Reimagining the Human Dimension

Cognitive Readiness and Professional Military Education for the Indian Armed Forces in the Age of Hybrid Warfare

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Nuclear-armed adversaries on two fronts, a sub-conventional campaign along the Line of Control and an expanding Chinese grey-zone effort across the Himalayan frontier together constitute a hybrid threat the Indian Armed Forces have not previously faced in combination. The Professional Military Education (PME) system that prepares officers for it still relies on frameworks shaped by an earlier era. Taking as its point of departure the Chief of Defence Staff's disclosure that 15 per cent of operational time during Operation Sindoor was spent countering false narratives, this article assesses those structures against the demands hybrid warfare places on cognitive readiness, psychological resilience and leadership adaptability. It identifies five curricular gaps and proposes a reform agenda calibrated to India's resource and manpower constraints. It argues that joint competence must rest on uncompromised single-service proficiency and be sequenced accordingly. It draws on how the United States, the United Kingdom and Australia restructured joint PME, and concludes that PME reform is a precondition, not an adjunct, to the structural reforms now underway.

Keywords: *Indian Armed Forces; Hybrid Warfare; Professional Military Education; Cognitive Readiness; Theaterisation; Leadership Development; Doctrinal Reform*

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Introduction: India's Strategic Reality and the Demands It Places on Leadership

To India's north and north-east, a nuclear-armed China with revisionist territorial ambitions has shown, through the June 2020 Galwan Valley clash and persistent expansion along the Line of Actual Control (LAC), its willingness to employ calibrated force below the threshold of war to alter facts on the ground.[1] To the west, Pakistan continues a decades-long sub-conventional campaign combining proxy non-state actors, cyber intrusions and information operations directed at India's social cohesion.[2] Coordinated pressure from both is now a live operational concern.[3]

The character of that conflict has also changed. Alongside the conventional contingency for which India's doctrine and training remain optimised, the forces must now expect hybrid engagements that integrate kinetic and non-kinetic action, contest the information and cyber domains, target civilian morale and institutional trust, and blur the boundary between peace and war. No claim is made that conventional war has receded or that India will not face one. Operation Sindoor was substantially conventional in its kinetic dimension, and the argument turns on that fact rather than against it. Hybrid methods supplement conventional capability without displacing it, and cognitive readiness is required alongside conventional competence, not instead of it. What has changed is not the likelihood of conventional war but the certainty that any conflict will be fought concurrently in domains for which the contemporary professional military education (PME) does not prepare.

Hybrid warfare is used here in Frank Hoffman's sense: the deliberate convergence, within one operational design, of conventional capabilities, irregular tactics, terrorism and criminal disorder.[4] This is distinct from the Gerasimov doctrine, a term its author has disowned as a placeholder that was never a doctrine,[5] and from the Chinese lineage running from Unrestricted Warfare through the three warfares of public opinion, psychological and legal operations.[6] The Indian planner confronting both Rawalpindi and Beijing confronts two theories of victory, not one. India's existing vocabulary, the two-and-a-half front formulation in which the half denotes internal security, is insufficient. A more accurate rendering would count three halves alongside the two conventional fronts: sub-conventional and counter-insurgency operations; the cyber and space domains; and psychological or narrative warfare. Each demands distinct cognitive competencies, and PME prepares officers systematically for only the first.

India's performance here depends more on the quality of its military leadership than on platforms. It requires junior leaders capable of sound judgement in morally ambiguous circumstances, commanders who adapt methods rapidly, staff officers who think jointly rather than within service silos and a culture prizing mental agility alongside physical courage. These qualities develop through focused PME.[7] Whether India's system develops them is the question this article addresses. On the available evidence, it does so partially and unevenly. India maintains institutions of genuine distinction, but pride in inherited achievement cannot substitute for honest assessment.

One qualification governs what follows. Nothing here trades single-service proficiency against joint competence. A theatre command staffed by officers with broad awareness and shallow mastery would be worse than what it replaced. The argument is about sequence, and about what is layered above mastery.

A note on sources and scope. The assessment of curricular content draws on published course descriptions, the documents cited, the secondary literature and the author's own exposure to these institutions, not on systematic access to syllabi or course precis, which are not public. The evidence base is weighted towards the Army; the argument is intended to hold across the three services but requires testing against naval and air force practice.

The Hybrid Threat in India's Strategic Context

China's Grey-Zone Campaign Along the LAC

The People's Liberation Army's approach reflects a preference for winning without fighting: calibrated pressure, information campaigns, infrastructure development and controlled incidents designed to shift the balance without triggering the escalation a declared conflict would invite.[8] Border villages in disputed sectors, dual-use infrastructure in Tibet and Xinjiang, improved links to the LAC and assertive patrolling of the kind that produced Galwan form one coordinated campaign, not discrete provocations.

