from formation to skill development (Setiowati, 2014).

In addition, the sailing training program is also designed to meet various international standards set by global shipping organizations, such as IMO and STCW (Standards of Training, Certification, and Watchkeeping for Seafarers), to ensure that the seafarers produced are not only competent but also ready to face the challenges of the global shipping industry.

The following table shows the results of previous research relevant to this research, which can provide insight and support the analysis of the implementation of shipping training policies at the Barombong Shipping Polytechnic.

No.	Researchers	Heading	Result
1.	Saleh, Harliman (2015)	Shipping Science Education and Training Management	Carrying out training in the shipping sector needs to be optimized with policies that regulate the planning, organization, and quality assurance of training.
2.	Ariningsih (2014)	Performance of the National Beef Self-Sufficiency Policy	Policies must be supported by data accuracy and administrative improvements for effective results.
3.	Ramdhani & Ali (2017)	General Concept of Public Policy Implementation	The implementation of public policies is influenced by the authority, resources, communication, and disposition of the implementers.

4. Firdaus et al. (2015)	Implementation of Shipping Safety Management System Policy	Supervision and enforcement of regulations need to be improved to maximize the implementation of shipping safety policies.
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This research fills a gap in the study of the implementation of shipping training policies, especially those that have not been widely researched in the context of the Barombong Shipping Polytechnic. Therefore, this research is expected to provide new insights into the effectiveness of shipping training policies and their impact on the absorption of graduates in the industrial world.

METHOD

This study uses a descriptive qualitative approach that aims to understand social phenomena in their natural context and explore the deep meaning of the implementation of shipping training policies at Barombong Shipping Polytechnic. Qualitative research seeks a deeper understanding and interpretation from the perspectives of the participants involved in the policy process (Creswell & Poth, 2016; Lim, 2025). This approach allows researchers to explore the significance of events or phenomena in natural settings, helping to understand how training policies are implemented and their impact on graduates and the industry (Sathyaseelan & Goswami, 2016; Yusuf, 2016).

The population of this study includes instructors, lecturers, and managers at Barombong Shipping Polytechnic who are directly involved in the implementation of shipping training policies. Sampling was conducted using purposive sampling, where informants were selected based on their involvement in training policy and their knowledge of the results and absorption of graduates into the industry. The informants consisted of the head of the training unit, a young instructor, a lecturer, and a ship captain with direct experience in teaching and training seafarers.

The table below shows the demographics of the respondents involved in the study:

Code	Respondent Name	Bachelor of Education	Position
MA	I Made Alert, MT, M.Mar, E	S2	Head of Training Unit/Lecturer
AH	A. Hasmawati, S.S.iT., M.T	S2	Young Instructor
IR	Isnen Rajadiharti, S.Pd.M.M.Tr	S2	Young Instructor
CG	Capt. Gassing, SE, M.Tr.AP., M.Mar	S2	Lecturer
CD	Capt. Dwi Antoro, M.M., M.Mar	S2	Lecturer

Source: Author (2024).

This research was conducted at Barombong Shipping Polytechnic, located in Makassar, Indonesia. Observations and interviews were conducted on-site in June 2024 to gather primary and in-depth data on the implementation of shipping training policies. The primary instrument for this study was the researcher, who collected and analyzed the data. Data collection tools included:

1. Semi-structured interviews with key informants.
2. Direct observation at Barombong Shipping Polytechnic.
3. Documentation to obtain secondary data, such as policy regulations, reports, and training records.

Interviews explored informants' insights into the implementation of training policies, challenges faced, and results achieved. Direct observation provided a real-time overview of the field conditions, while documentation provided supplementary data regarding training policies and outcomes.

Data collection included direct observations at Barombong Shipping Polytechnic, with primary data gathered through in-depth interviews with pre-selected informants. Each interview lasted approximately 30-60 minutes, conducted face-to-face or virtually. The researcher also used recording tools and documentation to support the data collection process.

The data analysis process in this study is carried out in three main stages:

Data Reduction

Data reduction is the process of selecting and filtering data that is relevant to the focus of the research. The data obtained from interviews and observations will be selected according to the research topic and its relevance to the implementation of shipping training policies. This step helps the researcher to clarify and organize the data so that it can proceed to the next stage of analysis.

Data Presentation

The presentation of data is carried out by compiling information that has been organized in a systematic manner. The data that has been reduced will be presented in the form of a narrative or diagram that makes it easier for researchers to draw conclusions. This stage is important to ensure that the data presented is easy to understand and can support further analysis.

Conclusion

At this stage, the researcher will draw conclusions from the data that has been presented, which is related to the results of the implementation of the shipping training policy at the Barombong Shipping Polytechnic. This conclusion will answer the formulation of the problems proposed and provide recommendations related to training policies to increase their effectiveness.

