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ADAPTATION NEEDS IN INDONESIAN ARMY CAVALRY EDUCATION: AN EXPLORATORY DOCUMENTARY ANALYSIS THROUGH ROLE THEORY

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Abstrak

Perubahan karakter peperangan modern menimbulkan pertanyaan mengenai bagaimana kebutuhan kompetensi baru diterjemahkan ke dalam pendidikan Kavaleri TNI AD. Kajian ini memetakan bukti dokumenter tentang kegiatan latihan yang dipublikasikan serta menelaah batas informasi yang tersedia mengenai Pusdikkav. Penelitian menggunakan analisis dokumen kualitatif eksploratif terhadap empat publikasi institusional tahun 2022–2026 dan literatur pendidikan militer. Teori Peran digunakan untuk membedakan harapan kompetensi, pemahaman penyelenggara pendidikan, pelaksanaan pembelajaran, dan adaptasi kelembagaan. Dokumen menunjukkan adanya laporan latihan terintegrasi dan pelatihan teknologi nirawak pada beberapa satuan serta penilaian publik mengenai perlunya penguatan sarana pendidikan di Pusdikkav. Namun, sumber tersebut tidak menyediakan kurikulum internal, evaluasi pembelajaran, atau data kompetensi lulusan, sehingga kesenjangan pendidikan belum dapat dipastikan. Kontribusi artikel adalah kerangka awal kesenjangan peran pendidikan dan enam proposisi pengembangan yang memerlukan pengujian empiris. Kajian ini tidak mengklaim telah melaksanakan wawancara maupun observasi lapangan.

Kata kunci: Pembelajaran Organisasi; Pendidikan Kavaleri; Pendidikan Militer; Pengembangan Kompetensi; Teori Peran

Abstract

Changes in contemporary warfare raise questions about how new capability expectations are translated into Indonesian Army Cavalry education. This study maps publicly documented training initiatives and examines the evidentiary limits of claims concerning Pusdikkav. It uses an exploratory qualitative documentary analysis of four institutional publications dated 2022–2026, interpreted alongside military-education literature. Role Theory distinguishes role expectations, educators' conceptions, educational performance and institutional adaptation. Public accounts

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report an integrated Cavalry exercise, drone-related training in other units and a parliamentary assessment calling for stronger contemporary learning resources at Pusdikkav. These sources do not provide internal curricula, classroom observations, instructor assessments or graduate learning outcomes. They therefore cannot establish an institutional competency gap or the effectiveness of existing instruction. The article contributes a provisional educational role-gap framework and six testable educational-development propositions. Its conclusions are confined to the available documentary record; field interviews, observations and validation of the proposed framework remain tasks for future research.

Keywords: Cavalry Education; Competency Development; Military Education; Organizational Learning; Role Theory.

PENDAHULUAN

The changing nature of modern warfare places ground forces in an operating environment that is increasingly open to observation, interference, and attacks from various directions. Increasingly dispersed sensor capabilities, small drones, electronic warfare, digital communication networks, and precision strikes make force concentrations easier to detect while shortening the time between detection and attack. The experience of the Russia-Ukraine war shows that the use of *unmanned aerial systems* is no longer limited to high-tech platforms for strategic missions, but is evolving to the use of low-cost drones for reconnaissance, fire correction, assault, and support of ground units (Kunertova, 2023). These conditions do not eliminate the function of combat vehicles as a maneuvering element, but change the environment in which vehicles, crews, and commanders carry out their duties. Maneuverability and firing are now increasingly closely related to the ability to obtain information, recognize threats, manage electromagnetic trails, coordinate with other elements, and make decisions in a shorter amount of time. These changes bring broader problems than platform modernization, as technological capabilities only have operational value if personnel are able to understand and use them as part of an integrated combat system.