The campaign is not confined to the border. In its 2025 report to the Congress, the US–China Economic and Security Review Commission found that Beijing used inauthentic accounts to circulate AI-generated images of purported aircraft debris after Operation Sindoor to discredit the Rafale and advance its own J-35, treating this as part of a grey-zone repertoire spanning cyber, economic, legal and informational instruments.[9] An adversary willing to run an information operation against India's equipment in third markets,

after a conflict it was not fighting, is operating on a theory of victory Indian PME does not teach officers to recognise.

What makes this difficult is its deliberate ambiguity. At Galwan, the rules of engagement, the alignment of the LAC and the opposing force's intentions were all contested in real time, and decisions taken by junior leaders over a few hours carried strategic consequence. Their conduct showed what India's training can produce, and how much of that rested on individual character rather than systematic preparation.

Pakistan's Hybrid Warfare Toolkit

Pakistan's use of non-state proxies, information operations and cyber capability against India is extensively documented and of long standing.[10] The informational environments surrounding Balakot in 2019 and Operation Sindoor showed the capacity of state-affiliated actors to propagate false narratives, exploit recommendation systems and target Indian audiences with divisive content.

Operation Sindoor, launched in May 2025 after the Pahalgam attack, merits closer examination than it has received. The most authoritative account of its informational dimension comes from the Chief of Defence Staff (CDS). Speaking at the Shangri-La Dialogue that month, General Anil Chauhan disclosed that approximately fifteen per cent of operational time was spent countering fake narratives, and drew from this the need for a dedicated information warfare vertical. He described Sindoor as a non-contact, multi-domain conflict exemplifying the future of war, and India's communication strategy as deliberately measured and fact-based even at the cost of speed.[11]

One operational hour in seven was spent not conducting operations but contesting an adversarial narrative, and no Indian PME curriculum prepares officers for a demand of that magnitude. The claim here is not that the armed forces handled it badly; by the CDS's own account, the approach was deliberate and disciplined. It is that they handled it without having been taught to, which is the condition education exists to remedy.

The Internal Security Dimension

India's prolonged commitment to internal security operations, particularly in Jammu and Kashmir and the north-east, has shaped institutional culture, training priorities and the outlook of much of the officer and soldier corps, producing genuine strengths in adaptability, sub-conventional expertise and resilience.

It has also produced costs. Prolonged immersion in sub-conventional operations can narrow doctrinal imagination, constraining the capacity to conceive of large-scale conventional or multi-domain operations.[12] The moral complexity of counter-insurgency operations among civilian populations, which involves balancing force protection with the safety of non-combatants and confronting allegations of rights violations, imposes psychological and ethical burdens that PME inadequately addresses. The effects of repeated high-stress deployment on mental health are documented in the service medical literature, even where institutional culture prefers to manage them discreetly.[13]

The Current PME Architecture: Strengths and Structural Gaps

What the System Does Well

India's PME architecture spans a career from pre-commissioning to the highest levels of strategic education. The National Defence Academy at Khadakwasla, in operation since 1954 and widely regarded as the world's first tri-service academy, imparts three years of joint cadet training before cadets proceed to their service academies. The Indian Military Academy, the Indian Naval Academy at Ezhimala, and the Air Force Academy at Dundigal produce officers with high physical standards and a strong institutional identity, and the regimental attachment formed here is a real asset.

At the intermediate level, the Defence Services Staff College (DSSC) offers one of the region's stronger joint staff programmes, and its intake from friendly foreign countries makes it a credible platform for coalition understanding. Each service also maintains a war college: the Army War College at Mhow, the Naval War College at Goa and the College of Air Warfare at Secunderabad.[14] The College of Defence Management covers the organisational dimensions of senior command; the National Defence College integrates civil and military strategic thought.

The deficiencies below are not newly discovered. The Chiefs of Staff Committee proposed a national defence university in 1967; the Sethna Committee endorsed it in 1982; the Kargil Review Committee revived it in 1999; and the Union Cabinet approved it in May 2010. The foundation stone was laid at Binola, Gurugram, in May 2013, and a draft Bill went online in 2016 – the institution still does not exist.[15] Nor is the diagnosis new. A decade ago, in this journal, Prakash Menon argued that Indian

PME is weighted towards the tactical level at every stage, leaving senior leadership under-exposed to strategic studies and treating combat as an instrument of warfare without relating war to politics.[16] That critique stands. This article extends it in two directions Menon's did not need to take: towards the cognitive and informational dimension of conflict, and towards the demands that theaterisation, Agnipath and the experience of 2025 have since created.

