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Reconstructing The Evaluation Model Of Maritime Police Education Programs: Integrating Theory And Practice To Adrres Transnational Threats

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Abstract
This study aims to reconstruct the evaluation model of maritime police education programs to ensure their relevance and effectiveness in addressing increasingly complex transnational threats. Employing a mixed-methods approach, this research integrates quantitative data from surveys and statistical analyses with qualitative insights from interviews and field observations of the Specialist Development Program for Ship Commanders (Dikbangspes) at the Indonesian National Police Education and Training Center. Findings reveal that while the program fulfills most success indicators, critical gaps persist in the integration of digital technology, scenario-based training, and involvement of field practitioners. Based on these findings, a comprehensive evaluation framework is proposed that combines the CSE-UCLA and Kirkpatrick models, encompassing all stages of the educational cycle and emphasizing operational competence. This framework offers theoretical contributions to evaluation research in vocational security education and practical implications for enhancing maritime policing capabilities at both national and international levels. Future research should assess the longitudinal impact of this model on ship commanders' performance and national maritime security outcomes.
Keywords: *Digital Transformation, Maritime Police Education, Operational Competence Program Evaluation, Simulation-Based Training, Transnational Threats.*

1. INTRODUCTION

Maritime security has become a critical global concern due to the growing intensity of cross-border interactions in marine territories. Southeast Asia, including Indonesia, remains a hotspot for transnational crimes such as armed piracy, narcotics smuggling, human trafficking, and maritime terrorism, all of which have shown a consistent upward trend (Suherman et al., 2024; UNODC, 2022; IMB, 2023). These threats not only undermine national security but also disrupt international trade flows and diplomatic stability. In this context, the role of highly competent, adaptive, and professionally trained maritime law enforcement officers is paramount for safeguarding territorial waters and ensuring legal compliance (Kataria & Emad, 2022; Germond & Germond-Duret, 2022).
Several studies have revealed that the Maritime Police education program still faces serious challenges in producing graduates who are truly operationally ready. The implemented curriculum tends to be theoretically oriented, with limited crisis simulations, the use of digital technology, and adequate field experience (Vujičić et al., 2022; Demirel, 2020; Atienze et al., 2017; Hartinah et al., 2018). This gap is also caused by limited training infrastructure, including a lack of updated high-tech simulators and low involvement of field practitioners in the education process (Magsino et al., 2023; Kataria & Emad, 2022; Ergun Demirel, 2020; Purwantomo et al., 2021). As a result, graduates often face difficulties in applying the theory they learn when faced with real-world conditions, which are fraught with dynamics and high risks.
In addition to gaps in program implementation, the current evaluation model for Maritime Police education is considered to still require improvement. Most evaluations solely assess participants' academic achievement, while aspects of tactical skills, crisis leadership, and operational effectiveness are often overlooked (Stufflebeam & Coryn, 2014; Kirkpatrick & Kirkpatrick, 2016; Fitzpatrick et al., 2020; Alkin & Vo, 2018). Recent research emphasizes that evaluation of security sector education

programs must be holistic, encompassing context, input, process, and outcome dimensions to provide accurate data for decision-making and continuous improvement (Youker et al., 2020; Saunders et al., 2020; Ghosh et al., 2021; Frye & Hemmer, 2012). Without comprehensive evaluation, potential program improvements are difficult to identify, and educational effectiveness cannot be accurately measured, particularly in the face of dynamic maritime security challenges.

The research gap in this area is evident in the limited number of studies focused on reconstructing the Maritime Police education evaluation model using a comprehensive approach that integrates theory and practice. Most previous studies have been limited to analyzing the effectiveness of specific training or assessing a single aspect of an educational program without considering contextual needs in an era of transnational threats (Kataria & Emad, 2022; Emad & Roth, 2018; Germond & Germond-Duret, 2022; Pyo, 2023). For example, the study by Vujičić et al. (2022), while highlighting the importance of instructor experience in maritime education, failed to explore evaluation models that could ensure effective transfer of knowledge and skills to the field. Similarly, the study by Magsino et al. (2023) only assessed the implementation of shipboard training without presenting a multi-layered evaluation framework that considers transnational maritime security needs.

