THE BRITISH ARMY REVIEW

MOBILISING MINDS FOR THE 21ST CENTURY FIGHT

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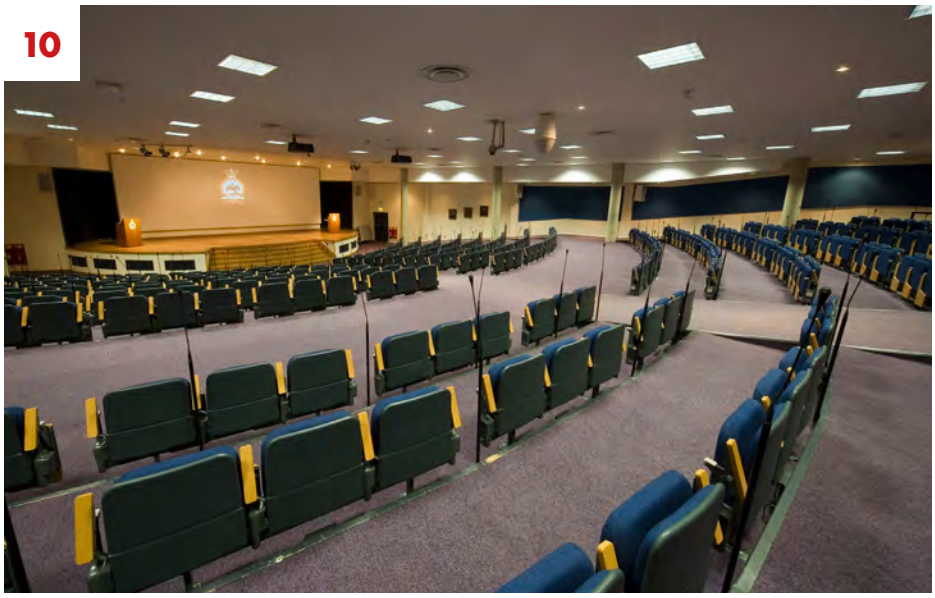

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'EDUCATION A KEY FACTOR OF THE FIGHTING POWER EQUATION'

AS the Chief of the General Staff I've been invited to set out a vision for how Professional Military Education (PME) can enable the Army to support my priorities of modernisation, people and readiness.

First and foremost, we have long, and rightly, regarded what we do – soldiering – as more than merely the controlled delivery of force, but as a profession, one that combines elements of art and science. We have, time and again, recognised the need for our personnel to be given the time to learn the 'science' and understand the 'art' of warfare. Our Army's oldest regiment, the Honourable Artillery Company, was established in 1537 for the "maintenance of the science and feat of shooting in longbows, crossbows and handguns".[1] In 1741, the establishment of the Royal Military Academy in Woolwich reflected understanding that feats of artillery and engineering on the battlefield required professional expertise and could not be left to the monied amateur with a purchased commission. It sought to produce "good officers of Artillery and perfect Engineers". The professionalisation continued with the establishment of the Royal College of Military Science in 1772. I suppose it's fitting that 1799 would see the Senior Department of Royal Military College being established in a Buckinghamshire inn to educate staff officers from other arms of service in trigonometry, French and siege warfare; a revealing priority of skills given the period. However, after Waterloo, both the Army and the staff course were neglected (parallels, perhaps, to the post-Cold War peace dividend in the 1990s). It had to be revived in 1857 with the establishment of the Army Staff College at Camberley, prompted by grievous staff failings in the Crimea.

In this way, we have (nearly) always valued the training and education of our people, reflecting Rommel's dictum that "the best form of 'welfare' for the troops is first-class training".[2] The progress of the Intermediate Command and Staff Course (Land) over the past 20 years is an on-going demonstration of this institutional commitment to invest time and effort into the professionalisation of our people and our Service. The course has not simply been about the knowledge it imparts but also the space it gives the students to think anew and differently. It is a further opportunity to renew old professional friendships and build new ones, especially with those from other military backgrounds. Esprit de corps is a vital thread in any organisation, and the course contributes as much to the strengthening of bonds as it does to any skills in critical analysis. Unlike the other Services, we rightly remain insistent that the Intermediate Command and Staff Course (Land) is a key requirement for sub-unit command and onward promotion.

"The role of PME in retention should be obvious. First and foremost, it is a significant investment in our people and their skills, and one we are opening up to more of our force every year. It is a scale of investment that is rarely found in the private sector – this is as much a signal of the value we put on the individual as the value we place on the courses themselves."

PRESENT

Importantly, as we reflect on centuries of professional military education and 20 years of the Intermediate Command and Staff Course (Land), I still think the future sees much continuity with our past. I believe an example of this is our operational design. The Land Operating Concept is more right than wrong; so, what is thought must be taught and understood throughout the force, helping to establish confidence across the Army founded on a common purpose. PME is fundamental to ensuring the Land Operating Concept is not destined to become the subject of a Rommel-esque quip on great British doctrine – going unread by its officers, or indeed, its soldiers. That operating concept has been devised by a generation that has been shaped and equipped by courses such as the Junior Officers' Tactical Awareness Course, Captains' Warfare Course, Intermediate Command and Staff Course (Land) and Advanced Command and Staff Course. Its application will be equally dependent on the quality of our soldiers. The recent formation of the Soldier and NCO Academies reflects that the value of PME must be harnessed across all ranks to develop the next generation of truly professional soldiers. So, I think it's reasonable to lay some credit to the delivery of our PME in helping equip our organisation and its people to evolve our way of warfighting now and in the future. In as much as Sandhurst and Brecon underpin the tactical fighting power of our Army, PME institutions contribute to the beating heart of its operational fighting power. That we deliver our PME to Regular and Reserves alike also helps underpin our ability to mobilise

[1] *hac.org.uk/where-we-come-from/history/1537-1799*

[2] *ausa.org/articles/love-heart-effective-leadership*

our Reserve cohort confident in their ability to operate and integrate in equal measure.

The international nature of the Army's courses also helps underpin interoperability, whether it is students inbound from our allies and partners or it is our officers participating overseas; the Intermediate Command and Staff Course's close relationship with the Command and General Staff College at Fort Leavenworth gives 400 UK officers a year the opportunity to plan and execute divisional missions alongside their US Army peer group over a two-week exercise. True interoperability is a human endeavour, not one of mere process or technology, so it's vital we do not educate ourselves isolated from those we will fight alongside.

FUTURE

As to the future of the Intermediate Command and Staff Course (Land) I have no doubt it will continue to play a vital role in shaping our officers and our Army. It must advance our capacity to plan and fight, even as the pace of change in the character of warfare accelerates, driving new capabilities and tactics. We are at an inflection point, an opportunity that has been triggered by how astonishingly large increases in data and computer capacity, when coupled with the rapid commoditisation of componentry, mass produced at increasingly marginal costs, is changing the design of our fighting system; and how we might be able to use it in the future. The 'attritable' and the 'consumable' now sit alongside the 'sophisticated' and the 'survivable' as the sources of our firepower, protection and mobility. These new realities challenge the current concepts and the capabilities of almost all militaries. The Land Operating Concept gives us the framework to fight, but how we understand and apply it will be dependent on the quality of how we teach and practice it in our PME institutions at every level, but none more so than at Intermediate Command and Staff Course (Land) and Advanced Command and Staff Course.

That is why PME is the foundation of any effort to modernise our Army. We must modernise our thinking as much as our equipment. In an increasingly digital battlespace, our command will need to move at even greater pace. We must manage the risk of overwhelming information as much as overwhelming force. Our PME must follow suit and ensure it is increasingly 'digital' both in its deliberation and its delivery; enabling our people to be able to think and analyse alongside the artificial intelligence enabled capabilities at their disposal.

The role of PME in retention should be obvious. First and foremost, it is a significant investment in our people and their skills, and one we are opening up to more of our force every year. It is a scale of investment that is rarely found in the private sector – this is as much a signal of the value we put on the individual as the value we place on the courses themselves. Furthermore, by enabling the next phase of our people's professional careers we can ensure they can continue to promote and grow into future leadership roles with confidence and competence.

For the Intermediate Command and Staff Course (Land) and other PME courses to succeed in the next 20 years, they must continue to evolve, and in some cases transform, to reflect the changing character of the world and conflict within it, while retaining the professional wisdom generated from the past. I am confident that in the hands of innovative and committed leaders and instructors, the future of UK PME is assured. **– General Sir Roly Walker, Chief of the General Staff**

'CRITICAL TO SUSTAINING COMPETENCE AND CAPACITY'

THE rationale for this special edition of *The British Army Review* was to mark two milestones; it is 20 years since the first Army and Royal Marines officers graduated from the Intermediate Command and Staff Course (Land), and 25 years since the Joint Services Command and Staff College moved to its permanent home at Watchfield. However, the purpose of this edition is not to celebrate those institutions or their experience, but to assess how the whole business of Professional Military Education (PME) should adapt to the demands of UK and NATO defence in an era of strategic flux. Hence, it embraces contributions reflecting as many perspectives as possible: military and academic; regular and reserve; land and joint; commissioned and non-commissioned; staff and student; national and international. Importantly, it looks firmly to the future, even if the odd article glances backwards to draw insight.