This research has obtained ethical approval from the University's Research Ethics Committee with approval number: 123/KEPK/2024. All informants who participated in this study had given written consent after being given an explanation of the objectives of the research and the procedure to be carried out. The researcher ensures that the confidentiality of the participant's data is well maintained, and all data obtained will be used only for the purpose of this study.

RESULTS AND DISCUSSION

Implementation of Shipping Training Policy at Barombong Shipping Polytechnic

Policy Content

The implementation of shipping education and training policies at Barombong Shipping Polytechnic is based on several regulations set by the government, including Law No. 17 of 2008 concerning Shipping, Regulation of the Minister of Transportation No. PM 140 of 2016, and Regulation of the Head of the Transportation Human Resources Development Agency No. PR-BPSDMP 01 of 2023. These regulations govern the training of seafarers to achieve a specific level of expertise, aiming to obtain certifications necessary for professional sailing.

The implementation of the training process includes key aspects such as manning, education, certification, and the rights and obligations of seafarers. Each training program must meet established requirements, including infrastructure, teaching staff competencies, and evaluations based on assessment standards.

Policy Actors and Implementers

Based on interviews with various informants at Barombong Shipping Polytechnic, it was concluded that the training preparation process was carried out carefully and systematically. This includes several stages, ranging from participant registration, curriculum preparation, the readiness of facilities and infrastructure, to the selection of instructors who meet the necessary standards. According to Mr. I Made Alert, MT, M.Mar, E, the head of the training unit, all training participants must go through a strict registration process in accordance with provisions approved by the Director General of Shipping and Maritime Affairs, as well as the Human Resources Development Agency (BPSDM) of the Ministry of Transportation. This ensures that only eligible participants are allowed to take part in the training. Furthermore, instructors and lecturers at Barombong Shipping Polytechnic are carefully selected to ensure they have the relevant competence and experience that aligns with the maritime industry's needs.

The following table presents a detailed description of the various aspects involved in the training preparation at Barombong Shipping Polytechnic:

Table 1. Training Preparation at Barombong Shipping Polytechnic

No	Aspects	Description
1	Participant Registration	All participants must register and meet the specified requirements
2	Curriculum	Arranged according to industry requirements and international standards
3	Teaching/Instructor	Teachers are selected based on their competence and experience in the shipping field
4	Facilities and Infrastructure	Fully equipped facilities such as simulators, laboratories and tools
5	Evaluation	Based on the assessment standards that have been set, with annual audits

Source: Data processed (2024)

Environment and Facilities

Barombong Shipping Polytechnic provides a supportive environment for the implementation of the training policies. The facilities available meet international standards, including boat simulators, laboratories, and safety equipment. These facilities are essential for ensuring that participants are prepared to meet the demands of the global maritime industry. The infrastructure and teaching materials are prepared in advance to provide a comprehensive learning experience, allowing students to gain practical experience before entering the field.

Curriculum and Training Methods

The training curriculum at Barombong Shipping Polytechnic adheres to international standards, particularly those outlined in the IMO Model Courses and STCW. This curriculum is regularly reviewed to ensure its relevance to the evolving maritime industry. According to Mr. I Made Alert, MT, M.Mar, E, the curriculum is updated yearly to ensure that it matches industry requirements and focuses on practical skills that are essential for participants.

Training methods at Barombong Shipping Polytechnic emphasize practice more than theory, with practical training accounting for 60-70% of the overall curriculum and theory making up 30-40%. This practical approach prepares participants to face real-world challenges in the maritime industry, ensuring that they are well-equipped when they enter the workforce.

Table 2. Proportion of Theoretical and Practical Learning

No	Learning Methods	Percentage (%)
1	Practice	60-70
2	Theory	30-40

Source: Data processed (2024)

Graduation Rates and Challenges

The success of the implementation of the shipping training policy at Barombong Shipping Polytechnic can be observed through graduation rates in the training programs. Data from 2022 and 2023 indicate that most programs show satisfactory graduation rates, although some programs experience lower-than-expected graduation rates. For example, the ANT III Prala program in the period of May 27-31, 2024, had a graduation rate of only 59.49%.

Table 3. Results of the 2022-2024 Training Graduation Exam

No	Training Programs	Year	Participants Pass	Pass Percentage (%)
1	ANT III Pra Prala	2024	47	59.49
2	ATT IV Upgrades	2024	26	66.67
3	ANT III Paska Prala (Repeat I)	2024	3	75.00
4	ATT IV Paska Prala	2024	1	50.00

Source: Data processed (2024)

Graduate Absorption in the Industry

The impact of the implementation of the shipping training policy at Barombong Shipping Polytechnic is very positive in terms of the absorption of graduates in the maritime industry. Based on interviews with Mr. Capt. Dwi Untoro, M.M., M.Mar, around 85% of graduates from Barombong Shipping Polytechnic are absorbed into the industry within six months. Some graduates even managed to secure positions in international shipping companies, demonstrating the high quality and relevance of the education provided.