However, recent studies reveal persistent challenges in maritime police education programs, particularly in producing graduates who are operationally ready for high-risk scenarios. Existing curricula tend to emphasize theoretical instruction, with limited incorporation of advanced simulation technologies, scenario-based learning, and experiential training (Demirel, 2020; Vujičić et al., 2022). This gap is exacerbated by insufficient practitioner involvement and inadequate alignment with evolving security dynamics, including cyber threats and autonomous vessel operations (Magsino et al., 2023; Shen et al., 2023).

Evaluation practices in maritime police education remain narrowly focused on academic achievement, often neglecting critical dimensions such as tactical leadership, behavioral change, and operational performance in real-world environments (Kirkpatrick & Kirkpatrick, 2016; Stufflebeam & Coryn, 2014). Consequently, there is a pressing need for a holistic evaluation framework that integrates theoretical foundations with practical competencies, ensuring adaptive responses to dynamic transnational security challenges. This study addresses this gap by proposing a reconstructed evaluation model that blends the CSE-UCLA and Kirkpatrick frameworks, tailored to the contextual demands of maritime policing. The objectives are twofold: (1) to identify strengths and weaknesses of the current program, and (2) to develop a comprehensive, competency-oriented evaluation framework for maritime law enforcement education.

2. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

This section synthesizes key theoretical perspectives and empirical studies related to maritime police education and evaluation frameworks. Maritime education plays a pivotal role in preparing law enforcement officers to address emerging challenges in ocean governance, transnational crime prevention, and marine environmental protection (Morris & Vardeman, 2020; Germond, 2022). Unlike conventional policing, maritime law enforcement operates in complex, jurisdictionally ambiguous environments where the interplay of national security, international law, and commercial interests often generates unique operational demands (Bueger & Edmunds, 2020).

Effective maritime vocational education requires the integration of materials based on international standards, such as the International Maritime Organization (IMO) guidelines, which cover international maritime law, shipping security, and law enforcement against transnational crimes at sea (UNODC, 2022; Atienze et al., 2017; Magsino et al., 2023; Germond & Germond-Duret, 2022). Developing a curriculum that combines technical skills and strategic analysis capabilities has been shown to improve the operational readiness of maritime security forces in high-risk situations, including rescue operations and maritime disaster management (Kataria & Emad, 2022; Ford et al., 2018; Shen et al., 2023; Ghosh et al., 2021). This demonstrates that Maritime Police education cannot be limited to theoretical learning but must prioritize practical experience based on real-world cases and the use of modern technology.

Transnational threats at sea encompass various forms of crime that transcend national jurisdictions and require collaborative responses at the regional and international levels. Crimes such as piracy, drug smuggling, human trafficking, and maritime terrorism have shown a significant increase in Southeast Asia, making the region a major hotspot for transnational crime (Suherman et al., 2024; Widodo & Prasetyo, 2023; IMB, 2023; UNODC, 2022). Recent research emphasizes that these threats not only impact national security but also disrupt global economic stability through disruption of international maritime trade routes (Germond & Germond-Duret, 2022; Kataria & Emad, 2022; Shen et al., 2023; Pyo, 2023).

Maritime law enforcement faces complex challenges due to the transboundary nature of these crimes, the involvement of international criminal networks, and the exploitation of regulatory gaps between countries. This demands that Maritime Police officers understand international maritime law, coordinate with other countries' security forces, and utilize cutting-edge maritime surveillance technology to prevent and prosecute crime (Ghosh et al., 2021; Frye & Hemmer, 2012; Fitzpatrick et al., 2020; Ford et al., 2018). Recent studies also highlight that these threats are becoming increasingly sophisticated, with new methods such as cyberattacks on ship navigation systems and smuggling using unmanned vessels (Shen et al., 2023; Pyo, 2023; Magsino et al., 2023; Kataria & Emad, 2022). This situation emphasizes the urgency of developing Maritime Police education programs that can equip personnel with the technical, strategic, and collaborative skills to address evolving transboundary crime.