These changes in the operating environment were followed by the development *of the concept of multi-domain operations* (MDO), which expanded the space for force integration from inter-branch relationships to the utilization of effects in the domains of land, sea, air, space, cyber, and electromagnetic environments. In this type of operating pattern, military personnel are not only required to master the technical expertise inherent in their branches, but also understand how information and capabilities from other elements can be used to support task achievement. The problem lies in the need for competencies that develop faster than the educational pattern that was previously designed for a relatively more stable operating environment. Studies of officer competencies for MDO show that readiness for multidomain operations depends on a set of capabilities that go beyond platform mastery and require cross-domain understanding, integration, decision-making, and the ability to work in complex environments (Crosbie et

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al., 2026). For Cavalry, this development shifts part of the competency orientation from the mastery of vehicles and weapon systems to the ability to connect the power of movement, firepower, protection, information, sensors, and other elemental support in a single operational process.

The educational question is therefore narrower than whether contemporary technologies have appeared in Army activities. It concerns how stated operational expectations might be translated into assessable learning objectives, teaching resources and feedback mechanisms in Cavalry education. Publicly reported training events at different institutions illuminate the issue, but cannot establish what is taught or achieved at Pusdikkav. The distinction between a reported event, an institutional expectation and a demonstrated educational outcome is maintained throughout this exploratory analysis (Hornstra et al., 2025; Smith et al., 2025).

Public reporting also gives an uneven view of institutions with different mandates. Pussenkav is concerned with branch development, Pusdikkav with formal education and operational units with unit-level training. Different practices across these settings need not indicate a deficiency: they may reflect different functions, resources or reporting priorities. An educational gap may be inferred only when a specified competency expectation can be compared with a relevant curriculum, learning activity or assessment. The available documents do not provide that complete comparison. Organizational-learning research nevertheless offers a reason to examine how experience moves between units, branch authorities and education providers (Catignani, 2014; Dyson, 2019).

Various approaches have been developed to shorten the distance between the educational environment and the operational situation. The development of more representative scenarios, the use of simulations, problem-based learning, technology integration, and exercises that replicate decision-making pressures are some of the ways to bring together the competencies taught with the demands of use in the field. Research on military decision-making training shows that the value of a simulation technology is not primarily determined by its sophistication, but by its suitability with the capabilities to be trained. Comparisons between live-fire drills, two-dimensional simulations, and *virtual reality* , for example, found that different forms of simulation result in different learning characters and need to be selected based on specific training needs (Harris et al., 2023). These findings provide an important foundation for Cavalry education. The use of simulators, BMS, UAS, digital devices, or other learning technologies needs to be placed as part of competency design, not the educational goals themselves. Adaptation can also be done through interorganizational learning, but the experiences of other organizations still require a process of selection and adjustment so that they do not simply copy practices born from different operating environments (Coticchia & Moro, 2016).

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The literature on military transformation shows at least three directions of discussion related to this issue. The first group examines changes in technology and the battlefield, especially the use of unmanned systems that expand observation and attack capabilities at the tactical level and affect the way ground forces are used (Kunertova, 2023). The second group focuses on the ability of military organizations to learn and adapt. Adaptation does not only take place through doctrinal changes from above, but also through unit experience, problem-solving, and the process of institutionalizing knowledge from the operational level (Marcus, 2015). Other studies show that environmental pressures can drive organizational change and operating patterns, although the form of adaptation is influenced by the way organizations read experiences and translate them into new practices (Farrell, 2022). The third group began to place education as part of MDO readiness by identifying the competencies and training designs needed by military personnel (Hornstra et al., 2025). The literature shows an increasingly close relationship between technology, organization, learning, and education, but each is still more often discussed through different entry points.

The reviewed literature addresses technological change, organizational learning and competency-oriented military education, but offers limited direct evidence in this manuscript about how Indonesian Army Cavalry education converts these demands into teaching and assessment. Studies of NATO officers and European armed forces provide analytical comparisons rather than evidence about Indonesian institutions (Crosbie et al., 2026; Dyson et al., 2026). Such comparisons require attention to differences in mandate, institutional structure, resources and access to training facilities. Accordingly, this article does not assert an exhaustive literature gap. It identifies a focused question that can be investigated with local curriculum records and interviews in future research: how are externally expressed capability expectations interpreted, translated and evaluated within a specific educational mandate?