In assessing these demands, we are very fortunate to have received contributions from so many of our senior leaders, most notably the Chief of the General Staff. In setting out his vision for PME, General Sir Roly Walker emphasises the need to maintain relevance in conceptual and practical terms ("what is thought must be taught and understood throughout the force"), but also that PME represents an "investment in our people and their skills" at a scale "rarely found in the private sector". Major General Chris Barry, the Director of Land Warfare, as the Army's two-star champion for officer PME, highlights the role that PME must play in priming officers with the skills and understanding to lead troops within the Land Training System, but also the opportunities of exploiting collective training to enhance the realism of PME through interaction or integration with Land Training System exercises. Meanwhile, Major General Peter Rowell, Commandant of the Defence Academy, describes how Joint PME is responding to the same stimuli, assuring its relevance while extending its range of impact and responsiveness. It is worth noting that while the Land Command and Staff College no longer comes under the command of the Academy, it remains collocated and therefore closely connected and aligned with its courses. Finally, Brigadier Mike Cornwell, Head Future Force Development, assesses how PME can shape the knowledge, skills and ingenuity required to exploit technology for competitive advantage and so turn the Land Operating Concept into reality.

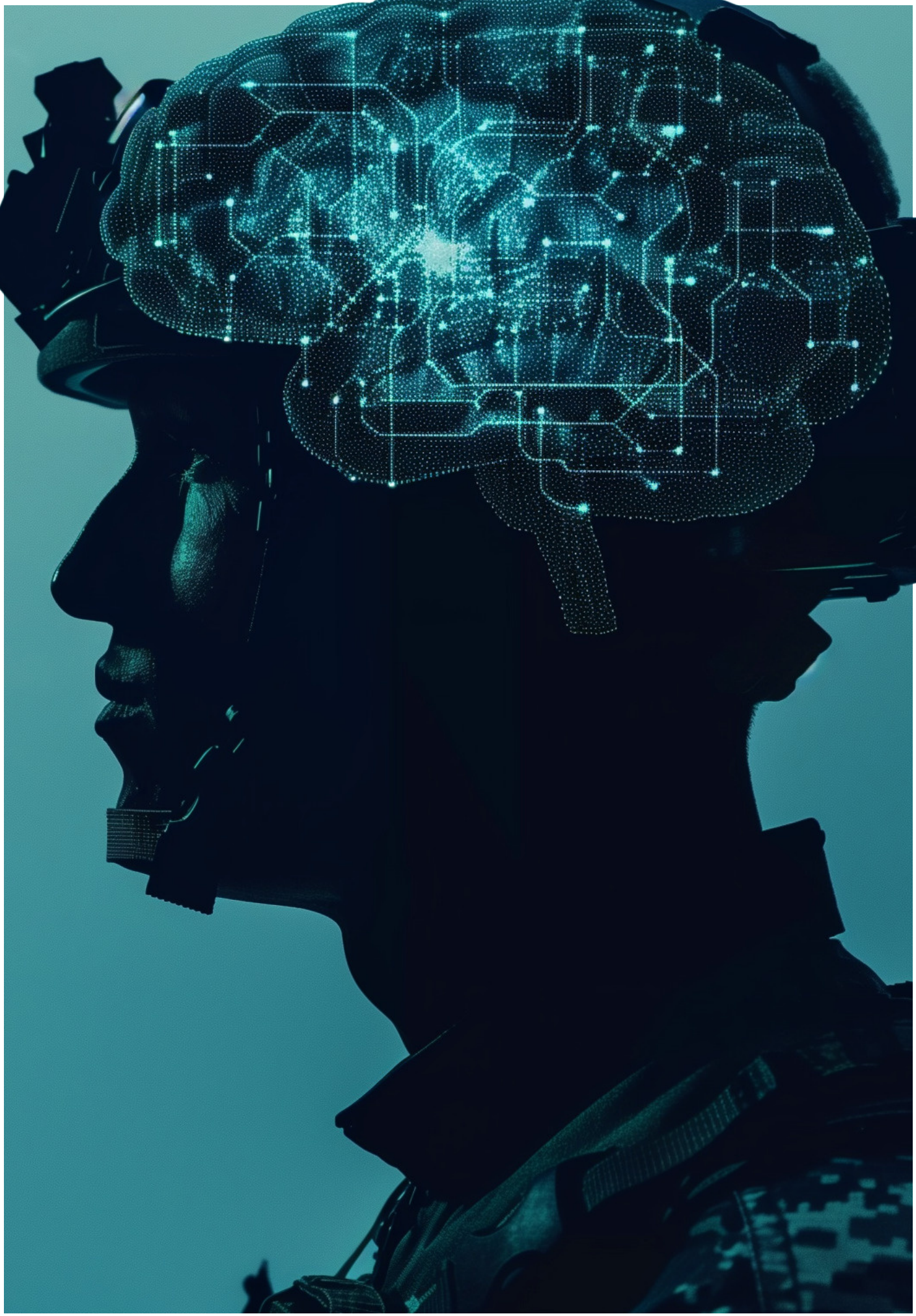
> **"Far from being a narrow specialism, [Professional Military Education] enhances fighting power by contributing across its moral, physical and conceptual components."**

The Chief of the General Staff's point that PME is a vital investment in people is developed in three articles written from a 'personnel' perspective. First, Brigadier Jim Taylor, as the Training Requirements Authority for the Land Command and Staff College, notes that Army PME must keep pace equally with personnel policy, individual aspiration and the changing character of conflict, arguing that it should be defined "against broader end-states rather than specific military objectives". Second, Brigadier Thammy Evans articulates how PME can best serve the Army Reserve and its people. Third, Colonel Jim Walker reflects on the development of the Leadership, Education and Development Group and, more specifically, the delivery of PME to non-commissioned officers through the NCO Academy.

These authorities are complemented by articles reflecting wider priorities, interests and perspectives relevant to PME. Of particular note, two articles have been written by current students on the Intermediate Command and Staff Course (Land), who have drawn on their personal experiences to propose improvements to Land Command and Staff College courses. These are supported by articles from those responsible for delivering aspects of course content, including NATO, wargaming and military history. Finally, articles from British liaison officers attached to our principal allied PME colleges offer insights into how those institutions are meeting very similar challenges and opportunities to those being experienced in the UK.

We are indebted to all those who have furnished us with excellent articles, reflecting the broad scope and reach of PME activity. Together, these contributions demonstrate the increasing importance and scope of PME in enabling development and change across the whole force. Far from being a narrow specialism, it enhances fighting power by contributing across its moral, physical and conceptual components. Consequently, designing and delivering PME courses that continue to satisfy the needs of the profession and its people will be critical to sustaining the competence and capacity of our armed forces. These courses, and the colleges that deliver them, support the whole range of Defence activities; it follows that, in turn, Defence and the Services must take ownership for directing and sustaining them.

We hope what follows in this *British Army Review* will engage the interest of a wide audience, whether staff or student. **– Colonel Martin Todd, Deputy Director Plans, Land Command and Staff College**



COMBINED EFFORT: PME AND THE LAND TRAINING SYSTEM

AUTHOR

Major General Chris Barry is Director Land Warfare.

TO win the next fight, we must prepare to overcome the most severe challenges posed by the most likely opponent; our people will be central to this effort. Combining training and professional military education (PME) that prepares them across the physical, moral and conceptual components of fighting power is therefore of paramount importance. History illustrates that creativity, innovation and tactical competence – all human factors, all products of training and PME – can secure victory from the direst of positions.

In 1973, although armed with superior numbers, equipment and surprise, Arab armies were fought to a standstill and subsequently repulsed by a seemingly inferior yet better trained Israeli military. Later US Army analysis of the Yom Kippur War, which was the catalyst for AirLand Battle doctrine, exposed the fallacy that better equipment is synonymous with superior capability. Rather, the decisive factor was the ability to adapt in contact, unlearning the lessons from the Six-Day War and evolving to meet the new threat, all enabled by superior Israeli training and education.

Moving to the present, European security has been challenged in a way that many thought unlikely but will now define our security context for decades to come. Creativity, innovation and tactical ability are a daily aspect of the fighting in Eastern Ukraine. Whilst war may not be an inevitability, effectively training and educating our people to prepare

for such an outcome during peacetime is a necessity. Critically, whilst technology can be bought in short order, competencies cannot. Whilst we might not have the equipment for a multi-corps fight, we must prepare our people for one now. For us in the land domain, this starts with re-establishing our combined arms competence to meet the demands of war in the 21st century.

COMBINED ARMS COMPETENCE

Central to this effort are the Land Training System and the delivery of PME by the Land Command and Staff College. Both provide opportunities to double our lethality across all components of fighting power, moral, physical and conceptual. Critically, the Staff College and Land Training System must be seen as complementary. One being predominantly conceptual and the other physical, but both providing the space and time to additively close the combined arms manoeuvre gap, think deeply about contemporary challenges and offer loyal challenge to prevent doctrine from becoming dogma.

Some 1,800 officers undergo land PME each year, their education and training both hold foundational roles in ensuring they can function to the highest standard in command and staff roles from the sub-unit to the battle group and into the division or corps. The ability of officers in these positions may be the difference between success or failure on operations, and they ensure our licence to operate. To do this, our officers must become expert in combined arms warfare, doctrine, operational planning and risk management. They must understand both our capabilities and the opponent's while being innovative and creative enough to beat them.