Curriculum Gaps: What is Missing

Five gaps matter in the hybrid battlespace. The first is the absence of structured instruction in cognitive and psychological competencies. Officers are thoroughly trained in tactical procedure, physical conditioning and leadership by example, but rarely taught how cognitive bias shapes decision-making under pressure, or how to monitor their own reasoning when saturated with information.

The second is information warfare literacy. Most curricula do not equip officers to understand how disinformation campaigns are built and spread, how recommendation systems amplify divisive content, how synthetic media is produced and detected, or how to counter coordinated inauthentic behaviour. Considering that this will take up about fifteen per cent of operational time in 2025, it represents a significant vulnerability that we can address. It is an important area to focus on to improve overall efficiency and security.

The third is the cyber and digital domain, and it should be stated precisely, because the evidence runs counter to the obvious formulation. The CDS reported that cyber operations played a limited role in Sindoor. India's air-gapped systems remained secure, and only public-facing platforms saw minor disruption.[17] The gap is therefore not one of technical defence, which held, but that specialist courses cover the technical components while mainstream PME does not integrate the doctrinal and cognitive implications of operating in a contested digital environment. That is a matter of command, not specialism.

The fourth concerns the joint layer above single-service expertise. Single-service depth properly dominates the first fifteen years; and the difficulty is that nothing reliably builds on it later. Career structures reward service-specific performance and offer little incentive to build joint competence, so officers reach the ranks where joint responsibility begins unprepared.[18] The DSSC provides joint exposure at mid-career, and the

war colleges have begun introducing joint content, but the transition is not a deliberate progression.

The fifth is ethical education. The curriculum is predominantly rule-based, centred on the law of armed conflict, service regulations and military law. It is necessary but insufficient for the moral problems of hybrid operations, where the adversary's identity is uncertain, consequences unpredictable, and the mission may conflict with force protection or civil expectations. Virtue-based education—the deliberate formation of character, judgement and moral courage—is largely absent.

Pedagogical Conservatism

Indian PME remains conservative in pedagogy, relying principally on lectures, demonstrations and directed exercises. Problem-based learning, Socratic discussion, red-teaming and adversarial simulation appear in places but are not embedded across curricula. This matters because the attributes hybrid warfare demands, i.e., prompt adaptation, critical reasoning under pressure, tolerance of ambiguity and a willingness to revise mental models, are not acquired by passive assimilation of doctrine. They develop through engagement with complex, ill-structured problems that procedure cannot resolve.[19] A system that rewards the correct application of known procedure produces officers who apply known procedures correctly, which is not the capability at issue.

The Theaterisation Challenge

The reorganisation into integrated theatre commands is the most ambitious structural reform since Independence, and its logic is sound. A structure organised by service rather than theatre introduces the friction that the tempo of hybrid conflict will not tolerate. The enabling architecture has been assembled steadily: the CDS and the Department of Military Affairs in 2019 and 2020, the Inter-Services Organisations Act in 2023, the designation of 2025 as a year of defence reforms, and proposals for joint military stations and a tri-service education corps.[20]

Organisational charts do not by themselves produce joint capability. Theaterisation requires officers at Colonel, Captain (IN) and Group Captain level and above who understand the other services' capabilities and limitations; can integrate land, air, maritime, cyber and information effects into coherent design; and can lead multi-service teams. PME must begin producing them now. That is the same argument as before, now with a deadline attached.

A Reform Agenda for Indian PME

Cognitive Readiness as the Central Educational Objective

Each reform below answers a specific feature of the threat described above. Grey-zone ambiguity of the kind encountered at Galwan requires junior leaders who can decide well when the rules, the ground and the adversary's intent are all contested. The informational contest around Balakot and Sindoor requires officers who can hold analytical discipline in a poisoned information space. Multi-domain integration requires joint competence where joint responsibility begins. Grey-zone deployment requires resilience treated as readiness. The moral ambiguity of sub-conventional operations requires ethical formation rules alone cannot supply. Nothing here proposes change for its own sake.

The fundamental change required is a shift in the primary educational objective, from transmitting doctrinal content to developing cognitive readiness. It needs to address the mental preparation, comprising knowledge, skills and attributes, needed to sustain competent performance in the unpredictable environment of modern operations.[21] Volatility, uncertainty, complexity and ambiguity (VUCA) describe those conditions. Cognitive readiness is the capacity to function within them.