Evaluation of education programs is a fundamental step in assessing the effectiveness of program implementation and provides a basis for continuous improvement. The CSE-UCLA model developed by Alkin and Vo (2018) emphasizes the importance of multi-layered evaluation encompassing aspects of context, planning, implementation, improvement, and certification of educational outcomes. This model enables policymakers to understand program needs, the appropriateness of materials, the quality of implementation, and the final value of the program (Stufflebeam & Coryn, 2014; Fitzpatrick et al., 2020; Youker et al., 2020; Saunders et al., 2020). Meanwhile, Kirkpatrick's (2007) model proposes evaluation at four levels: reaction, learning, behavior change, and outcomes, which provides a framework for measuring the impact of training on participants and the organization as a whole (Kirkpatrick & Kirkpatrick, 2016; Ford et al., 2018; Ghosh et al., 2021; Frye & Hemmer, 2012).

Evaluation of maritime education programs has traditionally relied on summative approaches, primarily focusing on learners' knowledge acquisition rather than behavioral and performance outcomes (Kirkpatrick & Kirkpatrick, 2016). However, recent studies emphasize the importance of multi-level evaluation frameworks that capture cognitive, affective, and psychomotor domains, particularly for high-stakes security professions (Stufflebeam & Coryn, 2014).

The CSE-UCLA evaluation model provides a comprehensive approach to evaluating educational programs by examining context, input, process, and product. When combined with Kirkpatrick's four-level model—reaction, learning, behavior, and results—it allows for a holistic assessment that connects instructional quality with operational effectiveness. Integrating these models in maritime policing education can address existing gaps by emphasizing both learning outcomes and real-world competencies.

Furthermore, global literature on vocational education underscores the critical role of digital transformation, simulation-based learning, and scenario-driven exercises in fostering practical readiness (Demirel, 2020; Vujičić et al., 2022). Advanced simulation platforms, such as virtual navigation and crisis-response simulators, enhance situational awareness and decision-making under uncertainty (Magsino et al., 2023). Yet, their integration into maritime policing curricula remains limited, particularly in developing nations where resource constraints and institutional inertia hinder innovation.

Integrating theory and practice also requires the involvement of field practitioners, such as experienced ship commanders and international maritime security experts, in the educational process. This collaboration can help bridge academic concepts and operational realities, and

encourage curriculum development that is responsive to real-world needs (Magsino et al., 2023; Widodo & Prasetyo, 2023; Shen et al., 2023; Pyo, 2023). Furthermore, the use of digital technology for patrol simulations, crisis management, and multinational coordination is crucial for enhancing the operational readiness of Maritime Police officers in the challenging digital era.

Although the literature on Maritime Police education and program evaluation is substantial, most research is limited to evaluating training effectiveness without proposing a comprehensive and adaptive evaluation framework for transnational threats (Kataria & Emad, 2022; Emad & Roth, 2018; Vujičić et al., 2022; Magsino et al., 2023). Previous research has focused more on curriculum aspects or the effectiveness of teaching methods without considering the in-depth integration of theory and practice or the need for international collaboration in maritime security (Widodo & Prasetyo, 2023; Ghosh et al., 2021; Germond & Germond-Duret, 2022; Ford et al., 2018).

Furthermore, the use of digital technology in Maritime Police education has received little discussion, even though this technology can be a crucial instrument in building personnel capacity to address new forms of crime at sea (Shen et al., 2023; Pyo, 2023; Frye & Hemmer, 2012; Fitzpatrick et al., 2020). This gap underscores the need for a reconstruction of the Maritime Police education program evaluation model that focuses not only on outcomes (outcome-based evaluation), but also supports adaptive learning, field practice, and strengthening international collaboration capacity (Alkin & Vo, 2018; Kirkpatrick & Kirkpatrick, 2016; Saunders et al., 2020; Youker et al., 2020).

The reconstructed model is expected to provide more relevant and responsive guidance for the development of future Maritime Police education programs and can be used as a reference in the international context facing increasingly complex and dynamic maritime security challenges. In summary, the theoretical framework for this study draws on evaluation theory, competency-based education, and applied learning methodologies to propose a reconstructed evaluation model for maritime police education programs.