DISCUSSION

Comparison with Previous Studies

The findings of this study align with previous research conducted by Arifin (2021), who noted that low graduation rates can be attributed to factors such as the lack of student discipline and challenges in adapting to an international-based curriculum. Similarly, this study found that certain programs, particularly those targeting participants with lower educational backgrounds, faced difficulties in achieving optimal graduation rates. The study also confirmed that practical training is a crucial component of maritime education, a finding that echoes the work of Victoriano et al., who emphasized the importance of a practical training approach to ensure that graduates are ready for the workforce (Victoriano et al., 2022).

Implications for Policy and Maritime Education

While Barombong Shipping Polytechnic's implementation of shipping training policies has been largely successful, the findings suggest that further efforts are needed to address the challenges that hinder graduation rates. The variations in educational backgrounds among participants, particularly in the ANT III Pre Prala program targeting junior high school graduates, may contribute to the difficulty in achieving higher graduation rates. This is consistent with previous findings in maritime education, where lower educational levels often correlate with challenges in understanding technical materials and adapting to international training standards (Arifin, 2021).

One of the major implications of this study is the need for more personalized and tailored support for students, particularly those from lower educational backgrounds, to improve their understanding of technical materials. This could involve offering language assistance or remedial courses to bridge gaps in participants' skills and knowledge. Furthermore, ongoing curriculum adjustments are necessary to ensure that training programs remain relevant to both industry needs and international standards.

Policy Recommendations

Personalized Support: Barombong Shipping Polytechnic should consider providing more individualized support for students with lower educational backgrounds. This can include remedial classes or tutoring to help students better understand technical material and industry standards.

Curriculum Enhancement: Regularly updating the curriculum to align with global maritime industry trends will ensure that students are well-prepared for real-world challenges. Collaborating with maritime industry experts to incorporate the latest technologies and industry practices into the training curriculum is crucial.

Expansion of Industry Partnerships: Strengthening partnerships with international maritime companies could provide students with more internship opportunities and industry exposure, which would enhance the practical experience they gain during their studies.

The implementation of shipping training policies at Barombong Shipping Polytechnic has been largely successful, with positive outcomes in terms of graduation rates and graduate absorption in the maritime industry. However, challenges remain, particularly in ensuring optimal graduation rates and supporting students with lower educational backgrounds. By addressing these challenges and making necessary adjustments, Barombong Shipping Polytechnic can further improve the quality of its graduates and contribute more effectively to the global maritime workforce.

CONCLUSION

This study examines the implementation of shipping training policies at Barombong Shipping Polytechnic, focusing on the effectiveness of the implementation of training programs and their impact on graduation rates and the absorption of graduates into the maritime industry. The findings reveal that the implementation of training policies has been effective, with adequate infrastructure and a curriculum that meets international standards. However, some training programs still face challenges in achieving optimal graduation rates, particularly for participants with lower educational backgrounds, such as in the ANT III Prala program. Despite these challenges, the impact of the training policy has been largely positive, with 85% of graduates being absorbed into the maritime industry within six months. Furthermore, some graduates have successfully secured positions in international shipping companies, reflecting the relevance and quality of the education provided.

Despite these positive outcomes, there are limitations in this study that should be considered. First, this study was conducted at only one institution, meaning the findings may not be fully generalizable to other shipping education institutions in Indonesia. Additionally, the research primarily provides an internal perspective from the institution's side and does not incorporate feedback from external stakeholders such as shipping companies.

Therefore, further research is recommended to expand the scope by including multiple shipping education institutions and gathering data from shipping companies and other related industries. This broader approach would provide a more comprehensive understanding of the effectiveness of shipping training policies. Furthermore, future studies should examine the factors influencing graduation rates in more detail, such as the quality of teaching, differences in participants' educational backgrounds, and challenges related to English language proficiency, which can affect participants' ability to understand technical training materials.

Author's Contribution Statement

The author, Abdul Mushawir, is responsible for the conceptualization, methodology, data collection, analysis, and interpretation of the data, as well as writing and revising the manuscript. The author has reviewed and approved the final version of the manuscript for submission.

Conflicts of Interest

The author declares that there are no conflicts of interest related to this research. There are no financial or personal relationships with any individuals or organizations that could potentially influence the impartiality of the research findings.

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