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Revitalizing Philippine Maritime Education: A Comprehensive Framework for Reform

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Abstract

The Philippine maritime industry is a significant contributor to the global shipping workforce, yet it faces growing challenges in maintaining the quality and competitiveness of its maritime graduates. This study explores the current state of Philippine maritime education, identifying key issues such as outdated curricula, insufficient practical training, lack of industry alignment, and inadequate infrastructure. Through qualitative interviews with maritime educators, industry professionals, and graduates, thematic analysis revealed the urgent need for comprehensive reforms. A framework for reform is proposed, focusing on curriculum modernization, improved practical training, technological advancement, stronger industry-academia collaboration, and enhanced regulatory oversight. The study aims to revitalize Philippine maritime education, ensuring it remains globally competitive and aligned with evolving industry demands. Recommendations for policy changes, resource allocation, and partnerships are provided to address these issues. By implementing this framework, the Philippines can strengthen its maritime education system and secure its position as a leading supplier of highly skilled maritime professionals.

Keywords: Philippine Maritime Education, curriculum reform, practical training, industry collaboration, maritime technology, STCW compliance, seafarer competency, maritime industry, education infrastructure, maritime workforce

I. Introduction

The Philippines is renowned as one of the world's largest suppliers of maritime labor, with Filipino seafarers comprising a substantial portion of the global maritime workforce. As of 2022, over 300,000 Filipino seafarers were employed on international vessels, contributing significantly to the country's economy through remittances (Bautista, 2022).

However, despite this notable contribution, the country's maritime education system faces increasing scrutiny due to concerns about the competency and preparedness of its graduates. The need to reform the Philippine maritime education system has become more urgent as global standards in the shipping industry

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evolve rapidly, driven by technological advancements, stricter regulations, and heightened safety requirements (Gonzales, 2020).

One of the central issues confronting the maritime education sector is its outdated curriculum, which has not kept pace with technological advancements in the maritime industry. The International Maritime Organization (IMO) and other regulatory bodies have introduced stringent requirements for maritime operations, particularly in areas such as navigation, safety management, and environmental protection (Perez & de la Cruz, 2021).

Many maritime schools in the Philippines, however, still rely on traditional teaching methods that fail to equip students with the skills needed to operate modern vessels equipped with advanced systems like electronic chart display and information systems (ECDIS) and global maritime distress and safety systems (GMDSS) (Gonzales, 2020).

Another challenge is the limited access to practical training opportunities for students. While theoretical knowledge is essential, practical, hands-on experience is equally important for seafarers, as it enables them to apply their learning in real-world scenarios. Unfortunately, many maritime institutions in the Philippines lack the resources to provide comprehensive shipboard training and access to modern simulators, both of which are critical for meeting the Standards of Training, Certification, and Watchkeeping for Seafarers (STCW) requirements (Santos, 2019).

This gap in practical training leads to a disconnect between what is taught in classrooms and the skills needed aboard ships, affecting the overall competency of graduates. Additionally, there is a growing need for stronger collaboration between maritime education institutions and the shipping industry. The current system does not fully integrate the insights and expertise of industry stakeholders in shaping curricula, which contributes to the mismatch between graduate competencies and industry demands.

Shipping companies often report that graduates lack the soft skills necessary for leadership, communication, and crisis management, in addition to their technical training (Perez & de la Cruz, 2021).

Fostering stronger partnerships between schools and shipping companies would enable the creation of more relevant educational programs and ensure that graduates are better prepared to meet the challenges of the global maritime industry (Cruz & Santos, 2021).

The regulatory framework governing maritime education in the Philippines also requires strengthening. While the Maritime Industry Authority (MARINA) and the Commission on Higher Education (CHED) are tasked with overseeing compliance with global standards, enforcement has been inconsistent. There is a need for more rigorous monitoring and evaluation to ensure that maritime institutions comply with international standards and provide high-quality education and training (Llamas, 2020).