Role Theory structures this question around four analytically distinct stages (Biddle, 1986). Role expectation concerns competencies articulated by branch authorities, operational units and other relevant institutions; available public reports indicate some expectations without documenting an agreed competency standard. Role conception concerns how education managers and instructors understand those expectations, an issue not observable in the present documentary corpus. Role performance concerns the teaching, practice and assessment through which expectations become demonstrable learner competencies; direct evidence of such performance is likewise absent. Role adaptation concerns how feedback, curriculum revision and institutional coordination respond to changing expectations. The corresponding questions are who defines a competency, how different stakeholders interpret it, what educational evidence could demonstrate its acquisition and how disagreement or feedback is resolved. Variation

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between institutions is treated as a question for inquiry rather than automatically as a deficit.

The conceptual contribution is a provisional 'educational role-gap' framework connecting role expectation, conception, performance and adaptation. A role gap is not measured here. It would arise only if a clearly documented expectation for a given educational institution were demonstrably unmatched by its teaching provision or assessed outcomes. The framework shifts attention from inventories of technology to the institutional translation of operational needs into learning objectives, exercises and evaluation. Its value is presently heuristic: it identifies distinctions and evidence requirements for later empirical testing, not a verified deficiency at Pusdikkav. This formulation brings Role Theory into dialogue with studies of military lessons learned and competency-based professional education without assuming that findings from other armed forces apply unchanged to Indonesia (Dyson, 2019; Hornstra et al., 2025).

An educational role gap must be distinguished from a conventional training-needs or competency gap. The latter may describe a discrepancy between a required skill and an individual's demonstrated capacity; the proposed role-gap concept instead focuses on the institutional process through which an authorized role expectation is understood, incorporated into teachable outcomes, assessed and revised. Evidence of a role gap would therefore require, at minimum, an attributable competency requirement, an approved curriculum or assessment criterion, and institution-specific evidence of incongruity. A reported technological innovation elsewhere in the Army satisfies none of those conditions by itself. Research on training transfer emphasizes the distinction between learning during training and applying competencies in work settings (Baldwin & Ford, 1988; Aguinis & Kraiger, 2009). Organizational-learning scholarship likewise differentiates interpreting a new idea from integrating and institutionalizing it (Crossan et al., 1999). This theoretical distinction gives the framework a pedagogical function without claiming that a gap has already been observed at Pusdikkav.

This article aims to map what publicly available institutional documents actually report about Army training adaptation; distinguish documentary observations from unverified educational claims; and develop testable propositions for future research on Cavalry education. Pusdikkav is the educational institution of substantive interest, while Pussenkav and selected units provide contextual examples rather than sampled fieldwork sites. No interviews, observations, internal curriculum audit or learner assessment are presented. Consequently, the analysis assesses the evidentiary basis for educational questions and potential development directions, not the effectiveness of the Cavalry education and training system as a whole.

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METODE PENELITIAN

The unit of analysis is the publicly documented relationship between changing capability expectations and potential educational responses relevant to Indonesian Army Cavalry education. The inquiry focuses on claims about the introduction of technological tools, institutional training events and the publicly expressed need for educational development. Pusdikkav is the focal institution for the educational questions, whereas references to Pussenkav, Kikav 8 Kostrad and Kodiklatad illustrate distinct organizational functions. Those institutions are not treated as a multi-site sample: the reviewed materials contain no original field interviews, observations, internal syllabus documents or educational performance records. The boundaries prevent operational activities outside Pusdikkav from being presented as direct observations of Pusdikkav teaching.