PME curricula reflect this requirement with the priority placed on understanding how to plan and fight the combined arms battle from sub-unit to divisional level. Each course provides multiple opportunities to plan and subsequently execute operational plans. Lectures and seminars on doctrinal concepts and history add context and understanding to encourage critical thinking and increase the level of awareness from which our officers can draw inspiration. More widely, exercises alongside international partners, lectures from division commanders, NATO staffs and the inclusion of students from other militaries provide a greater awareness of fighting within a multinational framework. All of this is now framed in the context of confronting our most likely adversary.

PACING THREAT AND REALISM

Over the preceding three years there has been a renewed focus on the pacing threat.

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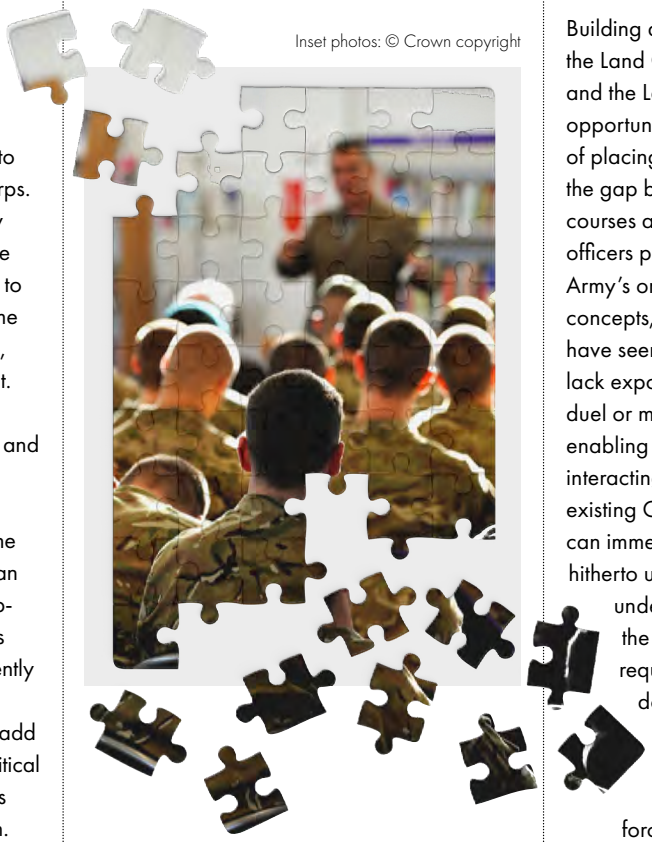

Examining how Russia fights, how Ukraine is fighting in response and understanding our own doctrine allows us to think more expansively on our strengths, limitations and what tactical lessons we can draw to additively increase our 21st century combined arms competence. The Land Command and Staff College's final PME course, Intermediate Command and Staff Course (Land), builds on the tactical acumen gained and practiced during the Junior Officers' Tactical Awareness Course and Captains' Warfare Course, by providing the conceptual grounding on which Defence direction is given. Lectures on Russian doctrine, strategic thinking and specific equipment and processes deepen the understanding not only of what effect is needing to be reached operationally, but how and why it is to be achieved. Beyond these lectures, our officers are also trained to plan against, and as, Russian forces. By blending training and education in this manner, we place our officers and their parent organisations in better stead to understand and then evolve against the threat.

Building a stronger connection between the Land Command and Staff College and the Land Training System provides the opportunity to build on recent improvements of placing PME into the field and reduce the gap between theory and practice. PME courses are effectively the Tradewind[1] for officers prior to taking up positions in the Field Army's order of battle. Although aware of the concepts, many officers will not, for example, have seen an armoured sub-unit manoeuvre, lack exposure to fighting a counter battery duel or may not have seen how various enabling functions are performed. By interacting, integrating or interfacing[2] with existing Cyclone and Storm[3] activities, PME can immerse officers and expose them to hitherto unseen capabilities to broaden their understanding of what it takes to fight the combined arms battle. This would require alignment of resources but by doing this we would be learning at the leading edge of the Field Army, allowing both training in the Land Training System and PME to build a force to fight and win wars on land.

In closing, preparing our people for war in a time of peace is paramount to future success and will reduce the toll of life and equipment. Unlike equipment, conceptual expertise and practical experience cannot be purchased off the shelf but rather grown with time through dedicated and realistic training and education. We must therefore blend these elements to prepare our people to face the toughest challenges against our strongest adversary.

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[1] *Individual trade training.*

[2] *Interact – more than one training unit that comes together for CAM. Integrate – another training audience brought in as an addition to existing CAM training. Interface Multiple training audiences conducting independent education or Special to Arms training that come together for a specified CAM outcome.*

[3] *Cyclone – Training progression up to sub-unit level. Storm – Combined arms training up to corps level.*

‘JOINED-UP THINKING’ DRIVING THE DEFENCE ACADEMY’S EVOLUTION

Photo: © Crown copyright

AUTHOR

Major General Peter Rowell is the Chief Executive and Commandant of the Defence Academy of the United Kingdom.

THE decisive element of all awards of the 1,358 Victoria Crosses and 407 George Crosses issued was behaviour, not knowledge. Courage under fire, the ability to think clearly under pressure and the instinct to make the right decision in the heat of battle – these qualities have always defined excellence in Defence. It is the combination of character and competence that wins wars.

Before we address how the Defence Academy is evolving Joint Professional Military Education (JPME), we must be clear about its fundamental purpose. The Defence Academy contributes to the moral, physical and conceptual components of fighting power. We do not educate for education’s sake. In turn, JPME is not just an academic exercise – it is about sharpening the intellectual edge of those who lead, plan and fight.

So, what is Joint Professional Military Education? JPME is the structured development of intellectual and leadership skills to enable military and civilian leaders to think critically and act decisively in complex environments. It is about how to think, not what to think. For JPME to remain fit for purpose, it must address three critical dimensions: **reach** – broadening beyond commissioned and military attendees; **relevance** – shaping the curriculum to meet evolving operational needs; and **responsiveness** – ensuring we can evolve JPME at the appropriate pace.

REACH

Civil servants – leaders, planners and critical thinkers. The Armed Forces enjoy world-class development opportunities through the Defence Academy. Sadly, the same cannot be said for our Civil Service colleagues. Only a handful of civil servants attend the Advanced or Higher Command and Staff Courses each year – a critical shortfall given their influence on defence outcomes and their close working relationship with military counterparts. In priority order we must ensure our civil servant colleagues are developed as leaders, operational planners and critical thinkers. This will enable them to better understand how to lead and influence in a defence context, develop and contribute to campaign planning and strategic decision-making, and to think creatively in complex situations. Access to JPME should be expanded to better prepare our civilian colleagues.

Senior enlisted personnel – untapped talent. Senior enlisted personnel are another underdeveloped resource. It makes no sense to restrict their employment to a limited number of roles; and in practice we do not. Our cohort of command sergeant majors are tasked with

providing strategic advice without the benefit of structured education. The Defence Academy will pilot a course this year to address this gap. Given the increasing complexity and tempo of modern warfare, it makes strategic sense to upskill this highly capable cohort. Many warrant officers already produce excellent operational staff work with no formal education. If we are to fight dispersed and at speed, we cannot afford to leave talent on the table.

Partners across Government and industry – building shared understanding. Developing talent within Defence is necessary, but it is not enough. Future conflicts will be won or lost through whole-of-government and whole-of-nation efforts. JPME should not, therefore, be confined to Defence. The Defence Academy already demonstrates the value of shared learning through the Advanced Command and Staff Course, where 40 per cent of participants are from allied and partner nations – double the proportion in equivalent courses run by most other nations. This model should be extended to include senior civil servants, industry leaders and multinational partners. Involving them in targeted parts of the curriculum will build mutual understanding, collective competence and – most importantly – trust.

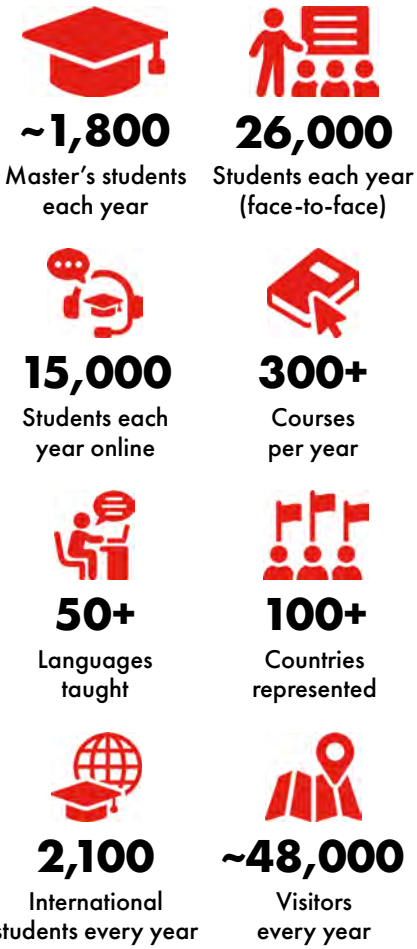
RELEVANCE

We might not like change, but we'll like irrelevance even less. The key is to strike the balance between the enduring and the contemporary – to forge a force capable of succeeding today and tomorrow.