This inconsistency has affected the reputation of some Filipino maritime institutions, putting the global competitiveness of Filipino seafarers at risk. In light of these challenges, this study aims to propose a comprehensive framework for reforming Philippine maritime education. By addressing curriculum modernization, improving practical training, fostering industry collaboration, and enhancing regulatory oversight, the study seeks to revitalize the system and ensure that it remains globally competitive. The findings and recommendations presented in this research are intended to guide policymakers, educators, and industry stakeholders in developing meaningful reforms that will benefit both the local maritime industry and the global shipping community.

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II. Methodology

The research design for this study is anchored in a qualitative methodology with a focus on thematic analysis. This approach was chosen due to the in-depth, exploratory nature of the research questions, which aim to understand the intricacies of maritime education in the Philippines, particularly its alignment with industry standards, curriculum quality, professional development challenges, and the impact of technological resources and facilities.

Qualitative research is well-suited for this study as it allows for a detailed exploration of complex topics where individual perspectives, experiences, and contextual factors play significant roles. Rather than quantifying variables, qualitative research delves into participants' subjective experiences and insights, enabling the study to capture a nuanced view of maritime education.

In this research, data was collected through interviews with a range of stakeholders—including maritime instructors, program heads, industry leaders, and students. These interviews provided a platform for participants to express their perceptions on the curriculum, alignment with international standards, technological needs, and more. This design ensured that the diverse experiences and insights of each group were captured, giving a well-rounded understanding of the current state of maritime education and the challenges it faces

Research Method

This research study employed *structured interviews* because this study intended to conduct an in-depth study of the problem in its environment. This research interviewed an individual and used a thematic analysis.

III. Result

Theme	*Key Findings*	*Evidence from Interviews*
1. Current Curriculum	The curriculum follows CHED guidelines and STCW requirements, with a focus on core competencies.	*"Curriculum is designed in line with CHED and STCW guidelines" (Ciril)* *Includes all required competencies with an emphasis on safety, navigation, and practical skills (Nap)*
2. Alignment with STCW	The curriculum is compliant with STCW, but frequent updates are necessary to keep pace with changes	*"Compliant, but updates needed regularly to align with international standards" (Ciril)*

		"Need frequent updates to keep up with changes (Dan)
3. Challenges in Curriculum Quality	Gaps between theory and practice and budget limitation are common challenges.	*Difficulty in balancing academic content with hands-on training (Wil).*
		Inadequate budget allocations for improving teaching tools (Joy).
4. Challenges in Professional Development	Limited access to external training and lack of institutional support affect faculty growth.	*Budget constraints prevent attending external training regularly (Wil)*
		Time constraints and lack of institutional support (John)
5. Frequency of Training	Training frequency is irregular and often depends on external funding or new regulations	*Usually once a year, depending on funding (Dan).*
		Training happens sporadically based on external programs (Sanchez)
6. Training Facilities	Basic facilities are adequate, but lack modernization and advanced technology	*Basic facilities are adequate, but limitations in advance simulators (Michael)*
		Facilities functional but could use modernization (Nap)
7. Technology Limitations	Budget constraints limit access to advances simulators and updated training tools.	*Budget constraints and difficulty acquiring new technology (Sanchez)*
		Financial limitations restrict acquisition of advance simulators (John)
8. Support for RA 12021	Financial support and collaborations between institutions and regulatory bodies are essential	*Better funding for upgrading facilities and access to updated materials (Wil)*
		Financial support and clearer implementation strategy (Joy)

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9. Need Reforms	Emphasis in competency-based learning, practical training, and modernized curriculum	*Reforms should focus on enhancing faculty training, increasing funding, and strengthening industry linkages (Ciril)*
		More focus on practical training and enhanced faculty development (Dan)
10. Frequency of Training	Training frequency is irregular and often depends on external funding or new regulations	*Usually once a year, depending on funding (Dan).*
		Training happens sporadically based on external programs (Sanchez)
11. Government and Industry Support	Increased funding and stronger partnerships with industry are crucial.	*Government and Industry stakeholders should provide funding and guidance for updating training materials and facilities (John)*