The study is a qualitative, exploratory documentary analysis rather than a completed field-based case study. Document analysis is suitable for examining statements, institutional representations and their evidentiary limits when direct observation is unavailable (Bowen, 2009). The identifiable primary documentary corpus comprises four public institutional reports: a TNI AD account of the 2022 Pussenkav exercise; TNI AD and Kodiklatad reports of separate drone-related activities in 2025; and a DPR RI report published in June 2026 concerning a working visit to Pusdikkav. These sources are contextualized by the academic works cited in the bibliography, which span foundational Role Theory and more recent research on military learning and education. The period 2022–2026 describes the dated institutional reports actually discussed, not a claim of exhaustive coverage for those years.

The identifiable institutional documents were included because they named the relevant institution or activity, had an identifiable public issuer and date, and contained statements pertinent to training, technology or education. Reports of different institutions were retained separately to avoid attributing one unit's activities to another. Table 1 records their provenance and the specific assertions used. The available research record does not provide a complete search log, list of excluded sources or systematically reproducible database-search strategy; the selection is therefore purposive and bounded, not a systematic review. Academic sources were used to interpret, not substitute for, local evidence. Official publicity can establish that an institution reported an event or assessment, but may emphasize achievements, omit negative findings and lack independently verifiable teaching or competency indicators.

Each discrete statement in the four institutional publications was treated as a documentary claim and categorized by institution, date, reported activity, expressed educational implication and scope of inference. The claims were compared with the academic literature on institutional learning, professional military education and learning technologies. The review distinguishes three evidentiary levels: directly reported public

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events or assessments; interpretations reasonably suggested by those reports; and questions that would require internal documents, interviews or learner assessments. Table 2 gives a claim–source–evidence boundary–verification matrix. This approach does not equate a public official's assessment with an independently observed educational outcome, and does not interpret the presence of simulation as ineffective instruction without examining learning objectives.

The coding categories are descriptive and theory-informed rather than a claim of completed interview-based thematic analysis. An evidentiary distinction was maintained between the text of a publication, an interpretation of its possible educational significance, and an inference that the document cannot substantiate. This reporting choice reflects the importance of transparent coding and explicit interpretive boundaries in qualitative analysis (Braun & Clarke, 2006; Nowell et al., 2017). However, the materials supplied for this manuscript do not contain an independent coder's record, inter-coder agreement measure or complete audit trail; these procedures are not claimed. A reproducible future extension should preserve the original documents, dates of access, extracted passages and coding decisions alongside any exclusion log.

The analytical procedure consisted of identifying documentary statements, organizing them by the four Role Theory concepts, comparing institutional mandates and tracing where the evidentiary chain stops (Miles et al., 2020; Biddle, 1986). The proposed educational responses were then organized into six prospective domains for future evaluation; they are not outcomes of interviews or a validated strategic ranking. No SWOT factor elicitation, weighting or scoring was conducted, and SWOT is not claimed as an executed analytical procedure. Because the analysis relies on accessible public documents rather than privileged institutional access, it is vulnerable to selective reporting, uneven institutional visibility and researcher interpretation. The manuscript cannot substantiate member checking, data saturation, source triangulation with primary interviews or assessment of learner performance; these are not reported as completed procedures. The findings are thus propositions conditional on documentary evidence.

The present documentary design does not involve recruitment of human participants, and it therefore provides no basis for asserting that participant consent, interview confidentiality or research permissions were obtained. If the proposed field phase proceeds, ethical approval and authorized access should be considered before collecting protected institutional information; participation should be voluntary and consent-based, identifying information should be minimized, and the possible effect of rank and command relationships on disclosure should be addressed. Classified operational details, internal training records and individual assessment information would require applicable institutional authorization. These are safeguards for proposed subsequent research, not procedures claimed as performed in this study.

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HASIL DAN DISKUSI

Results

Actual Conditions and Adaptation Patterns of Cavalry Education and Training of the Indonesian Army

The four institutional reports document distinct public accounts of training and educational development, rather than a comprehensive assessment of the Indonesian Army Cavalry education system. According to the Army's 2022 publication, Pussenkav organized an integrated armoured-vehicle exercise involving five Cavalry units and familiarization with a Battlefield Management System (Tentara Nasional Indonesia Angkatan Darat, 2022). This is evidence that the exercise was publicly reported, not evidence of Pusdikkav's curriculum, graduate proficiency or a system-wide competence level. The distinction matters because branch training and formal education operate under different organizational mandates.

