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Model Development of Training Management for Maritime Transport Apparatus at Amurang Sea Port: A Qualitative Study on Planning, Implementation, Evaluation, and Career-Linked Improvement

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ABSTRACT

This study develops and analyzes a Training Management Model for maritime transport apparatus serving at Amurang Sea Port, focusing on how training is planned, implemented, evaluated, and redesigned into a more contextual and career-linked system. The research problem emerges from the persistent gap between training programs administered through BP2TL (Balai Pendidikan dan Pelatihan Transportasi Laut) and the real operational needs of small ports, where limited infrastructure, constrained budgets, and bureaucratic routines often reduce training relevance and post-training application. The study employs a qualitative descriptive approach, using in-depth interviews, observation, and document analysis to capture the practices and constraints across training management stages. Findings show that training planning has followed formal guidance and standards; however, it remains dominated by administrative routines and has not fully adopted a dynamic, field-driven training needs assessment. Key planning gaps include limited flexibility of training budgets, weak integration between training and career pathways, insufficient contextualization of training modules for small-port operations, and minimal utilization of evaluation outputs for subsequent planning cycles. Implementation is delivered through formal mechanisms but is not yet optimal: training methods are still heavily theoretical (lecture-based), simulation and case-based practice remain limited, and schedules often conflict with participants' operational duties, restricting participation and learning transfer. Evaluation tends to emphasize administrative outputs (attendance and certification) rather than measuring competence, behavioral change, and work-unit performance impacts. Based on

these findings, the study proposes a revised model that is contextual, decentralized, and unit-needs-based, integrating comprehensive evaluation frameworks (ADDIE, Kirkpatrick, and CIPP) to treat the port environment as a "real learning laboratory" and participants as change agents. The study concludes that shifting training management from annual compliance routines to an outcome-oriented human resource development strategy is essential for strengthening safety, service quality, and professionalism in maritime public services at small ports.

Keywords: Amurang Sea Port, BP2TL, career-linked training, evaluation, maritime apparatus, small port context, training management model.

INTRODUCTION

Organizations operate as interactive systems whose effectiveness depends strongly on the quality and adaptability of human resources (Ulrich, 1997). In public organizations, especially technical sectors such as maritime transport, apparatus competence is directly tied to safety, compliance, operational reliability, and service quality. The Amurang Sea Port context illustrates a recurring public-sector dilemma: training exists as a mandatory function, but its contribution to workplace competence and performance outcomes is often unclear when training management is mainly compliance-oriented. This study focuses on the development of an effective and applicable training model for maritime transport apparatus at Amurang Sea Port. It addresses four questions: (1) how training planning is conducted through BP2TL; (2) how training implementation is executed; (3) how training evaluation is carried out; and (4) how a better training management model can be developed to improve maritime apparatus capacity and professionalism.

The problem statement is grounded in the "policy-to-practice" gap typical in training governance: training programs may align with national standards (e.g., SKKNI and international references), yet still fail to match the operational realities of small ports. In this study, the theoretical gap is explicitly recognized: research and training models in maritime sectors tend to focus on large ports, while small-port settings like Amurang with limited facilities and different task complexity remain under-examined.

Consequently, training that is too generic, too centralized, and poorly linked to career incentives is likely to generate low learning transfer and minimal impact on performance.

THEORETICAL FRAMEWORK

Human Resource Development and Training as Strategic Capacity Building

Human Resource Development (HRD) conceptualizes training and education as organized learning experiences that strengthen individual and organizational capability (Nadler, 1984). HRD is not merely an administrative activity but a deliberate system of learning that improves job performance and supports long-term growth (Werner & DeSimone, 2012). In public administration contexts, HRD is crucial because apparatus competence influences not only productivity but also the legitimacy and responsiveness of government services.

Development, in HRD terms, is a long-term educational process that equips individuals to assume higher responsibilities and adapt to changing demands (Sikula, 1996; Flippo, 1984). For maritime apparatus, development must combine technical mastery (navigation, safety procedures, port operations) with managerial and service competencies (coordination, decision-making, public communication).