If cognitive readiness is to be an objective rather than an aspiration, it must be assessable, and the obvious objection is that it cannot be measured. It can, imperfectly. The literature identifies components that are domain-independent, measurable and trainable, i.e., situation awareness, metacognition, adaptability, resilience and critical thinking.[22] Three methods may facilitate assessment, with no new infrastructure. Situation awareness can be probed by pausing an exercise and asking students about the state of the problem. Metacognition can be assessed through decision journals in which students are marked on the reasoning behind a judgement rather than the outcome, which also breaks the habit of grading officers on whether they reached the approved solution. Adaptability can be measured by injects that invalidate the plan, grading the speed and coherence of reframing. All require directing staff trained to apply them, which returns the argument to faculty reform below.

Content must change alongside method. The psychology of decision-making under stress should become a substantive component of the DSSC curriculum and company commander equivalent courses, so that officers understand how confirmation bias, availability effects and group dynamics

distort military judgement. The literature on naturalistic decision-making in military settings is directly adaptable and currently absent from Indian PME.[23] More time should go to problem-based and simulation-based learning. Wargames develop cognitive agility when they present genuinely novel, ambiguous and stressful problems, and fail to when they rehearse familiar scenarios against predictable adversaries. Red teaming that contests assumptions, and after-action review built to develop metacognitive awareness, should become standard.

Adjusting Existing Modules for Multi-Domain Conflict

The most frequent objection to any curricular proposal is insufficient space, and adjusting existing modules answers it. Three approaches are available. The first is overlay: existing exercises retain their objectives, but the scenario is amended so that cyber, space and information effects act on the problem the student is already solving. A divisional attack exercise proceeds as before, except that communications are degraded at a chosen point, a manipulated video of an incident involving forward troops circulates during planning, and space-based surveillance is intermittently denied. The objective is unchanged; the environment is not. This needs no extra course time and no new syllabus, only redesigned settings and directing staff trained to run them.

The second is adversary redesign. Most Indian exercise enemies behave conventionally. Reconstituting them as hybrid actors employing proxies, information operations, legal challenge and cyber intrusion changes what an exercise teaches without changing what it covers. The red teams should contest the student's information picture, not only his scheme of manoeuvre.

The third is the joint capsule, and here India already has a working model. The respective service war colleges host students participating in brief modules on a reciprocal basis at other service war colleges; for example, participants in the Naval Higher Command Course at Goa undertake a five-week joint operations module at the Army War College, Mhow.[24] That structure, in which officers complete their single-service higher command education in their own institution and then take a concentrated joint block elsewhere, is what this article recommends generalising. Reciprocal capsules across the three war colleges, with common scenarios and shared directing staff, would build joint competence at the right career point without diluting single-service content, and the Tri-Services Future Warfare Course offers a further template.[25] Only when these are exhausted should new instruction

be considered, with displacement falling on procedural content movable to distance learning.

Information Warfare and Digital Literacy

The second gap requires a dedicated module at DSSC level, adapted for pre-commissioning training, covering the construction of influence operations, the vulnerabilities they target, the detection of synthetic media and the principles of strategic communication. Headquarters Integrated Defence Staff and the Defence Cyber Agency can bring expertise into the classroom. The aim is information literacy from unit command upward, not a cadre of technical specialists. The CDS's call for an information warfare vertical implies an educational pipeline; a vertical staffed by officers with no preparation for it would reproduce the problem at higher cost.

The Primacy of Single-Service Proficiency

The relationship between joint competence and single-service mastery must be stated plainly, because it is where such proposals founder. Single-service proficiency comes first and is not negotiable. A battalion commander who cannot fight his battalion, a commanding officer who cannot fight his ship and a squadron commander who cannot employ his aircraft do not become more valuable by understanding the other two services. They become less valuable, having spent on breadth the time required for depth. The proposition that jointness be introduced earlier is therefore not that it displaces anything, but about what is added, when, and in what proportion.

The sequence has four stages. Joint awareness sits in pre-commissioning and covers the capabilities, cultures and vocabulary of the other services. It does not interfere with arm or service training and is already imparted at the NDA. Single-service mastery dominates from commissioning to Lieutenant Colonel and equivalent and should remain so. The reforms proposed at this stage change how professional subjects are taught without substituting for them. Joint competence becomes the priority at Colonel, Captain (IN) and Group Captain level, when officers begin filling joint staff appointments, and it is here that the capsules and multi-domain modules do their work. Joint command follows at Brigadier and above, the business of the war colleges, the DSSC and the higher command courses.