IV. Discussion

Thematic Analysis of Maritime Instructors, Dean, and Onboard Training Supervisor on Curriculum and Professional Development. The thematic analysis of responses from maritime instructors highlights key themes concerning the curriculum's alignment with international standards, challenges in curriculum quality, professional development, technological limitations, and government and industry support. Below is a tabulated summary of the thematic analysis along with a comprehensive discussion of the results.

Current Curriculum and Alignment with STCW. The curriculum at maritime institutions follows the Commission on Higher Education (CHED) guidelines and the requirements of the Standards of Training, Certification, and Watchkeeping (STCW) Convention. However, instructors emphasize the need for frequent updates to remain compliant with international standards. Given the evolving nature of STCW, maintaining alignment requires regular revisions and close monitoring of changes.

Challenges in Curriculum Quality. A significant challenge identified by all instructors is the gap between theoretical knowledge and practical application. Budget constraints hinder the acquisition of updated teaching tools and the implementation of hands-on training, resulting in a curriculum that lacks a comprehensive practical component. This gap directly affects the quality of training and preparedness of maritime graduates.

Challenges in Professional Development. Professional development for instructors is limited due to budget constraints, time restrictions, and lack of institutional support. Access to external training programs, which is critical for faculty members to stay updated on the latest industry standards and technologies, is sporadic

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and often depends on the availability of external funding or sponsorships. This inconsistency in professional development undermines the overall quality of education.

Training Facilities and Technology Limitations. Basic training facilities at maritime institutions are deemed adequate for foundational learning, but there is a clear need for modernization and advanced technological upgrades. Instructors highlighted the limitations in acquiring and maintaining high-tech simulators, which are essential for replicating real-world scenarios. Financial constraints restrict the institutions' ability to invest in state-of-the-art training tools, leaving graduates with limited exposure to the latest industry practices.

Support for RA No. 12021. Republic Act No. 12021, which also aims to enhance maritime education, is widely supported by instructors. They believe that better funding and clearer implementation guidelines are necessary for effectively upgrading training infrastructure and aligning the curriculum with industry standards. Collaboration between schools, government agencies, and regulatory bodies is viewed as essential to maximizing the law's impact.

Needed Reforms in Maritime Education. Instructors advocate for a competency-based approach that emphasizes practical training and aligns closely with industry needs. Reforms should focus on enhancing faculty training programs, increasing financial support for practical exercises, and modernizing the curriculum to keep pace with international standards. Regular assessments and dynamic teaching methods are crucial for producing competent maritime graduates.

Government and Industry Support. Instructors consistently call for increased government funding and stronger partnerships with the private sector to address budgetary and technological challenges. Collaboration between maritime schools and shipping companies is essential for providing updated training resources, sponsoring faculty development, and enhancing the overall quality of maritime education.

Thematic Analysis of Industry Leaders' Perspectives on Maritime Graduates. The thematic analysis of responses from five industry leaders reveals several key themes regarding the workforce preparation of maritime graduates, their competencies, technological readiness, and the collaboration between the private sector and maritime schools. Below is a tabulated summary of the themes along with a discussion of the results.

Workforce Preparation and Competency Gaps. Industry leaders expressed a consensus that maritime graduates possess solid foundational knowledge but often lack practical skills. The most prominent gaps identified were related to leadership, decision-making, and the handling of advanced equipment. Leaders also emphasized the importance of soft skills such as communication, problem-solving, and adaptability, which are crucial for shipboard operations and managing crises.