I started this article with the provocation that it is behaviours that make the difference. I was surprised to learn that we do not routinely specify which behaviours should be developed in JPME. JPME currently focuses on knowledge and skills. What it fails to measure is experience and behaviour – the decisive factors in combat performance. We educate for competence, but assume character is delivered as a by-product. I am not saying that behaviours are completely absent from JPME, just that with greater clarity we can adjust the curricula to ensure we foster the desired behaviours. Operational success depends not only on what commanders know, but on how they behave under stress. We've all heard the adage that 'no plan survives contact with the enemy' and I firmly believe we need people with the resilience and ingenuity to adapt their plans on the go. A part of this will be increasing the amount of time our course members spend practising the execution of their plans. This should include high-stakes, high-pressure scenarios that test moral courage, adaptability and decision-making under duress.

Reflective learning is already a feature of the Advanced Command and Staff Course and Higher Command and Staff Course, where participants benefit from psychometric testing to help them understand themselves better. If people leave these courses with the habit of self-reflection and self-development then we really have set them up for long-term success. Allied to this is the ongoing development of leadership. Leadership remains the defining skill in JPME as it is inherently linked to behaviours. The 'Leadership Edge Framework' being driven by our Defence Leadership Centre is helping to develop whole-force leadership, combining military and civilian perspectives. We intend to expand these elements to all JPME.

IN NUMBERS...



RESPONSIVENESS

The subject of changing our curricula is worthy of an article in its own right. Suffice to say we have a triple blessing when it comes to identifying what changes should be made to our curricula. The first blessing is time. The second is our extensive academic networks and, with the advent of the Integrated Design Authority, closer linkages to our lessons, concepts and doctrine teams. The third is the breadth of expertise in the Defence Academy. What we lack is the authority to make significant changes.

The Defence Systems Approach to Training is often (mis)read as a linear and cumbersome change process. As the Training Delivery Authority we already have, and use, the authority to update the content. Currently, any changes to what is taught that needs other aspects of the syllabi to be de-prioritised requires the agreement of multiple stakeholders across Defence through twice-yearly meetings. If we are to be more responsive to change then we need to rethink these processes. Education is not training. In the short-term, we are going to pilot some additional, voluntary modules on contemporary subjects.

An area we are investing significant time and effort into is bite-sized online learning. Project Codex is making engaging content for the elements of JPME curricula which are suited to online learning.

CONCLUSION

The Defence Academy is evolving JPME to meet single service and joint requirements – but with the right authority and resource could go further and faster.

The Defence Academy is driving changes in who benefits from JPME – with aspirations to include civil servants, senior enlisted personnel and industry partners. The Defence Academy is also adjusting what is taught in JPME, within the bounds of our current resources and authority. We are conscious of not becoming enthralled with fashion over substance. The key question asked how the Defence Academy is adjusting JPME. The closer linkages with concepts, doctrine and lessons teams are a good start. Strengthening the connections to our warfighters is ongoing. Getting these connections right will improve the relevance and responsiveness of JPME. Should the Defence Academy be given the authority and resources, we would move beyond just knowledge and skills to develop experience and behaviour, testing character under pressure through high-stakes scenarios.

All members of Defence (military and civilian) must be ready for the challenges of modern conflict. Cross-sectoral learning with government and industry partners will enhance mutual understanding and trust. We are also conscious that this is a continuous process and that there is no monopoly on good ideas. Therefore, if readers have suggestions, we would be delighted to hear them. The Defence Academy is already a centre of excellence. By sharpening its focus and expanding its remit, it can become the engine of intellectual and strategic power that Defence needs for the future fight.

THE 'PERSONNEL' EFFECTS OF PROFESSIONAL EDUCATION

AUTHOR

Brigadier Jim Taylor is the Army's Head of Personnel Policy. As such, he is responsible for the Army's professional military education and learning and development policies and training requirements.

IN the context of a dynamic military organisation, evolving personnel policy plays a crucial role in ensuring that the force remains effective and adaptable. The Army People Plan is a testament to this evolution because it aligns the needs of our personnel with the strategic objectives of the British Army.[1] As the character of warfare changes, it is imperative that we support our personnel to meet these new challenges. Professional military education (PME) is a critical component that reflects the changing needs of personnel as they progress through the Army employee lifecycle.[2] It is essential that education programmes are incorporated throughout a military career, ensuring that Service personnel can 'adapt well' to the changing character of conflict.[3] The Army People Plan's unifying purpose of 'fight well' underscores this need, ensuring that the Army is prepared and capable in the face of evolving threats. Personnel policy needs PME to drive collaboration and pragmatism, and support the implementation of good practice and initiatives that enhance the Army's competitive edge. This article will examine the evolving requirement, the role of education in supporting personal development and the adaptation of PME. By examining these elements, we can understand how education supports the strategic objectives and identify what personnel policy requires of PME.

SECTION 1: UNDERSTANDING EVOLVING PERSONNEL POLICY

For the purpose of this article, evolving personnel policy will refer to the growing demand for the knowledge, skills and behaviours that individuals need to contribute to the intellectual edge and the endeavour to collectively double and triple fighting power. Personnel policy in the British Army broadly encompasses the principles and strategies aimed at developing its workforce, as it does in other Western militaries.[4] In this broad sense, 'policy' is not just about the specific documents and practices but about creating an environment where talent can thrive. By focusing on this, the Army can attract, develop and retain talent. More importantly, the Army's approach recognises that people are the point of difference. The Army's intellectual capital is an extremely valuable asset. It underpins the profession of arms and forms a central element of the conceptual component of fighting power.[5] By investing in our personnel, we can achieve more and support them better, ultimately enhancing the Army's overall effectiveness.

SECTION 2: EDUCATION IN ADDRESSING PERSONNEL NEEDS

Talent development. PME supports talent development by developing and retaining skilled individuals. It is essential that PME is defined by broader end states rather than specific military objectives or platforms. By enhancing the baseline capability of personnel, education contributes to the overall effectiveness of the Army. Put simply, education is both foundational and fundamental; everybody in the Army needs it. Notwithstanding the requirements of trade training, this broader approach ensures that individuals are equipped with the skills and knowledge needed to adapt to a wide range of scenarios, rather than being narrowly focused on specific tasks or roles. It is then the Army's responsibility to provide the opportunities – and inherent policy structures – to develop talent through PME interventions.

Leadership development. Effective leadership in the modern military requires not only technical and tactical proficiency but also the ability to think critically, make ethical decisions, and inspire and motivate others. Education therefore enables the development of a qualitative, agile edge[6] as the Army aims to increase fighting power. However, seeing the value in education is not enough. The organisation must develop policies to promote intellectual capability and dedicate the required resource. Education is vital for developing strategic thinking, ethical leadership and adaptability among leaders. While the nature of warfare remains a human contest of opposing wills, investment in human capital and the moral component are crucial. PME provides personnel policy with a mechanism to adapt facets of development – such as leadership. The role of PME is in fostering a thinking culture that accelerates the rate of change – adapting faster than your adversary is key to winning.[7]

Career progression. From a longer-term perspective, education also provides pathways for career advancement, aligning with the Army's personnel policy goal to 'progress well'. It enables the development of skills and competencies that contribute to increasing

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[1] *Army People Plan 2024-2028," September 19, 2024. https://akx.sps.ahe.r.mil.uk/sites/vault/IMS3/Army%20Command%20Plan/20240919-Army_People_Plan_24-DPers-O.pdf*

[2] *Join, Integrate, Work, Live, Develop, Progress, Transition & Leave well.*

[3] *Hawkshaw, Rita, and Clodia O'Neil. "Military Professionalism and the British Army." In Rethinking Military Professionalism for the Changing Armed Forces, edited by Krystal Hachey, Tamir Libel, and Waylon Dean, 113-128. Springer, 2020. https://doi.org/10.1007/978-3-030-45570-5_8.*

[4] *Department of the Army. Army People Strategy: Military Implementation Plan FY 2023-2025. 2023. https://api.army.mil/e2/c/downloads/2023/06/05/309c55e1/army-people-strategy-military-implementation-plan-fy-2023-2025.pdf*

[5] *Melvin, Mungo. Enhancing Intellectual Support to the Army: Final Study Report. 16 July 2012, 38.*

[6] *Melvin, Enhancing Intellectual Support to the Army, 15.*

[7] *Frank Hoffman, "Mars Adapting: Military Change During War," Institute for National Strategic Studies, March 9, 2021, accessed March 6, 2025, https://inss.ndu.edu/Media/News/Article/2526660/mars-adapting-military-change-during-war/.*

[8] *The importance of these variables is explored in Savage, Mike, Fiona Devine, Niall Cunningham, Mark Taylor, Yaojun Li, Johs Hjellbrekke, Brigitte Le Roux, Sam Friedman, and Andrew Miles. "A New Model of Social Class? Findings from the BBC's Great British Class Survey Experiment." Sociology 47, no. 2 (2013): 219-250. https://doi.org/10.1177/0038038513481128.*

[9] *Russia's military incompetence during the invasion of Ukraine has been attributed to "one essential item that likely lies at the root of Russian military ineptitude – Russia's professional military education ceased taking the study of war seriously. The supposed experts of the new forms of war – hybrid warfare, conducted in the gray zone by little green men, with heavy doses of cyber and information operations—have forgotten how to execute more traditional forms of war." Lacey, James. "We're Doing It Wrong: Returning the Study of War to the Center of Professional Military Education." War on the Rocks, June 3, 2022.*

social, educational and financial capital,[8] which can be adapted and enhanced over time. This can then be incentivised through accreditation opportunities in service, such as the higher education pathway, and becomes a lever for social mobility in society. By providing structured and transparent career development opportunities, increasing education helps to retain individuals and prepare them for higher and more complex levels of responsibility. That is why the soldier and officer career education pipelines are intrinsically linked to career progression milestones – to enhance fighting power and ingenuity at all levels.