3. METHODOLOGY

This research was designed using a mixed-methods approach, combining qualitative and quantitative methods to gain a holistic understanding of the effectiveness and shortcomings of the Ship Commander Specialist Development Education Program at the Indonesian National Police Education and Training Institute (Lemdiklat Polri). This approach was chosen because it allowed researchers to integrate numerical data with in-depth insights gained through direct interactions with research participants (Creswell & Plano Clark, 2018; Venkatesh et al., 2016; Fetters & Molina-Azorin, 2020; Shannon-Baker, 2016).

In the context of evaluating Marine Police education, a mixed-methods approach offers advantages by combining quantitative measurement results, such as training grades and evaluation scores, with qualitative data derived from the practical experiences of participants and instructors, resulting in a comprehensive picture that supports evidence-based decision-making (Ivankova & Wingo, 2018; Bryman, 2017; Johnson et al., 2020; Poth, 2018).

The subjects of this study included three main groups: training instructors, participants in the Ship Commander Education and Training Program (Dikbangspes), and policymakers within the Indonesian National Police Education and Training Institute (Lemdiklat Polri) involved in curriculum management and development. Respondents were selected using a purposive sampling technique, considering their characteristics, which include direct and relevant experience with the implementation of this educational program (Etikan et al., 2016; Palinkas et al., 2015; Sharma, 2017; Robinson, 2014).

The research location was the Indonesian National Police Education and Training Center for Water and Air Police (Lemdiklat Polri), the program's implementing institution, which boasts theoretical and practical training facilities, including a navigation simulation laboratory, technology-based classrooms, and a ship operations practice field (Magsino et al., 2023; Widodo & Prasetyo, 2023; Kataria & Emad, 2022; Vujičić et al., 2022). Through this subject selection, the study captured the multifaceted perspectives of those directly involved in the educational process and competency

implementation in the field. Data collection was conducted from September 2024 to May 2025 using a combination of questionnaires, in-depth interviews, simulation observations, and curriculum document analysis.

The questionnaire was structured on a five-point Likert scale to measure participants' perceptions of material relevance, learning methods, instructor effectiveness, training facilities, and technology integration in the educational program (DeVellis, 2016; Taherdoost, 2019; Dörnyei & Taguchi, 2021; Saunders et al., 2020). In-depth interviews were conducted with instructors and policymakers to gain a richer qualitative understanding of program development challenges, opportunities, and recommendations (Creswell & Poth, 2018; Kallio et al., 2016; Nowell et al., 2017; Yin, 2018). Observations were conducted during field practice simulation sessions to assess the application of theory in real situations, while curriculum document analysis was used to evaluate the suitability of the teaching materials to the ship commander's specific work competency standards and the operational needs of the international Maritime Police (Emad & Roth, 2018; Germond & Germond-Duret, 2022; Kataria & Emad, 2022; Shen et al., 2023).

The analytical model in this study adapts the CSE-UCLA framework, which assesses five main components - system assessment, planning, implementation, improvement, and certification - to systematically understand the effectiveness of educational programs (Alkin & Vo, 2018; Stufflebeam & Coryn, 2014; Fitzpatrick et al., 2020; Youker et al., 2020). Alkin developed the CSE-UCLA model based on four assumptions: 1) evaluation is a process of gathering information; 2) the information collected in an evaluation will be used primarily to make decisions about alternative courses of action; 3) evaluation information should be presented to the decision-maker in a form that they can use effectively and that is designed to help rather than confuse or mislead them; and 4) Different kinds of decisions require different kinds of evaluation procedures (McLaughlin & Phillips, 1991).

The CSE-UCLA model is combined with the Kirkpatrick framework. The Kirkpatrick Model is one of the evaluation models that has become a standard for assisting in the development of professional training programs and their evaluation. Kirkpatrick's evaluation model, known as the "Four Levels" model, was first proposed in the Journal of the American Society for Training and Development in 1959 (Brown & Seidner, 1998). The four-level model initially developed included: 1) trainee reactions, 2) trainee learning, 3) trainee usage of learning (transfer) on the job, and 4) organizational benefits (Brinkerhoff, 1998). In 1994, Kirkpatrick revised the four-level model framework to include: the first level, trainee perception; the second, learning; the third, performance; and the fourth, impact (Brown, 1998).