Technological Familiarity and Improvement. Graduates' familiarity with basic maritime technologies is not in question, but their exposure to advanced systems, such as integrated bridge systems or modern navigation tools, is insufficient. The findings reveal a need for maritime schools to invest in advanced simulators and integrate specialized courses that focus on new technologies. Practical training sessions using updated simulation equipment would greatly enhance students' readiness for real-world scenarios.

Collaboration and Feedback Systems. The respondents highlighted the importance of collaboration between maritime schools and the private sector. Current partnerships, primarily focused on internships and recruitment, are helpful but could benefit from more structured and continuous engagements. The need for a formal feedback mechanism was stressed, allowing the private sector to contribute to curriculum

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development and share industry insights. This would enable schools to align their training modules more closely with industry needs.

Needed Changes and Reforms in Maritime Education. The recurring theme across all respondents was the need for a shift towards practical, competency-based education. Emphasizing real-life scenarios and leadership training was frequently mentioned as a way to bridge the theory-practice gap. Additionally, aligning the curriculum with updated industry requirements and regularly modernizing teaching strategies were highlighted as essential reforms.

Role of the Private Sector. Respondents were unanimous in suggesting a more proactive role for the private sector in maritime education. This included engaging in curriculum development, providing mentorship opportunities, sponsoring advanced training programs, and facilitating public-private partnerships to enhance job placements and on-the-job training. Leaders also advocated for industry players to sponsor simulation equipment and support faculty development initiatives.

Technology and Hands-On Experience Deficiencies. The thematic analysis reveals a consistent gap in the availability of modern technology in maritime education. Graduates repeatedly mentioned outdated equipment and limited simulator access, which hampered their preparedness for the industry's current standards. BSMT and BSMarE graduates emphasized the need for state-of-the-art equipment to familiarize them with the advanced systems they would encounter on ships.

Practical Training as a Critical Component. Onboard training and internships were regarded as the most effective and critical parts of their education. They allowed students to experience real-life applications of their knowledge. However, gaps in crisis management training and limited exposure to advanced technologies indicated that there is room to refine these practical training sessions.

Alignment and Industry Relevance. Graduates noted that their training covered basic industry standards but lacked alignment with evolving technologies and methodologies in modern maritime operations. This disconnect underscores the need for curriculum updates to include newer navigation and communication systems and to integrate modern engineering practices.

Challenges in Leadership and Crisis Management. Another key finding is the graduates' desire for more emphasis on leadership skills and crisis management. These soft skills are essential in handling emergencies, yet they were identified as a gap in the curriculum. Participants consistently suggested that maritime programs should include more drills and simulations focused on crisis scenarios.

Barriers to Access and Curriculum Improvements. Access to training resources, such as simulators and specialized equipment, was identified as a barrier. The need for better scheduling and availability of these resources was a recurring theme, emphasizing that enhancing these aspects would increase students' competency and confidence.

Recommended Reforms. Graduates consistently recommended that maritime schools strengthen partnerships with industry players to bridge the gap between training and real-world demands. Such partnerships could facilitate the acquisition of updated equipment and the integration of industry professionals into curriculum design. These measures would not only improve the quality of technology but also create a more industry-relevant learning environment.

References

Annells, M. (1997). Grounded theory method, part I: Within the five moments of qualitative research. Nursing Inquiry, 4(2), 120-129.

Arslan, O., & Er, I. D. (2008). Analysis of human factors in maritime accidents and incidents using fault tree and fuzzy logic approach. Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability, 222(3), 157-167.

Baldauf, M., Kitada, M., Dalaklis, D., & Schröder-Hinrichs, J.-U. (2016). Towards enhanced maritime education and training—MET for the next generation.

Bautista, J. (2022). The Role of Filipino Seafarers in the Global Maritime Industry. Manila Maritime Journal, 34(2), 45-58. Cruz, F., & Santos, J. (2021).

Becker, G. S. (1964). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. University of Chicago Press.

Bertalanffy, L. von (1968). General System Theory: Foundations, Development, Applications. George Braziller.