SECTION 3: ADAPTING PME TO MEET EVOLVING POLICY REQUIREMENTS

Curriculum updates. The changing character of conflict must be integrated into education to ensure agility and appropriate tempo in response to emerging threats. This involves not only incorporating new content but also adopting innovative teaching methods and assessment techniques. For example, careful selection of training media and methods can provide realistic and immersive experiences, while online learning platforms can offer greater flexibility and accessibility. The systems approach to training clearly defines the requirement setting and governance to continually improve education with tempo rather than speed, and to evidence requirements which enable our personnel to fight well.[9] To be future focused, balance must also be afforded to the use of history as a discipline of PME, not limited to offering mere operational insights, but serving to deepen our understanding of the nature of war.[10] As such, updating PME curricula to include new strategic, technological, ethical and interoperability challenges is key.

Integration with technology. Investment in human capital and human agency will define enduring success. Exploitation of technologies is essential to remain relevant and is largely the preserve of trade and platform specific training. Today and tomorrow, it is our people's intellect, creativity and judgement that will enable the decisive use and integration of technology to deliver winning outcomes.[11] It is the role of PME to provide a safe-to-fail environment in which successful integration of technology can be tested to inform how our people adapt when technology fails. It is the enduring soft skills that increasingly appear in evolving personnel policy – such as critical thinking, problem solving and emotional intelligence – which may decide whether our people are able to thrive in chaos.

Joint and international training. Joint and international training are crucial for enhancing interoperability and collaboration. Education must prepare personnel to work effectively with partners to achieve broader strategic goals. This involves understanding different military doctrines and procedures but also developing cultural awareness and communication skills. By fostering strong relationships with allies and partners, the Army can enhance its ability to operate effectively in multinational and joint environments. This serves the policy requirement by enabling integration beyond the confines of our own Service.

CONCLUSION

This article has discussed the need for the changing character of conflict to be integrated into PME, the role of military education in supporting personnel through the Army employee lifecycle, and the importance of continuously evolving military education to meet the demands of changing personnel policy. By aligning PME with strategic objectives, the Army can ensure that its personnel are prepared to meet future threats.

Defining military education towards broader end states rather than specific military objectives is crucial. Education plays a vital role in supporting personnel through their careers and enabling the effective enactment of strategy. Human capital and human agency will remain defining and our ability to succeed will be underwritten by the investment we make in our people, their training and the skills that they wield.[12] By focusing on the development of fundamental skills and competencies, education contributes to the overall effectiveness and adaptability of the force to 'fight well' and win.

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[10] *Halewood, Louis, and David Morgan-Owen. "Captains of War." The RUSI Journal (2021). https://doi.org/10.1080/03071847.2021.1876526.*

[11-12] *D Pers. "Army People Proposition, Our People are our point of difference," 4.*

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"By providing structured and transparent career development opportunities, increasing education helps to retain individuals and prepare them for higher and more complex levels of responsibility."
– Brigadier Jim Taylor on the firm rungs PME affords to those seeking to climb the Army's career ladder

TINKER, TAILOR, SOLDIER, SPY: PME AND THE ARMY RESERVE

AUTHOR

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PROPERLY integrated, the Army Reserve is a force multiplier of the modern British Army's fighting power. As the Minister for Veterans and Reserves, Al Carns, has said: "Without them, we cannot generate mass, we cannot meet the plethora of Defence tasks."[1] How the Army Reserve is developed to achieve retention-positive mass at the right ranks and education to deliver a variety of tasks is critical to meeting the ambition and requirements of a world in polycrisis. This article explores how PME might be improved to enhance Army Reserve capability, addressing the unique challenges and opportunities inherent in educating and progressing part-time soldiers.

Despite the one army, whole force, tagline, a 'one-size-fits-all' approach to professional military education for the Army Reserve misses the mark. Reservists come from a very wide range of backgrounds and levels of education, skills and trades ('tinkers, tailors' and much beyond to academics, astronauts, financiers and morticians). Treating, training and educating all to become the same type of soldier risks losing out on the advantages that these varied backgrounds and start points give. Too much uniformity in scope, pace and goal of education also ignores the insight – like a spyglass onto the world we operate in – that reservists' experiences can bring Defence. Delivering PME for reservists has its challenges, which include time constraints, course access and the availability of enablers, such as instructors, equipment and infrastructure. Underpinning these is the need to understand the type and timing of courses required to optimise the Army Reserve's effectiveness.

TIME CONSTRAINTS POSE A FORM OF SELF-CENSORSHIP

The amount of PME required for reserves to progress along their career path or even to stay current has significantly increased over time. This creates tension between reservists' limited availability and the need for some sort of equivalence to their regular counterparts, which is necessary for effective 'interoperability'. Balancing the needs of PME with retention-positive activities, such as unit adventure training, sports, overseas training exercises and battlefield studies within Reserve Service Days is tricky. Although most Reserve-specific PME courses are generally shorter than Regular Army courses, essential career courses still demand time away from work and family, and often involve taking annual or even unpaid leave.

Front-loading initial courses and particularly basic training into a several month package between school/university and taking up civilian work is a format that works for some countries (for example, Germany) or can be achieved through voluntary or selective military national service (such as in Sweden, Norway, Switzerland and France).[2] Front-loading is a way to get around the balancing act, but is yet to be considered in the UK. In either case, formal education for reserves should then be complemented by on-the-job in-barracks/headquarters experience. Regulars do this though being full time on a course that 'drills' skills into second nature. A regular might then go on to a staff post which will hone that education further.

Opportunities for reservists to develop the knowledge taught and turn it into skilful competencies vary enormously. Gaining experience depends on location, site access, equipment, availability of mentors, coaches, instructors and simply more-experienced staff, as well as crucially a post (of which there are few) with the demand signal for such knowledge, skills and behaviours. As a result, skills for operational staff work and decision briefs on relevant topics can fade quickly. This gap in Reserve staff skills is recognised, which is the first step to addressing it.

COURSE ACCESS AND AVAILABILITY IMPACTS RETENTION

Even when time is carved out by reservists for PME, gaining access to courses is the next hurdle to clear. Identifying the education and training requirements at each stage of their careers is complex enough for reservists, who have to manage the same career administration as their regular counterparts, but without the luxury of full-time pay. Capstone policies for training pathways have recently undergone a thorough refresh,[3] but communication of this good work will remain a perennial challenge. Furthermore, despite the decision to move away from strict training equivalence, most PME (aside from intermediate and advanced staff officer education), is the same for reservists as it is for regulars, who top the priority list when it comes to course loading.

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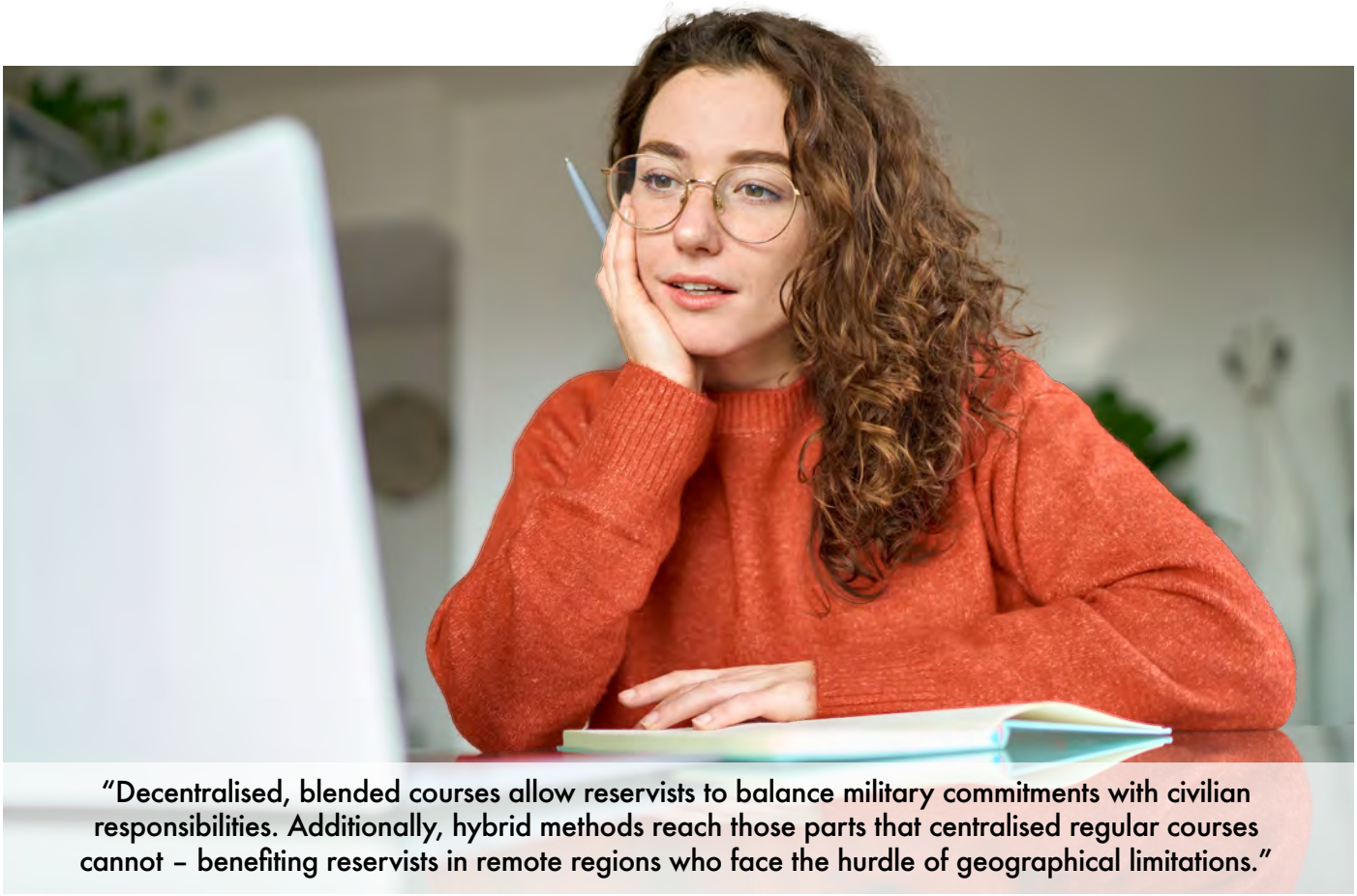
[1] *RUSI Reserves Conference, 12 December 2024, rusi.org/news-and-comment/rusi-news/veterans-minister-and-senior-military-officials-address-rusis-reserves-conference, last accessed 6 March 2025.*