The Kirkpatrick model evaluates four key levels-reaction, learning, behavior, and results-to measure the program's multi-layered impact on participants and the organization (Kirkpatrick & Kirkpatrick, 2016; Ford et al., 2018; Frye & Hemmer, 2012; Ghosh et al., 2021). Adaptations were made by adding new dimensions related to digital technology integration and preparedness for transnational threats, considering the demands of modernizing Marine Police education in the era of globalization and the complexity of cross-border crime (Pyo, 2023; Germond & Germond-Duret, 2022; Kataria & Emad, 2022; Shen et al., 2023). This model allows for evaluation that focuses not only on the final outcome, but also on the process and relevance of learning to field needs.

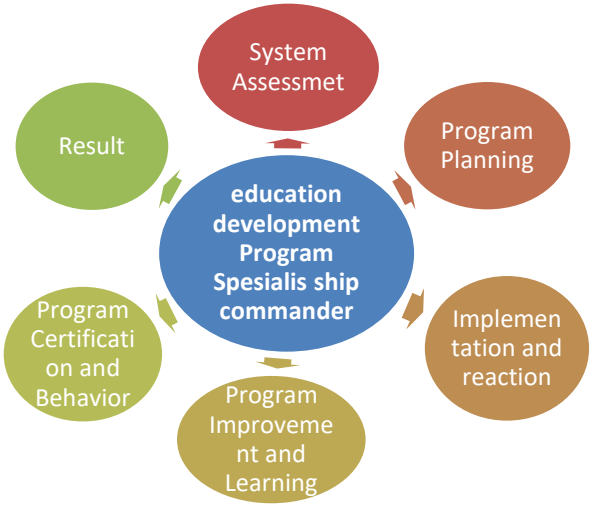

Fig. 1. Combining model evaluation CSE-UCLA dan Kirkpatrick

Qualitative data were analyzed using thematic analysis to identify patterns, themes, and relationships among findings emerging from interviews and observations (Braun & Clarke, 2019; Nowell et al., 2017; Castleberry & Nolen, 2018; Vaismoradi et al., 2016). This approach helped uncover in-depth insights into the effectiveness of the curriculum, challenges in technology integration, and gaps between theory and practice perceived by both participants and instructors. Meanwhile, quantitative data were analyzed descriptively to describe participants' satisfaction levels and perceptions, and inferentially using ANOVA and linear regression to examine the relationships between variables such as teaching methods, instructor qualifications, facility availability, and participant competency improvement (Field, 2018; Pallant, 2020; Cohen et al., 2018; Hair et al., 2022). This analytical approach ensured that the research findings had a strong empirical basis and could be used as the basis for recommendations for the development of future Water Police education programs.
Ethical clearance was obtained from the institutional review board, and informed consent was secured from all participants. Confidentiality and data integrity were maintained throughout the research process.

4. RESULTS AND DISCUSSION

Quantitative analysis was conducted on 120 respondents consisting of participants in the Ship Commander Education and Training Program. The results of data processing showed that the average satisfaction with the curriculum and teaching methods was at a score of 4.21 out of 5, indicating a good category, but there was a gap in the technology integration dimension, which only obtained an average score of 3.68. A one-way ANOVA test showed a significant difference in assessments between participants with different maritime experience backgrounds ($p < 0.05$), indicating that the effectiveness of the training was influenced by the participants' prior experience (Field, 2018; Hair et al., 2022; Saunders et al., 2020; Vujičić et al., 2022). These findings are in line with studies by Pyo (2023) and Germond & Germond-Duret (2022) which emphasized that maritime security training requires personalized materials according to experience level for optimal results.

Evaluation Dimension	Average Score	Catagory
Curriculum Relevance	4.35	Very Good
Instructor Competence	4.40	Very Good
Training Facility Availability	4.12	Good
Digital Technology Integration	3.68	Adequate
Simulation and Field Practice	4.05	Good

Tabel 1. Evaluation dimension

These results indicate that while the overall program has achieved satisfactory standards, the use of digital technologies such as VR or advanced navigation applications remains limited. Recent research

(Shen et al., 2023; Kataria & Emad, 2022; Magsino et al., 2023; Ford et al., 2018) supports these findings, stating that the use of simulation technology can significantly improve the tactical response capabilities of maritime police officers.