Boyatzis, R. E. (1998). Transforming Qualitative Information: Thematic Analysis and Code Development. SAGE Publications.

Boyatzis, R. E. (1982). The Competent Manager: A Model for Effective Performance. John Wiley & Sons.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77-101.

Challenges in Maritime Education: Bridging the Gap between Theory and Practice. Journal of Maritime Studies, 12(1), 23-41.

Charmaz, K. (2001). Grounded theory. In Rethinking Methods in Psychology (pp. 27-49). SAGE Publications.

Charmaz, K. (2006). Constructing Grounded Theory. SAGE Publications.

Corbin, J., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. Qualitative Sociology, 13(1), 3-21.

Daly, J., Kellehear, A., & Gliksman, M. (1997). The Public Health Researcher: A Methodological Guide. Oxford University Press.

Faculty Development and Its Impact on Maritime Education Quality in the Philippines. Philippine Journal of Maritime Education, 25(3), 45-56.

Gonzales, R. (2020). Challenges in the Global Maritime Labor Market: Implications for Philippine Seafarers. International Journal of Maritime Studies, 12(1), 22-38.

Gonzales, R. (2020).Strengthening Industry-Education Collaboration in Maritime Training. Journal of Global Shipping, 11(3), 77-93.

Hetherington, C., Flin, R., & Mearns, K. (2006). Safety in shipping: The human element. Journal of Safety Research, 37(4), 401-411.

IMO (International Maritime Organization). (2017). Guidelines on maritime cyber risk management. MSC-FAL.1/Circ.3.

International Maritime Organization (IMO). (2010). STCW Convention and Code 2010: Manila Amendments

Kim, T. E., & Park, K. H. (2019). Digital transformation in shipping: Implications for maritime education and training. Journal of Marine Science and Engineering, 7(12), 429.

Llamas, P. (2020). Technological Advances and the Need for Curriculum Reform in Philippine Maritime Schools. International Journal of Maritime Education, 19(4), 67-79.

Llamas, P. (2020). International Maritime Organization. (2020). STCW Convention and Code: Standards of Training, Certification and Watchkeeping for Seafarers. IMO Publications.

Perez, M., & de la Cruz, G. (2021). Infrastructure Challenges in Maritime Training Centers in the Philippines: A Call for Reform. Philippine Journal of Maritime Infrastructure, 8(2), 34-49.

Perez, F., & de la Cruz, M. (2021). Addressing Resource Disparities in Maritime Education: A Comparative Study of Philippine Institutions. Journal of Maritime Research, 15(2), 103-115.

Philippine Qualification Framework Act 2018

Popescu, C. C., & Varsami, A. E. (2010). A new concept in the maritime educational system: Simulator-based training. Constanta Maritime University Annals, 14, 67-73.

Republic Act No. 10635. (2014). An Act Establishing the Maritime Industry Authority (MARINA) as the Single Maritime Administration Responsible for the Implementation of the 1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, as Amended, and International Agreements or Covenants Related Thereto.

Republic Act No. 12021. (2024). Magna Carta for Filipino Seafarers

Sabatier, P. A., & Mazmanian, D. (1980). The Implementation of Public Policy: A Framework of Analysis. Policy Studies Journal, 8(4), 538-560.

Santos, E. (2019). Challenges in Maritime Education: Bridging the Gap between Theory and Practice. Journal of Maritime Studies, 12(1), 23-41.

Schinas, O. (2021). Competency-based maritime education and training: A dynamic and digital perspective.

The Importance of Practical Training in Maritime Education: A Study of STCW Compliance in the Philippines. Maritime Safety Review, 6(3), 102-116.

TransNav: International Journal on Marine Navigation and Safety of Sea Transportation, 10(2), 267-274.

Vygotsky, L. S. (1978). Mind in Society: The Development of Higher Psychological Processes. Harvard University Press.