Other official accounts describe different institutional settings. A TNI AD publication in February 2025 reports drone-related training by Kikav 8 Kostrad, while a Kodiklatad report describes a technical drone drill involving infantry units and a doctrinal-development purpose (Tentara Nasional Indonesia Angkatan Darat, 2025; Kodiklat TNI Angkatan Darat, 2025). These reports establish the stated activities and their public rationales but do not show their transfer into Cavalry school syllabi or assessed student learning. Their value is to identify competency questions relevant to future inquiry, not to demonstrate institutional curricular adaptation at Pusdikkav.

Table 1. Publicly Reported Institutional Activities Relevant to Educational Adaptation

Year	Unit/ Institution	Activities	Key Documentary Data
2022	Pussenkav TNI AD	Integrated armoured-vehicle exercise	Official publication reports five Cavalry units and familiarization with BMS; no evidence on Pusdikkav learners.
2025	Kikav 8 Kostrad	Drone-related unit training	Official report describes drone skills within this unit; not an assessment of Cavalry-school instruction.
2025	Kodiklatad	Technical drone drill in infantry units	Official report concerns technical practice and doctrinal development; separate institutional mandate.
2026	DPR RI / Pusdikkav	Parliamentary visit and public statement	DPR report identifies a perceived need to strengthen modern educational resources; no measured learning outcomes.

Source: compiled from Tentara Nasional Indonesia Angkatan Darat (2022; 2025), Kodiklat TNI Angkatan Darat (2025), and Dewan Perwakilan Rakyat Republik Indonesia (2026). Reports establish public statements, not verified learning outcomes.

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The June 2026 DPR RI account of a Commission I visit to Pusdikkav reports a need to strengthen the use of contemporary technology and resources in Cavalry education (Dewan Perwakilan Rakyat Republik Indonesia, 2026). This constitutes a publicly attributed institutional assessment. It does not include direct curriculum inspection, comparison of teaching objectives or measured graduate competency in the cited material. Nor is reliance on simulation itself a deficiency: the educational adequacy of simulation depends on the objective, design and assessment of learning (Harris et al., 2023). Consequently, the documents support a question about how Pusdikkav matches learning media to educational aims, but they do not establish deficient teaching or ineffective personnel.

Documentary Boundaries and Unverified Educational Questions

The key result of this review is an evidentiary distinction rather than a measured educational deficit. Public sources show that selected Army bodies have reported technology-related exercises and that a parliamentary account identified a need for greater technological support at Pusdikkav. They do not establish whether specified competencies have been incorporated into current Cavalry curricula or achieved by graduates. Differences in institutional reporting cannot be treated as a single 'adaptation rate' because Pussenkav, Pusdikkav and operational units have different responsibilities. The matrix below therefore separates what is documented, what is only inferable and what still requires confirmation through institution-specific educational records.

Six educational dimensions follow as verification questions, not as established weaknesses: whether curriculum outcomes reflect an authorized competency standard; how training scenarios match those outcomes; which tools and simulations are pedagogically suitable; how instructor preparation is assessed; how collaboration with other branches is taught within the school's mandate; and whether unit feedback informs curriculum review. Answering these questions requires appropriately authorized course outlines, exercise evaluations, instructor-development records and educational stakeholder evidence. None of these materials is supplied in the present corpus. In particular, the absence of a topic from a public news report cannot be coded as its absence from training, and an educational gap cannot be inferred without comparable expectation and performance evidence.