This matches the practice of the militaries examined below, none of which built joint capability by diluting single-service training. It carries a corollary the services will find less comfortable. Those who acquire joint competence must not be penalised for the career time it costs.

Joint Education from the Beginning

The obvious objection to earlier joint education is that India already does it, and the point holds further back than the NDA. The Rashtriya Indian Military College, the Rashtriya Military Schools and the Sainik Schools exist to prepare candidates for Khadakwasla, and all opened to girls in this decade.[26] The NDA has trained cadets of all three services together since 1954 and admitted women since 2022. India's pre-commissioning pipeline is longer and more genuinely tri-service than the systems examined below.

The difficulty is threefold. Coverage: many officers enter through direct entry, technical entry, short service commission and the Officers Training Academies, never passing through Khadakwasla, so the foundation is partial. Content: shared residence, drill and academics foster familiarity and personal networks but do not constitute joint operational education, and Menon's finding that the NDA's academic content gives most cadets little exposure to political science, international relations or strategic studies bears on what that foundation can carry.[27] Third and most significant, any joint disposition the NDA instils is not reinforced during the years when officers properly focus on their own arm or service, and no mechanism revisits it when it becomes operationally necessary. India initiates jointness early, then neglects it.

Two measures follow, both modest in their claim on training time. Introduce a two- to three-week joint orientation capsule for officers commissioned through non-NDA routes, so the awareness foundation becomes universal rather than partial. It belongs at the young officers' stage rather than in pre-commissioning training, where the syllabus is compressed and arm or service instruction takes priority. Its purpose is orientation, not competence. Second, the DSSC curriculum should incorporate a module on multi-domain operations that examines how cyber, space, information and conventional capabilities integrate in joint operational design.

Comparative Experience: Joint PME in Other Militaries

Three militaries have restructured their PME over four decades to cultivate joint leaders, instructing by what they did and by what they declined to do. The United States acted through legislation. The Goldwater–Nichols Act of 1986, passed after demonstrated failures of inter-service coordination, created a two-phase Joint Professional Military Education requirement and linked it to career management. Phase I is within the intermediate and senior service schools; Phase II is at the Joint Forces Staff College, normally before an officer takes up a position on the Joint Duty Assignment List. Critically,

it made joint duty a statutory prerequisite for promotion to one-star rank and provided that officers in joint assignments be promoted at a rate not lower than their contemporaries.[28] The reform was underwritten by a career guarantee, without which no part of the American system would plausibly have worked.

The United Kingdom acted through consolidation. In 1997, the Royal Naval College at Greenwich, the Staff College at Camberley, the RAF Staff College at Bracknell and the Joint Service Defence College merged into a single Joint Services Command and Staff College, which launched the tri-service Advanced Command and Staff Course that September and moved to Shrivenham in 2000.[29] The merger was incremental, concentrating first on the main joint course. The Higher Command and Staff Course now performs the equivalent function at one-star level.

Australia acted at both ends of the career. The Australian Defence Force Academy, established in 1986, provides tri-service undergraduate education modelled partly on the Indian precedent at Khadakwasla, and in 2001 the Australian Command and Staff College replaced the separate single-service staff courses.[30]

Three lessons follow. The career incentive accompanied or preceded the educational change in each case; where it did not, joint appointments became dead ends, and the education was wasted. Consolidation was incremental, beginning with one flagship joint course. And none diluted single-service training to make room for joint education. India's pipeline from the Sainik Schools through the NDA gives it a stronger starting position than any of the three enjoyed. What it lacks is the layer they built above single-service mastery, and the career architecture that makes officers want it.

Psychological Resilience and the De-Stigmatisation of Mental Health

The psychological demands of hybrid warfare, sustained uncertainty, information saturation, moral ambiguity and the chronic stress of grey-zone deployment make resilience a component of operational readiness, not a welfare consideration. The PME should treat structured resilience training as core professional development.

The accompanying cultural change matters as much. Considerable stigma attaches to psychological difficulty across the three services, so that personnel experiencing stress, trauma or moral injury conceal it rather than seek assistance. Indian clinical guidance on well-being among security personnel identifies this and recommends organisational as well as clinical responses.[31] Senior commanders and PME institutions are best placed to

establish a different norm; the Armed Forces Medical Services provide the clinical foundation.

Ethical Education: From Rules to Character

India's operational history, extensive counter-insurgency experience, episodic allegations of rights violations and the moral complexity of operations under the Armed Forces (Special Powers) Act make ethical education a matter of institutional integrity and operational effectiveness alike.[32] Rule-based instruction remains necessary, but rules govern anticipated conduct. The characteristic difficulty of hybrid operations is that the situation is unanticipated and the applicable rule is contested.