Qualitative analysis was conducted through in-depth interviews with 15 instructors and 10 stakeholders, as well as observations during maritime operational simulations. Qualitative findings revealed that some instructors considered the curriculum to be heavily theoretical with few realistic scenarios based on transnational threats. One instructor stated that "we still lack modules on cross-border crisis management, especially large-scale human trafficking and smuggling scenarios." This data is consistent with research by Widodo & Prasetyo (2023), Vujičić et al. (2022), Demirel (2020), and Huey et al. (2022) emphasized that the Maritime Police education curriculum needs to be strengthened with contemporary threat modules to ensure its relevance to current global challenges. Furthermore, observations indicate that most participants are able to master basic navigation and patrol skills, but struggle to make quick decisions during simulated piracy or multi-nation threat scenarios. This indicates a gap between the theory taught and the tactical skills required in the field (Emad & Roth, 2018; Hartinah et al., 2018; Kataria & Emad, 2022; Pyo, 2023). An experiential learning approach and the involvement of field experts were identified as key needs to address this gap.

Quantitative and qualitative findings indicate a gap in technology integration, a transnational threat-based approach, and the connection between theory and practice within the Dikbangspes program. Based on the CSE-UCLA and Kirkpatrick models, weaknesses lie in the implementation and behavioral change stages, where learning outcomes are not fully reflected in tactical field readiness (Alkin & Vo, 2018; Stufflebeam & Coryn, 2014; Kirkpatrick & Kirkpatrick, 2016; Youker et al., 2020). This suggests the need for a more adaptive evaluation model by adding indicators for the use of simulation technology, mastery of transnational threat scenarios, and cross-border coordination. Research by Shen et al. (2023), Magsino et al. (2023), Germond & Germond-Duret (2022), and Ford et al. (2018) confirms that modern maritime security education in various countries has adopted a technology-based training approach and international cooperation. By referencing these global best practices, the Ship Commander Education and Training program can innovate by improving the quality of simulation facilities, updating modules based on real cases, and involving international practitioners in training sessions.

The results of simple linear regression indicate a significant positive relationship between interactive teaching methods (X) and the increase in participants' tactical competence (Y) with a coefficient value of $\beta = 0.42$ ($p < 0.01$). This means that each increase in the quality of field practice-based teaching methods contributes 42% to the increase in participants' competence. The coefficient of determination (R^2) of 0.56 indicates that 56% of the variation in competence can be explained by the applied teaching methods, while the remainder is influenced by other factors such as field experience and supporting facilities (Field, 2018; Cohen et al., 2018; Hair et al., 2022; Pallant, 2020). Studies by Pyo (2023) and Vujičić et al. (2022) confirm that the use of simulation-based methods and adaptive learning can increase the effectiveness of maritime learning.

Table: Linear Regression Test Results

Variabel	Koefisien (β)	t-Statistik	p-Value
Interactive teaching Method	0,42	5,12	0,000
Constanta	1,87	3,44	0,001
R^2	0,56	-	-

These results indicate that the higher the intensity of case study-based and simulation-based teaching methods, the greater the tactical competence of participants. Research by Emad & Roth (2018), Kataria & Emad (2022), and Shen et al. (2023) supports these findings with evidence that interactive and technology-based learning models have a significant impact on maritime police operational readiness.

Thematic analysis of in-depth interviews revealed several key themes related to the program's strengths and weaknesses. The first theme was "theory-practice gap," where participants felt maritime law and crisis management materials were not sufficiently supported by realistic, scenario-based exercises. The second theme was "the limitations of simulation technology," where most exercises were still conducted manually without the support of VR or advanced navigation software. The third theme is the "need for international collaboration," as transnational threats such as drug smuggling involve cross-border networks that require joint training with foreign authorities (Widodo & Prasetyo, 2023; Huey et al., 2022; Magsino et al., 2023; Germond & Germond-Duret, 2022). The instructor stated that "the curriculum is conceptually sound, but the facilities and updates on international cases need to be improved so that participants are better prepared to face real threats at sea." This finding aligns with international literature (Kataria & Emad, 2022; Shen et al., 2023; Pyo, 2023; Hartinah et al., 2018) which emphasizes the importance of using simulation technology and international knowledge exchange to support the preparedness of Maritime Police officers.