Training Management as a System: Planning, Implementation, and Control

Training management can be understood through classic management functions planning, organizing, implementing, and controlling where planning defines goals and strategies, implementation executes learning activities, and control ensures training achieves intended outcomes (Robbins & Coulter, 2016). Performance management perspectives further argue that HRD interventions must be aligned with measurable performance improvement, not only attendance or certification (Armstrong & Baron, 1998; Mathis & Jackson, 2010).

Training planning should begin with Training Needs Assessment (TNA), typically analyzed through three levels: organizational analysis, job analysis, and individual analysis. This ensures training targets real competence gaps, not simply annual program quotas. In practice, TNA must be dynamic continuously updated based on operational incidents, regulation changes, equipment upgrades, and service performance feedback.

Adult Learning and Competence Transfer

Because apparatus are adult learners, training effectiveness depends strongly on relevance, experience-based learning, and immediate workplace application (Knowles, 1980). Competence frameworks define competence as deep characteristics that support effective performance knowledge, skills, and attitudes requiring not only instruction but repeated practice, feedback, and workplace reinforcement (Spencer & Spencer, 1993). Without practice-rich methods (simulation, casework, mentoring), learning often remains conceptual and does not translate into behavioral change.

Evaluation Frameworks for Training Effectiveness

Evaluation is central to ensuring that training generates meaningful outcomes. The Kirkpatrick model evaluates training through four levels reaction, learning, behavior, and results providing a pathway from participant satisfaction to organizational impact (Kirkpatrick, 1998). Meanwhile, the CIPP model (Context, Input, Process, Product) offers a comprehensive program evaluation approach, emphasizing that a program's effectiveness depends on context relevance, resource adequacy, process quality, and measurable outputs/outcomes (Stufflebeam, 2003).

Instructional systems design frameworks such as ADDIE (Analysis, Design, Development, Implementation, Evaluation) guide systematic training design so that learning objectives, content, methods, delivery, and evaluation are aligned. In complex technical sectors like maritime services, integrating ADDIE with Kirkpatrick and CIPP can strengthen both design quality and accountability for outcomes.

METHOD

This research uses a qualitative descriptive approach to capture the real operational dynamics of training management for maritime apparatus at Amurang Sea Port through BP2TL mechanisms. The approach is appropriate because training governance involves multi-actor processes, institutional routines, and context-specific constraints that require in-depth understanding rather than solely quantitative measurement. The study relies on key qualitative techniques: in-depth interviews, observation, and document analysis, supported by systematic data reduction, data display, and conclusion drawing consistent with interactive qualitative analysis logic (Miles, Huberman, & Saldaña, 2014; Sugiyono, 2014).

The research focus is clearly defined: developing a training management model that is effective and applicable for maritime apparatus in a small-port context. Data sources include BP2TL actors, training program planners, and relevant stakeholders within maritime operational settings, allowing triangulation between planning documents, participant experiences, and observed constraints in implementation and post-training application.

RESULTS AND DISCUSSION

Findings are organized according to the training management cycle: planning, implementation, evaluation, and model development.

Planning Stage Findings

Training planning for maritime apparatus has a formal foundation: it has followed institutional guidance and includes needs assessment practices, standards, and program structuring. However, the planning process remains dominated by administrative compliance rather than a fully field-driven competence strategy. The dissertation conclusions emphasize that planning has not fully been based on real needs analysis at the work-unit level, limiting the match between training content and operational challenges at Amurang.

A structured summary of planning findings is shown in Table 4.2. It indicates that:

- Planning is conducted through TNA but is not yet adaptive to urgent needs;
- Stakeholder involvement includes internal units but external stakeholders (local ports and service users) are not optimally engaged;
- Curriculum standardization refers to SKKNI and IMO but content remains too general for small-port contexts;
- Training plans are not fully integrated with career systems and performance appraisal;
- Funding constraints reflect inflexible budgets and disbursement challenges;
- Evaluation outputs are not maximally used for redesigning future planning.