A reformed approach would situate virtue-based education—the deliberate formation of courage, honesty, justice and practical wisdom—within the rule-based framework, through engagement with authentic dilemmas from India's operational history, taught by instructors willing to model the reasoning they seek to develop.

The Chetwode Credo, from Field Marshal Sir Philip Chetwode's inaugural address at the Indian Military Academy in 1932, anchors such a curriculum, and is more useful in full than in the truncated form usually quoted. 'The safety, honour and welfare of your country come first, always and every time; the honour, welfare and comfort of the men you command come next; your own ease, comfort and safety come last, always and every time'.[33] The second and third clauses articulate the subordination of self-interest to the welfare of subordinates that virtue-based ethics cultivates. Ethics should run through the whole curriculum instead of occupying a module completed and set aside.

Doctrinal and Organisational Changes

Doctrine for the Hybrid Battlespace

India's capstone doctrines have been progressively revised.[34] Joint doctrinal output has since accelerated sharply: a Joint Doctrine for Cyberspace Operations in June 2024, declassified in August 2025 alongside one for amphibious operations, and joint doctrines for special forces, airborne and heliborne operations, and multi-domain operations released at Mhow later that month.[35] The multi-domain doctrine supplies much of the integrating framework this article would otherwise have called for. What remains absent is doctrine for the grey zone itself: the space below the threshold of declared conflict, where the adversary's action is deniable, the instruments are as much

informational and legal as kinetic, and responsibility is divided across the services and the intelligence community. The CDS's call for an information warfare vertical argues for closing that gap.

PME institutions should participate in doctrinal development, not merely receive approved doctrine. The war colleges, the DSSC and the NDC are venues for the conceptual argument, red-teaming and wargaming on which sound doctrine depends, and the Army War College at Mhow hosted the armed forces' first tri-service seminar, Ran Samwad, in August 2025, one of whose sub-themes was reform of institutionalised training.[36] Their faculties are a resource the doctrinal process does not draw on systematically.

A Single Joint War College?

Whether the three war colleges should be consolidated deserves formal examination. The case rests on precedent and economy. Britain merged three single-service staff colleges in 1997, and Australia consolidated its staff courses in 2001; neither has reversed the decision. A single institution would produce a common operational vocabulary, place officers of the three services in one syndicate room, concentrate scarce faculty and infrastructure, and give theatre commands one source of joint-qualified officers.

The case against is stronger than it appears. Higher command courses are where an officer masters the operational art of his own service. The Army officer learns to handle formations in the field, the Naval officer a task force, the Air Force officer to plan an air campaign. These are not interchangeable, and a merged curriculum would either preserve them in parallel streams, making the merger administrative rather than educational, or compress them, purchasing jointness at the cost of the depth on which it depends.

A middle course exists in part. The three colleges should be retained as the seats of single-service operational mastery, while the joint capsule already used by the Naval Higher Command Course is generalised, made reciprocal and expanded, with a common joint term designed by Headquarters Integrated Defence Staff and delivered in rotation. This would produce most of the benefits at a fraction of the cost. Whether the destination should nonetheless be a single joint war college is for the Department of Military Affairs to study. This article does not claim to settle it.

Another option is worth considering: import all the high command course curricula in the three services to the senior command level (that is, lieutenant colonel and equivalent level) before an officer takes up command. An officer must master the individual service level before taking up command, not after he has finished the command. After he has finished

the command, the rationale for him to master his own service reduces to some extent and presently is designed to go in for higher ranks (that is, one star and above). As far as the present structure of higher command level courses is concerned, they should be purely joint courses for all three services, with officers from all three services in the same syndicate, unlike at the DSSC. As regards the curriculum and syllabus, that should be common to all three services' respective war colleges. And this proficiency, which an officer gains at this joint level, becomes a precursor for his promotion to the star ranks.

Theaterisation and the PME Imperative

Beyond curriculum, promotion and appointment systems require reform if joint capability is to be sustained rather than merely instilled. Officers who devote substantial portions of their careers to joint appointments should be advantaged in promotion relative to those who remain within single-service structures.[37] Goldwater–Nichols did not merely encourage joint service; it made joint duty a statutory condition of promotion to flag rank and protected the prospects of those who undertook it. Without an equivalent guarantee, the reforms above will produce officers who are joint-minded and professionally disadvantaged for being so.