[2] *An important distinction that has been missing in recent UK national debate on the issue is the difference between conscription (compulsory) and national service (which may be voluntary or selective/lottery). France has brought back voluntary national service. Sweden and Norway have selective national service which is highly sought after for the CV. Consequently the waiting list for the selective places available is long.*

[3] *Army Command Standing Order (ACSO) 3223 and 3224 for Regular and Reserve soldier and officer training have brought together information and guidance from various disparate sources.*



"Decentralised, blended courses allow reservists to balance military commitments with civilian responsibilities. Additionally, hybrid methods reach those parts that centralised regular courses cannot – benefiting reservists in remote regions who face the hurdle of geographical limitations."

Capacity issues on courses, combined with the number of courses needed to promote, have created career pinch points, negatively impacting individual, unit and Army effectiveness. Ongoing analysis of pinch points reveals that the long pipeline to promotion affects retention critically at OR5-7 and OF2. It currently takes a minimum of three-to-five years to promote at some ranks (even when all two-week modules are taken year after year), so if a place is not available on a course at a time that suits an employer's leave schedule it is easy to understand how military career aspirations can be seriously derailed. When a reservist leaves the Service because of a 'lack of promotion opportunities', it appears it is not because of 'bed blocking' by senior ranks above as is commonly assumed, but because of structural hurdles to promotion in the Reserve career pathway. Lesson identified – next we must resolve it.

Implementing hybrid education models that combine online modules with intensive weekend workshops tackles two blockers at the same time. Decentralised, blended courses allow reservists to balance military commitments with civilian responsibilities. Additionally, hybrid methods reach those parts that centralised regular courses cannot – benefiting reservists in remote regions who face the hurdle of geographical limitations. Evidence shows that the remote delivery of pre-course elements benefits reservists by enhancing their preparedness for residential courses, maximising value for time, and reduces the burden on reservists, instructors, equipment and infrastructure.

A COMPETENCY APPROACH TO ENABLE FLEXIBILITY

In the past, the Army Reserve was self-sustaining across the common military syllabus, trade training and PME thanks to Reserve assistant instructors who themselves were trained over weekends. Centralised training became mandated to provide greater assurance and 'efficiency' savings. But in a world where educational content can now be assured centrally but used and approved in a distributed manner, the time may have come to revise the centralised model.

A move to education delivery based on assured competencies within a competency scale – from 'awareness' through to 'advanced expert' – could unlock course design and delivery. Assured modules meeting an assured competency level are delivered by assured instructors. When and where that delivery takes place can be modularised according to need. A competency approach fits with the emerging Army Talent Management System and the Pan Defence Skills Framework, and if mapped against civilian qualifications could additionally open up savings if civilian-acquired competencies are recognised, as well as offer something in return to employers. This is a retention win-win-win on all sides of the employer equation – for the employer, employee/Service person and Defence.

Blended models are common in civilian life and it may be worth considering a bigger part for industry and higher education institutions. Collaborating with universities and industry can provide reservists with access to cutting-edge education in an artificial intelligence world, which could complement and benefit their military and civilian careers.

TINKER AND TAILOR FOR AVAILABILITY AND ACCESS

Educating the tinkers, tailors, soldiers and 'sleeping agents'[4] of the Army Reserves requires an agility and flexibility informed by those undergoing education. In a gig-economy world, where interesting, relevant, blended learning is the expectation not the exception, and artificial intelligence plays an increasing part in simulation and tailor-made education, reservists themselves can add much to improving the PME pipeline. To be ready for the polycrises of today's big power politics, we need achievable PME that docks reservists into working seamlessly with their regular counterparts, enables them to provide relevant and valuable input into a fast moving Defence and military picture and, most importantly, after the demise of the first echelon, become the frontline warfighters of an enduring second echelon.

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[4] *'Tinker, tailor, soldier, spy' is a 1974 novel by John le Carré (which later inspired a BBC mini-series) set in the Cold-War.*

TECH A TOUGH 'TEST' TO CRACK

AUTHOR

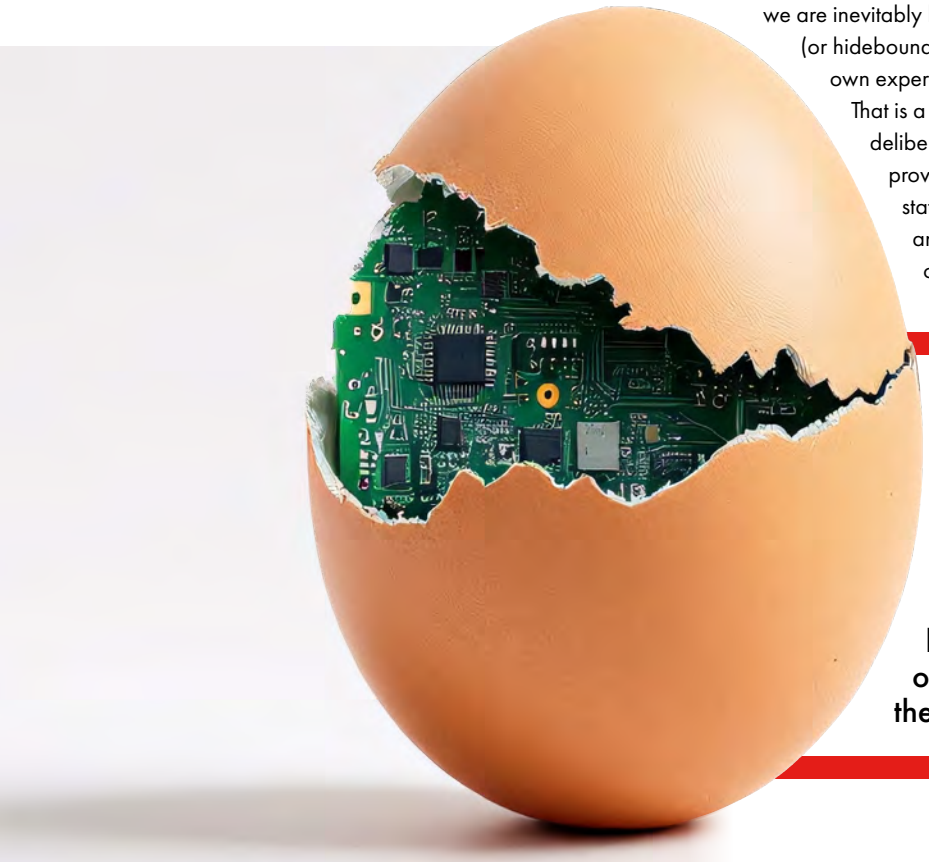
Brigadier Mike Cornwell has been Head of Future Force Development in the Army HQ since August 2023 and has commanded at all levels from platoon to brigade.

"The more mechanical become the weapons with which we fight, the less mechanical must be the spirit which controls them."
– Field Marshal Lord Wavell

THE Land Operating Concept, published in late 2023, lays the foundations for an approach to warfighting fit for the precision age. It is the first published UK land concept for decades (which may surprise some readers) and was two years in the making. It does not demand a mental leap forward to 2040, but instead sets a clear aiming mark – towards which we must all pull now if we are to meet the demands of increasingly febrile geopolitics and the proximate and pacing threats with which we are acutely familiar. Crucially, it was not written in a cupboard by blue sky-scanning dreamers, but by an impressive coalition of military practitioners, partners and allies, the science and technology community, academics and think tanks. The list of acknowledgements is instructive. Despite all this, publishing and 'landing' it internally, externally and internationally – which might on the face of it seem a low bar to have cleared – was a significant achievement.