The integration of quantitative and qualitative results indicates that the success of the Dikbangspes program is significantly influenced by the quality of teaching methods and modern simulation facilities, while the greatest challenge is the limited integration of technology and a global threat-based approach. The CSE-UCLA and Kirkpatrick evaluation models applied in this study successfully identified areas for improvement, particularly in the implementation and behavioral change phases (Alkin & Vo, 2018; Stufflebeam & Coryn, 2014; Kirkpatrick & Kirkpatrick, 2016; Youker et al., 2020). This empirical data provides a strong foundation for reconstructing a more adaptive evaluation model, encompassing dimensions of tactical mastery, cross-border crisis preparedness, and the use of modern technology in maritime learning.

The findings of this study reinforce global concerns about the limitations of traditional maritime education in preparing officers for complex security environments. The observed deficiencies in technology integration and practical training mirror challenges reported in similar contexts, including naval academies and coast guard institutions worldwide (Magsino et al., 2023; Shen et al., 2023). This study's primary contribution lies in proposing an integrated evaluation framework that combines the strengths of the CSE-UCLA and Kirkpatrick models. Unlike previous approaches that prioritize academic metrics, the proposed model emphasizes behavioral change, operational readiness, and continuous performance monitoring.

Policy implications are substantial. Aligning maritime police education with international standards, such as the International Maritime Organization's STCW Convention, is essential for ensuring interoperability and professionalism. Additionally, embedding advanced simulation technologies and practitioner-led modules within curricula can bridge the gap between theory and practice, ultimately enhancing maritime security resilience.

Future research should adopt longitudinal designs to assess the long-term impact of the reconstructed evaluation model on operational performance and national maritime security outcomes.

6. CONCLUSION AND RECOMMENDATIONS

This study underscores the critical importance of reconstructing evaluation models for maritime police education to meet the demands of an increasingly volatile and complex security environment. The proposed integrated framework offers both theoretical and practical value by linking program evaluation with competency-based education and operational performance metrics. This research confirms the urgent need to reconstruct the Maritime Police education evaluation model to ensure that educational programs are truly relevant to the increasingly complex dynamics of transnational threats. Currently, transboundary maritime crime encompasses not only piracy and smuggling but also internationally organized crime networks. In this context, traditional, theoretically oriented educational models have proven inadequate in preparing Maritime Police officers for the realities of the field. Therefore, a new evaluation framework is needed that can measure the program's comprehensive success, from the planning stage through implementation, to its actual impact on the ground.

The integration of theory and practice is key to the success of future Maritime Police education programs. An understanding of maritime law, crisis management, and operational leadership must be translated into realistic, practical exercises based on real-world situations. The use of modern technology, such as computer-based simulations, virtual reality (VR), and advanced navigation software, needs to be an integral part of the educational process. Furthermore, the involvement of field practitioners with experience in dealing with actual threats at sea will enrich the learning process, provide a more applicable perspective, and enhance the tactical readiness of participants.

The main recommendation of this study is that the National Police Education and Training Institute (Lemdiklat Polri) immediately adopt a new, comprehensive evaluation framework, encompassing the entire educational cycle, from input and process to operational outcomes. This framework should be designed with a focus on developing the actual competencies required by ship commanders, such as rapid decision-making skills, cross-border coordination, and mastery of maritime operational support technology. With this framework, the success of the educational program can be measured not only through theoretical exams or academic grades, but also through the effectiveness of participants' performance while on duty in the field.

Future research is recommended to test this evaluation model longitudinally to assess the long-term impact on leadership quality and ship commander performance in real operations. This long-term approach will allow for a deeper understanding of the effectiveness of Maritime Police education in sustainably enhancing national maritime security. Therefore, the results of this study are expected to form the basis for developing more adaptive, modern, and responsive educational policies to the operational needs of maritime policing in the era of transnational threats.

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