Harnessing Technology in PME

Simulation tools tailored to India's environments are achievable domestically through the defence industry and the Defence Research and Development Organisation. They are a practical way to deliver exercise overlays at scale, and adaptive learning platforms can absorb procedural instruction displaced from resident courses.

Technology also enters the curriculum as subject rather than method, and this element of cognitive readiness will grow. Artificial intelligence sits on both sides of the problem. It produces synthetic media faster than manual verification can match and may also detect it. It will also increasingly mediate targeting, intelligence fusion and decision support. The CDS has noted a less obvious consequence: where automation reduces risk to one's own personnel, decision-makers may act more aggressively.[38] Cognitive readiness will therefore come to include the capacity to interrogate a machine-generated recommendation, to recognise where a model's confidence exceeds its warrant, and to retain moral responsibility for a judgement a system has shaped. None of this is taught, and the Tri-Services Future Warfare Course is the natural vehicle for developing it.

The Faculty Challenge

The quality of reform depends ultimately on the faculty. The prevailing model—instruction delivered largely by serving officers on short postings with limited pedagogical preparation—has clear limits. Operational experience is indispensable but not sufficient to make an educator, and the brevity of most postings prevents any accumulation of teaching expertise. This bears on the exercise redesign and assessment framework above, neither of which can be delivered by directing staff new to the method.

A reformed model would include more permanent or long-tenured faculty with genuine educational qualifications, supplemented by visiting practitioners and civilian academics. The Regiment of Artillery's practice, the Long Gunnery Staff Course followed by an instructional tenure of at least three years, is a template adaptable across arms. Integration of civilian scholars, already practised at the NDC, should extend to the DSSC, the war colleges and the pre-commissioning academies.[39] Like most of the armies in the world, they employ veterans to do this job. A feasibility study can be undertaken to see how veterans on a contractual basis can fill this gap, or we can take concerted measures to make the government understand and facilitate the early establishment of the National Defence University. The wider question of how the forces recruit and retain such human capital has been raised in this journal in connection with the Department of Military Affairs, and applies equally to PME.[40]

Objections, Costs and Sequencing

Two constraints bind this agenda. The first, finite PME time, is met by the graduated approach above. The second is cadre deficiency. The Army's officer shortfall makes longer courses and three-year instructional tenures expensive in the currency it can least afford, so faculty reform must be phased. A partial reform that is resourced beats a comprehensive one announced and quietly abandoned, which has been the fate of most Indian PME reform proposals to date.

A third objection is more fundamental. These qualities, it may be said, are formed by operational experience rather than in classrooms, and Galwan is evidence of it. The objection has force, and the response is to qualify rather than deny it. Experience teaches, but slowly, unevenly and only about the situations it happens to present. Officers who performed well at Galwan drew on character and regimental training, not on preparation for the epistemic conditions of that encounter. Education compresses what experience would otherwise teach expensively, and prepares for what it has not yet presented.

On sequencing, exercise overlays, adversary redesign, reciprocal capsules, the orientation capsule for non-NDA entrants and ethics across courses are achievable within existing structures and budgets, in two to three years, by Service Headquarters. Faculty reform, promotion incentives and war college consolidation require the Department of Military Affairs and, for promotion policy, government sanction. Attempting the second set first will not succeed.

Leadership, Morale and Cohesion in the Indian Context

The Regimental System and Its Limits

The regimental system, in which soldiers and officers develop deep loyalty to a regiment often tied to regional, ethnic or religious communities, has been a major source of cohesion and combat morale, as Longewala, Rezang La and Turtuk attest.[41]

It also constrains and what follows is a research hypothesis, not a finding. The singular unit identity that makes the regiment formidable may work against the inter-service trust that theatre operations require, and does not transfer automatically to a joint formation.

That argument has already been tested and found wanting. In *Secretary, Ministry of Defence v. Babita Puniya*, the Union opposed permanent commission and command for women partly because their presence would impair unit cohesion. The Court rejected this as stereotype rather than evidence, directed permanent commission across the ten streams then open, and held command appointments could not be foreclosed.[42] Parallel litigation in *Kush Kalra v. Union of India* opened the National Defence Academy in 2021; its first co-educational batch graduated in May 2025.[43]

The practical answer arrived that month. For the first three days of Operation Sindoor, with senior leadership engaged elsewhere, India's briefings were delivered by two women officers, Colonel Sofiya Qureshi and Wing Commander Vyomika Singh; the DGMOs appeared only after 10 May.[11] At maximum informational pressure, India's strategic communication was joint and female, performing the meaning-making function PME does not develop.