These findings suggest that planning is structurally present but not yet functioning as a strategic HRD engine. The planning system needs stronger “learning feedback loops” where evaluation and field input reshape program priorities.

Implementation Stage Findings

The implementation stage reveals persistent limitations in relevance, learning methods, and learning transfer. Table 4.3 documents that training content is aligned with national standards but remains insufficiently relevant to small-port operational conditions, requiring contextualization for the geographic and infrastructure realities of Amurang. Training methods are still dominated by lectures and presentations; simulation and case-based practice are limited. Implementation is also weakened by weak integration between training and career incentives: training participation does not clearly affect promotions or reward systems. Operational constraints emerge as important barriers: training schedules often conflict with daily port duties, and training locations may not be easily accessible, which reduces participation and disrupts services. Budget mechanisms (DIPA) support implementation but remain inflexible, creating technical barriers to responsive delivery.

Additionally, internal coordination exists but is still subject to miscommunication and delayed data, indicating the need for stronger coordination SOPs. Overall, implementation is functioning but not optimized for competence development. In practice, a training program that is too theoretical and insufficiently practice-based will likely produce limited behavioral change especially in technical safety-critical roles.

Evaluation Stage Findings

Evaluation is one of the weakest points in the training management system. The study identifies that evaluation is largely administrative focused on attendance and certification rather than competence measurement, behavior change, and work-unit performance impact.

Table 4.4 shows that training improves basic technical understanding related to procedures and safety. However, application of training outcomes is limited by workplace infrastructure constraints and the absence of supportive SOPs, reducing the ability to apply learned competencies on the job.

Evaluation also indicates that material remains too general and insufficiently aligned with small-port realities, while practice-based methods (simulation, field practice) are perceived as more effective than lecture-based delivery. Other evaluation issues include participant scheduling conflicts and suboptimal participant selection, as well as weak career linkage: training does not translate into clear career progression. The dissertation narrative further emphasizes the absence of integrated post-training monitoring and limited stakeholder involvement in evaluation, reinforcing the conclusion that evaluation is not treated as a priority and does not follow comprehensive evaluation standards.

Model Development Findings

The study's model development responds directly to the planning-implementation-evaluation gaps. The highlights key model requirements and recommended redesign elements:

- Small ports have different competence needs than large ports; training should be cluster-based and context-driven;
- Training must be career-linked (Career-Linked Training) and function as a prerequisite for career advancement;
- Training content should be modular and tiered (basic, intermediate, advanced);

- Delivery should adopt blended learning and on-site mentoring to reach remote areas and reduce access barriers;
- Institutional collaboration should expand beyond BP2TL to include port authorities and relevant maritime institutions;
- Monitoring and evaluation must be impact-based, focusing on workplace competence application and performance outcomes.

The dissertation conclusions summarize the model's orientation: it is contextual, decentralized, needs-based, and uses comprehensive evaluation (ADDIE, Kirkpatrick, CIPP), framing the port as a real learning laboratory and participants as agents of change.

The findings demonstrate a classic "compliance trap" in public-sector training: institutions can run training programs consistently, yet still struggle to demonstrate competence transfer and performance improvements when training management is dominated by administrative indicators rather than outcomes.

Planning: From Administrative Compliance to Dynamic Needs Strategy

Although the planning system includes TNA and standard references, its insufficient adaptiveness reflects a gap between formal processes and operational urgency.

HRD theory emphasizes that learning interventions must be designed from real competence gaps and changing organizational demands (Nadler, 1984; Werner & DeSimone, 2012). In small ports, competence needs can shift rapidly due to equipment limitations, changing safety requirements, and staffing shortages; thus, TNA must be participatory and continuously updated, not treated as an annual formality.

The limited involvement of external stakeholders also reduces content relevance. When port-level realities and service-user expectations are not sufficiently included, training risks being too generic. This supports the argument that HRD planning must be embedded in work processes rather than detached from field input.