Why so? We are inherently conservative as an institution. We may profess increasing commitment to innovation, but we are inevitably bound (or hidebound) by our own experience. That is a deliberately provocative statement, and of course it is not as simple as that. I write it partly as acknowledgement of the internal struggle I had as I wrestled with accepting a slightly different perspective on combined arms manoeuvre. As a former armoured infantry commanding officer and armoured brigade commander, I confess to instinctively seeking-out continuities rather than changes – at least initially. (In reality there are plenty of both in the Land Operating Concept; devout followers of the 'ten commandments of manoeuvre warfare' will be delighted to know that all ten still apply, and proponents of precision strike, dispersal and the power of the network will be equally happy). I also write it as a fervent believer in the notion that the only thing harder than getting a new idea into an army is getting an old one out. And that matters in the context of this short article. If we don't start to shift our professional military education to account for the Land Operating Concept and the deductions that flow from it, we will become a 20th century army partially equipped for the twenty first, rather than a fifth generation land force, fighting from and on the land and setting the joint force up for the unfair fight.

I won't rehearse the Land Operating Concept here. It's been published and accessible for more than 18 months and, frankly, its core tenets are now firmly part of most military conversations – either explicitly or implicitly. The foundational notions it espouses (fight by recce strike at every level, treat survival as a deliberate operation, logistics fit for the precision age, manoeuvre aggressively in the electromagnetic spectrum and cyberspace, and dominate the information environment) are broad enough to withstand the next decade of technological advancement and geopolitical shifting. What matters more for professional military education now is what



"The chicken of prototype recce strike tactics at battlegroup level needs to hatch from the egg of robotic and autonomous systems and the networks on which they run. In terms of education (as opposed to training), it will be equally tricky to develop and challenge the thinking of leaders and staff based on abstract notions of capabilities not yet readily available in the core Programme of Record."

we've deduced over the last year as part of Project Velocity – work to extrapolate an applied warfighting concept as a bridge from foundational thinking to better ways and modernised means. Like the Land Operating Concept, Velocity provides a handrail for the path to 2040, but also goes further in explaining the geometry and challenges of future battlefields as well as setting out what it refers to as 'defeat mechanisms'.

So how could (or should) this be applied to professional military education? It is self-evidently difficult to develop better ways – and train in those ways – without access to new means with which to fight differently. In other words, and for example, the chicken of prototype recce strike tactics at battlegroup level needs to hatch from the egg of robotic and autonomous systems and the networks on which they run. In terms of education (as opposed to training), it will be equally tricky to develop and challenge the thinking of leaders and staff based on abstract notions of capabilities not yet readily available in the core Programme of Record. It is one thing to talk about expanded geometry as a fact, and another to try and conceive fighting in it without sight of the technology that will enable that fight.

There is no perfect solution, and nor will there be. Military educators in all their guises will need to acknowledge and be comfortable with the dynamic and developing nature of this new paradigm. (They will also of course need to be equally comfortable with the contextual and conceptual underpinnings of what they teach, but 'twas ever thus). Reasonable, informed assumptions should be made about 'means'; in the absence of specifics, representative capabilities are fine. Our equipment Programme of Record is relatively clear, albeit subject to change in some areas through the Balance of Investment process. Stack it against the Field Army's warfare development work through Task Force Rapstone and the likes of Project Asgard, and it should be relatively simple to project an education audience forward – say three to five years – with reasonable certainty and clarity. Army Futures can help in the notional shaping and resourcing of orders of battle, as well as with intelligent deductions about the future shape of 'Red' forces. We tell ourselves we should train two levels up – similarly, we should educate with an eye on the immediate future.

Beyond assumptions about technological advances, expanded battlefield geometry and differently-shaped groupings there are, arguably, four 'new' areas on which professional military education needs to focus in order to properly prepare our leaders for the demands of war in the second quarter of the 21st century. Taking this leap of faith will be easier said than done, but that does not obviate the requirement. Those areas are: 'war in three dimensions', manouvre in the electromagnetic spectrum and cyberspace, protection and deception. Of course, none of these are new per se, but I would contend that they fall squarely into the 'often mentioned, seldom actioned' bracket. Taking each in turn...

Arguably, land forces have had to think in three dimensions since the invention of the longbow (or even the sling). The problem became more acute with the advent of aircraft and has now hit a level of complexity which, while not unfathomable, will demand a fundamentally different thought process from commanders and staffs at all levels. Land – until recently a net beneficiary of action by (and in) other domains – is fast becoming a net contributor to the multi-domain fight. Put simply, the notion of 'fighting from the land' is already much more than a trite conceptual statement and must start to feature front and centre in professional military education.

The electromagnetic spectrum and cyberspace are widely acknowledged as new frontiers, but are incredibly difficult to map and control. Conversations inevitably default to the practicalities of technology, avoiding the equally pressing (and related) need to get to grips with visualising a domain which is, by definition, both abstract and complex. Professional military education must address both science and art if we are to move beyond 'admiration' of the problem.

The Land Operating Concept tells us to treat survival as a deliberate operation. This reflects the increasingly transparent and lethal battlespace described in general terms in the Land Operating Concept. 'Deductions for Land Warfighting' adds more meat to the bones of that description, and gives sufficient texture to support technical and tactical exploration of the notion of 'deliberate survival' in professional military education.

Finally, deception. Here I would advocate a conscious and deliberate shift in emphasis. Deception has long been a 'tick box' in military training and education..."Have you considered deception as part of your plan?" (etc). Rather than an afterthought, it should arguably now become the start point for the estimate (in all its forms). What are the enemy doing? What do they expect me to do? How therefore do I reinforce that expectation?

Of course, one of the more striking continuities in this developing way of war is that combat remains violent and visceral, with people at the heart of every decision and action. War is indeed still a fundamentally human endeavour, but it does not necessarily follow that the stresses placed on combatants will be precisely the same in 2030 as they were in 1940. This merits more than a token nod of acknowledgement by military students. For example, the expansion of battlefield geometry and the rapid development of technology may be leading to a paradigm in which troops are routinely isolated as individuals for extended periods. Throughout history, it has been an accepted truth that the single most significant motivator of soldiers to do the unthinkable – expose themselves willingly to extreme jeopardy – has been the close proximity of their comrades and the imperative not to let each other down. An uncrewed aerial vehicle operator may now find themselves alone, in contact and with the rest of their section, platoon or sub-unit only visible as icons on a screen. Without the physical presence of siblings-in-arms, and in an increasingly transparent and lethal battlespace, even the most physically courageous will find it difficult to break cover (in any sense). The PME environment tends to encourage the consideration of tactical problems through a largely scientific lens – force ratios, weapon effects and the like. This is understandable, but I would advocate – where possible – a degree of thought about 'new' human factors too.

Recently, several senior military and political figures have made comparisons between our current circumstances and the 1930s. History will determine the extent to which this is fair or accurate, but some of the parallels are undeniable. Churchill's exhortation to the House of Commons on 21st March 1934 feels familiar: "All three Services in modern times have a new common factor which they never had in anything like the same degree until the present century; or indeed until after the recent Great War. I mean science and invention. Science and invention are sweeping all before them. The same science applies to all three Services alike, and its application must play a large part in all your plans and outlook." Worryingly, it took the national existential crisis that followed Dunkirk, and Churchill's own peerless leadership, to force the changes that enabled competition and victory.

If we are to remain on the front foot, we must be innovative and imaginative now; not only in the pursuit of physical lethality through technology, but also in the training and education of leaders at all levels.

SYNERGY AT SANDHURST: THE ALIGNMENT OF ACADEMIC AND MILITARY AGENDAS

AUTHOR

Dr An Jacobs is a Senior Lecturer in Defence and International Affairs at the Royal Military Academy Sandhurst. Her expertise includes military education, defence diplomacy, conflict resolution, gender and securitisation.

PROFESSIONAL Military Education prepares military personnel for the next level of responsibilities throughout their careers, offering continuous professional development relevant for military roles at all levels (Shanks Kaurin, 2017).[1] This article focuses on PME in the context of the Royal Military Academy Sandhurst (RMAS), which provides junior officers with the foundation of their continuous learning. Sandhurst combines military training and military education in a year-long intensive course, which endeavours to deliver PME in an applied manner. The co-existence of military and academic worlds at Sandhurst comes with challenges and requires continuous dialogue to ensure an effective and coordinated approach.

This article reflects on PME at Sandhurst at a time when the Academy finds itself at a juncture of institutional developments. The current international security environment and associated challenges have driven an agenda for change within and beyond RMAS. The Russian invasion of Ukraine, questions about China's position in the international system and (technological) changes to the character of warfare have all generated a discussion on how to ensure a readiness for multi-domain, hybrid and complex forms of warfare. As this has required adaptations to how RMAS prepares a new generation of junior officers for their future roles, PME has experienced several changes, both within the academic Faculty for the Study of Leadership, Security and Warfare and in the wider programme.

Firstly, the RMAS Academic Faculty[2] has recently become more actively engaged in thinking about what PME entails. For example, faculty members have become involved in dialogues with PME personnel of sister academies at Royal Air Force Cranwell and the Britannia Royal Naval College and have presented on and engaged with PME at international conferences, such as those held by the International Studies Association and International Symposium of Military Academies, and a recent event at Maynooth University. In addition, a cross-departmental PME working group has been established to ensure these ongoing discussions are captured and communicated. The group also aims to establish a clearer conceptual understanding of PME and agree on a definition that RMAS wants to draw on to help provide a framework when reviewing and improving the programme.