Table 2. Documentary Claims, Evidentiary Limits, and Verification Status

Documentary claim / question	Source available	What the source supports or omits	Verification status
Branch BMS-related exercise	TNI AD (2022)	Public report describes a Pussenkav event; no syllabus or graduate assessment.	Event reported; educational transfer

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			unverified
Unit-level drone training	TNI AD (2025)	Kikav 8 training described; not Pusdikkav teaching.	Event reported; curricular relevance unverified
Drone drill and doctrine	Kodiklat TNI AD (2025)	Technical drill at infantry units; mandates differ from Cavalry school.	Event reported; educational transfer unverified
Need for educational resources	DPR RI (2026)	Public assessment about Pusdikkav; no classroom or learning-outcome audit.	Assessment reported; effectiveness unverified
Curricular alignment	No internal syllabi in corpus	Cannot compare authorized competency expectations with course outcomes.	Not verified
Instructor and graduate competency	No training/assessment records	No evidence of learner attainment or instructor proficiency.	Not verified
Simulation and feedback quality	No evaluation/feedback records	Simulation use alone is not evidence of poor instruction; feedback cycle undocumented.	Not verified

Source: author's analytical classification of the four identified public institutional reports; 'not verified' denotes insufficient evidence in this corpus, not proof that the activity or competence is absent.

Comparative educational research helps define suitable questions without filling these documentary gaps. Simulation studies indicate that learning value should be assessed relative to learning aims and the quality of instructional design (Harris et al., 2023; Fraulini et al., 2025). Organizational-learning research suggests examining how lessons become institutional practice (Dyson, 2019). Professional military education research proposes translating task demands into trainable competencies (Hornstra et al., 2025). However, findings from NATO or other national forces cannot be transferred directly to Pusdikkav because course mandates, organizational responsibilities, resources and training access may differ. The documentary corpus supports these as issues for evaluation; it does not establish which mechanisms are presently lacking in Indonesian Army Cavalry education.

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The pedagogical question is therefore whether a learning activity is aligned with specified objectives and produces assessable outcomes, not whether it uses a newer or more realistic device. Research synthesizing training design and development identifies needs assessment, practice, feedback and evaluation as consequential design elements (Salas et al., 2012). A meta-analysis of computer-based simulation games also finds that instructional context moderates their effectiveness, making an undifferentiated criticism of simulation methodologically unwarranted (Sitzmann, 2011). These findings identify evaluative criteria only; they cannot be used to infer the instructional quality of Pusdikkav courses without access to course objectives, delivery and assessment evidence.

Provisional Directions for Testing Cavalry Educational Adaptation

On the documentary evidence available, an educational-development agenda can be proposed but not ranked as an observed institutional need. The first proposition is to compare authorized Cavalry course outcomes against the operational expectations explicitly defined by responsible Indonesian institutions. A second is to examine whether instructional designs link foundational armoured-vehicle competence with appropriate information use, coordination and decision-making outcomes. These propositions do not assume that current courses are platform-only or that every new technology must be included. The evidence required to test them includes current learning objectives, lesson plans, assessment instruments and responsible educational stakeholders' accounts (Hornstra et al., 2025; McEnery, 2017).

Further propositions concern instructor preparation, the educational fit of simulators and digital tools, interoperability learning within the unit's mandate and a structured mechanism for incorporating user feedback. They require separate validation because an equipment shortfall is not the same as a teaching shortfall, and neither establishes an outcome gap. For example, an effective simulation can be appropriate even when live training opportunities are constrained, provided its objective and assessment are defensible (Harris et al., 2023; Garcia Estrada et al., 2024). Table 3 lists the propositions and the evidence needed to assess each. It is a research and development agenda, not a documented institutional action plan or a finding of six deficiencies.

Table 3. Provisional Educational Propositions and Evidence Needed for Validation

Prospective domain	Analytical proposition (not a finding)	Evidence required before recommendation
Curriculum alignment	Compare authorized expectations with actual course outcomes.	Current syllabi, competency standard, approved revision records.
Integrated learning	Test whether relevant learning outcomes connect core platform skills and other	Lesson plans, scenario objectives, assessment rubrics.