That sequence matters in three ways. Cohesion arguments have been advanced without an evidentiary base, which is why the hypothesis above is offered for research, not asserted. The officer corps is changing where joint education begins, so pre-commissioning reform must also suit a co-educational cadre. And PME must prepare officers of both sexes to command,

front the narrative and hold joint appointments, extending the regiment's shared identity and obligation to joint formations.

The Agnipath Transition and the Human Dimension

No discussion of the human dimension can proceed without the Agnipath scheme, under which most soldiers serve four-year tenures with a minority retained for longer engagement.[44] Its implications for every variable discussed here are direct. Cohesion of the kind the regimental system generates is built over years of shared service, and a four-year tenure alters that basis. The training investment calculus changes when the expected return period shortens; support structures designed around long service personnel must be reconsidered; and the JCO and NCO cadre, on which small unit leadership and institutional memory depend, will be drawn from a narrower pool.

These are empirical questions on which this article takes no position, but if the human dimension is the decisive variable, the largest change to its composition in decades belongs in any account of it. It also marks a limitation of the present scope, which is officer centric. The education of JCOs, NCOs and soldiers under Agnipath conditions is at least as consequential at the point of contact and warrants dedicated treatment.

Leadership and Morale Under Sustained Pressure

Morale under current conditions, extended LAC stand-offs, continuing counter-insurgency deployments and the demands of a nuclear deterrence relationship warrants more systematic attention than it receives. Foundational research on military cohesion found the primary group, and the quality of immediate leadership within it, decisive in sustaining soldiers under prolonged stress, and appeals directed past that group to broader political or ideological loyalties to have little effect.[42]

PME must therefore develop officers with the qualities small-unit leadership requires: knowing their soldiers as individuals, communicating with clarity and candour, weighing operational demands against the welfare of their people, and modelling the standards they expect.[43] These are not innate; they develop through education, mentorship and structured reflection, and PME is where that can be made deliberate rather than accidental.

The Strategic Narrative Challenge

The capacity of military leaders to explain purpose, account for action and sustain institutional credibility is an operational capability, not a public

relations function, and Indian PME does not systematically develop it. The 2025 experience is instructive both ways. The burden was quantified at fifteen per cent of operational time, and the measured, fact-based response was a choice commanders made rather than a skill their education had given them.

Strategic communication should therefore be incorporated into leadership education at the DSSC and the higher command courses. The objective focuses on meaning-making rather than media training, interpreting ambiguous situations through professional values in a manner that sustains the confidence of subordinates, supports the understanding of political authority and garners public support. The future military leader must be a thought leader as well as a fighting one, i.e. a scholar warrior.

Conclusion: The Human Dimension as Strategic Priority

Theaterisation, the modernisation of platforms and the increasing sophistication of Indian strategic thought indicate an institution engaging seriously with 21st-century warfare. None of it will realise its potential unless the human dimension is developed with comparable ambition.

The hybrid threats India faces target cognition. They aim to produce confusion, degrade morale, deceive and divide, and in 2025 they consumed one operational hour in seven. The requisite quality is cognitive readiness, which entails leaders and soldiers possessing the ability to think clearly under pressure, maintain resilience amidst uncertainty, exercise ethical judgement in ambiguous situations and uphold the cohesion of units against efforts to disintegrate them. Bravery in the battle of the future will extend beyond the physical realm to the capacity to think, consult and act at the speed of reflex, and that capacity is built through education.

The agenda sets an exciting and important stage for progress. It highlights the need for curricular reform focused on boosting cognitive readiness, enhancing information warfare literacy and fostering joint competence, all built upon strong single-service mastery. It also emphasises the importance of assessments that truly measure cognitive readiness rather than just hoping for it, along with a shift toward problem-based and simulation methods implemented through updates to existing modules rather than introducing new ones. The plan also calls for resilience training, reducing the stigma around mental health, promoting virtue-based ethical education and reforming faculty development. All these steps pave the way for a more resilient, knowledgeable and ethically grounded force. It is constrained by finite course time, by cadre deficiency and by a record of proposals announced rather than implemented.

The measures most likely to succeed are those deliverables within existing structures, demonstrated to work, then used to argue for the resources the rest requires. The American, British and Australian experience suggests the reform will hold only if the career architecture changes alongside it.

The Indian Armed Forces have shown, at Galwan and across many other difficult encounters, that their officers and soldiers possess the courage, resilience and commitment on which everything else rests. The purpose of PME reform is to match those qualities with systematically developed cognitive and ethical capability, producing leaders who are mentally agile, psychologically resilient, ethically grounded and physically courageous in equal measure. Nothing less will do.

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