Implementation: Why Learning Transfer Remains Limited

Adult learning theory argues that adults learn best when content is relevant, practice-based, and immediately applicable (Knowles, 1980). The dominance of lecture-based methods and limited simulation aligns with the observed low learning transfer.

For technical maritime roles where safety procedures and operational decisions are critical—simulation, scenario drills, and field practice are essential for embedding competence and building confidence. The findings also show that implementation is constrained by scheduling and accessibility barriers.

These barriers indicate that training design must adapt to operational service cycles through blended learning, modular scheduling, and on-site mentoring. The proposed shift toward blended learning and on-site mentoring responds directly to these constraints.

Evaluation: Rebuilding the Feedback Loop for Continuous Improvement

Evaluation practice is currently weak because it is administrative and does not measure behavior change or results.

Kirkpatrick's framework (1998) requires evaluation beyond satisfaction and learning tests; it emphasizes behavior change and results, which must be monitored in real work settings. Similarly, CIPP (Stufflebeam, 2003) calls for evaluation of context, input, process, and product to guide decision-making.

The absence of post-training monitoring and the limited use of evaluation outputs in redesign cycles illustrate a broken feedback loop. In HRD, evaluation should not be the "end step," but a learning mechanism that improves the next training cycle. Without impact-based evaluation, training cannot evolve into a strategic instrument.

Career Linkage and Motivation: Why Incentives Matter

The findings repeatedly highlight weak linkage between training and career systems. Performance management literature emphasizes aligning competence development with rewards, promotions, and clear performance indicators (Armstrong & Baron, 1998). When training is not connected to career pathways, participation motivation may drop, and learning transfer becomes harder because the workplace does not reinforce new competencies.

The recommended Career-Linked Training model addresses this directly by making training a structured prerequisite for career advancement. This also supports institutional accountability: supervisors become stakeholders in training outcomes because training affects performance appraisal and work assignments.

CONCLUSION

This study concludes that the training management system for maritime transport apparatus at Amurang Sea Port, implemented through BP2TL, is operationally established but not yet optimized for competence transfer and performance impact. Planning follows Ministry of Transportation guidance; however, it remains dominated by administrative routines and has not fully adopted dynamic, work-unit-based needs analysis. The mismatch between training content and the operational realities of small ports limits training relevance, indicating the need for stronger contextualization and broader stakeholder involvement in the planning process.

Implementation is delivered through formal mechanisms but remains constrained by methodological and logistical barriers. Training methods are still heavily theoretical, with limited simulation and field practice, while scheduling conflicts with daily port operations reduce participation and disrupt learning continuity. Budget mechanisms support training delivery but lack flexibility, limiting responsiveness to urgent competence gaps and constraining innovation in training delivery models. Evaluation practices are largely administrative, focusing on attendance and certification rather than measuring competence, behavioral change, and unit-level performance outcomes. While training does improve basic technical understanding of procedures and safety, application is often limited by workplace infrastructure constraints and the absence of supportive SOPs and follow-up monitoring.

Weak linkage between training and career development further reduces motivation and undermines the sustainability of learning transfer.

To address these gaps, the study develops a training management model that is contextual, decentralized, and needs-based, integrating comprehensive design and evaluation frameworks (ADDIE, Kirkpatrick, and CIPP). The model emphasizes cluster-based training design tailored to small-port realities, modular tiered learning (basic–intermediate–advanced), blended learning to overcome scheduling and access barriers, and on-site mentoring to strengthen practice-based competence. Importantly, it proposes Career-Linked Training as a mechanism to integrate training into promotion and performance systems, ensuring that learning becomes a strategic pathway for apparatus professionalization. In sum, the study argues that maritime training must shift from annual compliance routines toward an outcome-oriented HRD strategy. Such a shift requires flexible funding mechanisms, stronger inter-institutional collaboration, impact-based evaluation, and integrated career incentives. If implemented, the proposed model can strengthen safety culture, operational efficiency, and service quality in maritime public services particularly in small-port settings like Amurang.

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