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	assigned capabilities.	
Instructor development	Examine capacity to teach and assess any newly mandated outcomes.	Instructor qualifications, training records, teaching assessment.
Simulation and technology	Evaluate suitability of each learning tool for its stated purpose.	Learning objectives, simulator evaluation and student outcomes.
Interoperability learning	Determine whether cross-unit understanding is required within Pusdikkav mandate.	Approved objectives and permitted course/exercise evaluations.
User feedback	Assess whether units provide actionable, recorded input into curriculum review.	Feedback protocols, graduate follow-up, documented responses.

Source: author's conditional propositions informed by the documentary matrix and cited education literature; no field validation or institutional prioritization is claimed.

The six propositions can be connected through a tentative feedback model: identify an authorized role expectation, specify its teachable elements, examine the existing curricular and assessment response, gather relevant unit feedback and decide whether a change is warranted. The model does not imply that variation among branch organizations is inherently problematic. At each stage, the responsible institution and its mandate must be identified before comparison. An observed gap would require an explicit expectation and credible evidence that teaching or assessed outcomes fail to meet it. Without those materials, the model serves as an operationally bounded agenda for future educational research rather than a demonstrated cycle already functioning—or failing—at Pusdikkav (Biddle, 1986; Paget, 2016).

Discussion

The reviewed official documents support a limited but meaningful finding: selected Indonesian Army institutions publicly reported technological training activities between 2022 and 2025, and a 2026 parliamentary report expressed concern about the adequacy of contemporary technology in education at Pusdikkav. These are reports about events and institutional assessments, not a direct measure of institutionalized adaptation, teaching effectiveness or graduate competencies. The different organizational mandates also prohibit treating variation among the reports as a quantified educational gap. The question for subsequent research is how an authorized expectation moves from branch and unit requirements into the formal curriculum and its assessment.

The role of public documentary evidence should therefore be kept separate from its interpretation. A branch exercise involving BMS may indicate an area of expertise that educational leaders could consider, but the cited account does not indicate whether that expertise is a required learning outcome at Pusdikkav. Similarly, activities at Kikav 8

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Kostrad or in infantry-based Kodiklatad training do not document Cavalry-school course content. The DPR report identifies a development concern but supplies no comparative baseline or learner-level outcomes. Differences between these accounts could reflect the mandates of their issuers and selective public reporting, as much as differing capacities. These competing explanations cannot be adjudicated without institution-specific evidence.

Educational research suggests criteria for evaluating potential responses, rather than a prescription to acquire each emerging technology. The value of simulation and adaptive technologies depends on their fit with stated learning outcomes, instructional design and assessment, not simply on whether live or virtual devices are present (Harris et al., 2023; Fraulini et al., 2025). The public report's reference to simulation must therefore not be read as evidence of poor instruction. International evidence offers useful analytical prompts but differs from the Indonesian institutional and resource context (Smith et al., 2025). A local educational evaluation would need to compare authorized course goals, instructor practice and observed or assessed student performance before identifying a shortcoming.

Role Theory makes this evidence requirement explicit. Public military and parliamentary statements may help identify role expectations, although they are not equivalent to an approved course competency framework. How Pusdikkav managers and instructors interpret these expectations concerns role conception; how instruction and assessment enact them concerns role performance; and how subsequent reviews respond concerns role adaptation (Biddle, 1986). Only the first category is partly accessible in the present sources. An 'educational role gap' is therefore a proposition to be tested where expectation and documented performance diverge, not an empirical result already established. This is the principal conceptual contribution and its current evidentiary limit.

The proposed framework adds a learning-process question to Role Theory: which mechanisms allow an institutional expectation to become a durable instructional and assessment practice? The four-process model of organizational learning distinguishes interpreting, integrating and institutionalizing knowledge, cautioning against treating recognition of a capability requirement as evidence that the requirement has entered routine educational practice (Crossan et al., 1999). The transfer-of-training literature further separates course achievement from sustained use in subsequent work and highlights the importance of design and work-environment support (Burke & Hutchins, 2007; Baldwin & Ford, 1988). In the Indonesian Army Cavalry case these are analytical tests, not documented institutional mechanisms, and their applicability would have to be established through authorized curriculum and unit-level evidence.

A possible educational implication is to evaluate the relationship between platform-specific mastery and system-level learning objectives without assuming that one has displaced the other. When an institution's mandated outcomes require coordination across

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functions, curriculum and assessment could appropriately test information use, communication and decision-making alongside core Cavalry skills. The precise balance would depend on task requirements and the institution's scope, not on foreign models alone. Research on professional military education and mental interoperability provides comparative concepts for formulating such questions; it does not establish their current implementation in Indonesian Cavalry education (McEnery, 2017; Paget, 2016).

An institutionally feasible validation sequence would begin with access to authorized competency statements and relevant syllabus versions, followed by interviews with curriculum owners and instructors, review of lesson and assessment records, and appropriately permitted observation of learning activities. Findings could then be compared with unit feedback to determine whether revisions are warranted. Such steps are recommendations for a future design; they are not procedures reported as completed in this article. Documentary analysis cannot establish the effectiveness of these interventions beforehand, and any eventual adaptation would require consideration of staffing, resources, security restrictions and institutional responsibilities.

A future feedback design could compare the learning objectives specified by the education authority with evidence of learning and subsequent use at the receiving unit. Structured debriefs or after-action reviews are potential instruments for such inquiry, as research associates well-designed debriefing with better performance across varied settings (Tannenbaum & Cerasoli, 2013). This external evidence does not establish that a particular feedback mechanism is already operating at Pusdikkav or that an equivalent effect would occur there. Its relevance is to propose an observable sequence—curriculum expectation, assessment, unit application and reviewed feedback—that can distinguish a pedagogical adjustment from a merely technological change.

Taken together, the document analysis produces an evidence-bounded set of researchable propositions rather than a comprehensive diagnosis of Cavalry education. Its explanatory value lies in showing the transitions that must be examined—expectation, interpretation, educational enactment and organizational feedback—and in preventing the visibility of new devices or news coverage from becoming a proxy for learning quality. The proposed six domains remain unranked and unvalidated. Future institution-specific research is needed to determine which, if any, indicate a real educational gap and whether changes would improve assessed competence (Dyson, 2019; Hornstra et al., 2025).

KESIMPULAN

The reviewed public records establish that selected Indonesian Army institutions reported integrated and drone-related training activities and that a parliamentary account in June 2026 identified a need to strengthen modern learning resources at Pusdikkav. They do not establish the content of its current curriculum, the competence of instructors or

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graduates, the quality of simulation-based learning or the existence of a system-wide adaptation deficit. Accordingly, the article makes no finding that Cavalry education has already shifted—or must universally shift—from platform-oriented to system-oriented training. Such a proposition requires a comparison of the institution's authorized learning objectives with actual instruction and assessed outcomes.

The study's contribution is a preliminary educational role-gap framework that distinguishes expectations expressed by relevant institutions from educators' interpretations, educational performance and adaptation through feedback. It identifies what evidence would be needed to test whether these stages are aligned, while recognizing that different institutions may legitimately train different competencies. Six potential educational domains—curriculum, integrated learning objectives, instructor preparation, learning technologies, interoperability and unit feedback—are retained as conditional propositions for future validation, not empirically demonstrated deficiencies or implementation priorities.

The principal limitation is the absence of reported field interviews, observations, internal course documents and learner assessment data. The four identified official accounts are selective public communications, and the documentary search cannot be represented as systematic because a complete search log and exclusion record are unavailable. Comparative international studies supply interpretive concepts rather than direct evidence about Pusdikkav. Future work should use authorized and ethically accessible curriculum versions, instructor and graduate assessment records, and user-unit feedback to test specified role expectations and identify any actual mismatch. This exploratory documentary study cannot generalize to all Cavalry institutions or establish that proposed reforms will be effective.

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