A recent survey conducted by the working group explored definitions of PME and indicates that Faculty staff consider PME to mean something that goes far beyond mere knowledge transmission. It emphasises the importance of supporting officer cadets to develop critical thinking, (self-)reflection and analytical skills, and enable them to become life-long curious learners. It also highlights that PME always needs to be relevant to the

[1] *Shanks Kaurin, P. (2017). Professional Military Education: What is it Good for?, The Strategy Bridge, June 2017, available online at: https://thestrategybridge.org/the-bridge/2017/6/22/professional-military-education-what-is-it-good-for?rq=kaurin*

[2] *The Faculty for the Study of Leadership, Security and Warfare consists of three academic departments: the Communications and Applied Behavioural Science, Defence and International Affairs, and War Studies. The faculty hosts about 40 members of staff across three departments and the RMAS library and provides the first phase of the Army Higher Education Pathway.*

military profession, using applied learning as a key pedagogical tool and ensuring academic subjects and military training go hand in hand. Faculty staff feel they can make an important difference through both content (what we teach) and process (how we teach) and underscore that sufficient time (to teach, to learn and to reflect) is essential to make this happen.[3]

Secondly, RMAS has recently implemented Project Adair.[4] The purpose of Adair was to retune the overall Sandhurst syllabus to ensure that both education and training reflects new operational challenges, to allow the programme to move away from what has been an almost single focus on stabilisation to other types of warfare, while also recognising the role of new technology. In other words, Project Adair aims to make the syllabus more relevant not just to enhance readiness to face changing threats, but also to better understand and appropriately respond to the changing relationship between individuals and technology. It acknowledges that officer cadets need to be intellectually curious and should spend time reading to better understand their profession from different angles.

"The PME survey shows that academic staff consider time to be the most precious resource at RMAS. Time for seminars, for officer cadets to read and come prepared, time for them to reflect on tasks and subjects – in short, time to maximise academic learning outcomes."

To achieve this, Project Adair and its recent refinements have looked to better blend an understanding of the relationship between emerging security challenges and responses as part of developing the junior officer fundamental skills of 'shoot, move, communicate, medicate, and lead'. New components like wargaming, exposure to some emerging technologies like drones, working with soldiers on field exercises and broad understanding of aspects like electronic warfare are designed to provide officer cadets with a sense of how the battlespace is developing and how the tools of leadership help them to gain operational success. The faculty helps officer cadets to learn the value as well as the risks and weaknesses of using artificial intelligence alongside lessons on the ever-changing topics of the character of warfare, behavioural science, operational law, ethics and strategic context. The working day is now more structured to allow reflection and reading with the introduction of reading weeks during recess as well as dedicated periods in the evenings or weekends.

Significantly, ongoing discussions in the academic faculty and changes generated by Project Adair have provided an opportunity to further align military and academic agendas. There are three aspects where this is currently most visible. The first aspect concerns enhancing the critical thinking skills of junior officers. The recent academic staff survey indicated the importance of critical thinking as a key element of PME, but in an applied manner, always relevant to the military profession. The pedagogical philosophy of integrated and applied learning is reflected in how PME is implemented across the faculty through experiential learning. For example, academic staff are (increasingly) involved in military exercises, academic subjects covered in classrooms now correspond more directly to what is covered in military training, academic staff enable learning by running their own exercises (Exercise Dynamic Understanding), and the faculty has a real-world approach to assessments (for example, the Conflict Analysis Report and the Human Security Impact Assessment). Also, the specific pedagogical tools applied in seminars reflect an applied learning approach, ranging from classroom debates, role-playing and simulation games to group work on different case studies.

In fact, delivering applied and experiential learning through real-world examples and case studies at RMAS goes beyond course design and delivery. Members of the faculty engage with the wider Army and other Government departments and deliver courses under defence engagement to partner

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[3] *PME Survey (Autumn 2024), Faculty for the Study of Leadership, Security and Warfare, Royal Military Academy Sandhurst.*

[4] *Project Adair links to other projects that cover staffing, the lived experience, infrastructure and digitisation, and is designed to modernise how, what and with what we deliver training and education courses at the Academy. Such reviews are commonplace at Sandhurst and serve to ensure that the Academy adjusts appropriately inter alia with changes in the purpose of the Army, society, education and technology.*

[5] *Critical Thinking Survey (Autumn 2024), Senior Officer Cadets CC 241, PG Cert, Royal Military Academy Sandhurst.*

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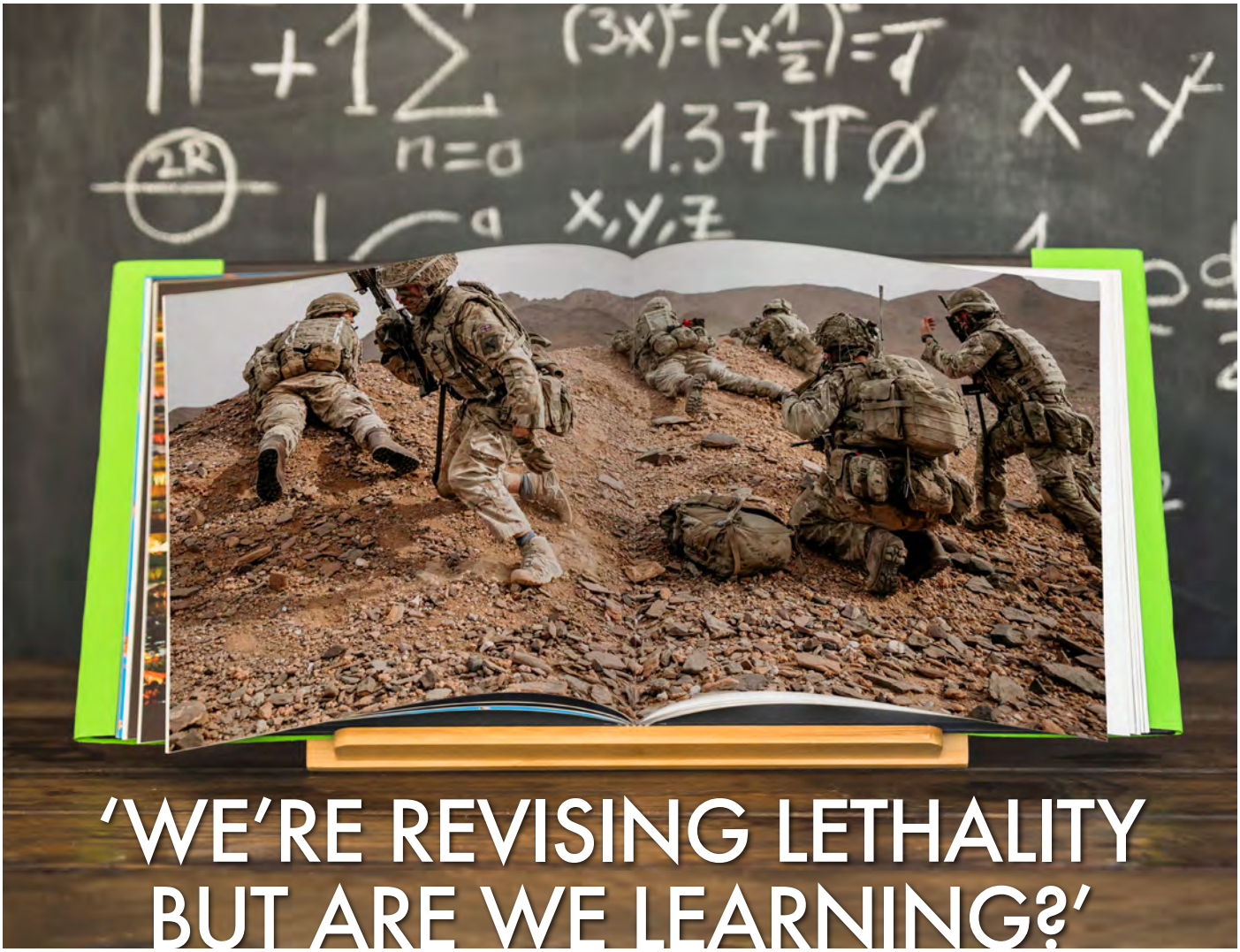
militaries around the world (Exercise Agile Influence). These experiences are invaluable when brought back into the classroom and can help bring academic subjects to life. The student voice echoes a similar observation on what constitutes effective PME. A recent survey – relating to critical thinking – of over 70 pre-Adair senior officer cadets shows that, in their experience, experiential or applied learning is the best way to enhance critical thinking.[5] With Adair emphasising the importance of applied learning, it shows that military and academic thinking on this issue are increasingly aligned.

A second key aspect of effective PME is allowing officer cadets enough reflection time to ensure learning is internalised. Due to the intensity of the RMAS programme, combining both military training and education, the amount of required reflection time has been a long-standing point of discussion. It exposes the tension between testing students physically and mentally through arduous military training on the one hand and allowing them sufficient reflection time to encourage intellectual growth on the other. Academic staff have long advocated an increase in the amount of reflection time. The PME survey shows that academic staff consider time to be the most precious resource at RMAS. Time for seminars, for officer cadets to read and come prepared, time for them to reflect on tasks and subjects – in short, time to maximise academic learning outcomes. Adair now aims to find the best possible balance between the pressures of military training and space for reflection time.

A third aspect of PME that has received an increasing amount of attention at RMAS reflects the need to incorporate technological developments into the curriculum. The academic syllabus now also includes topics such as the new frontiers of (in)security (covering issues like information warfare, cyber, human enhancement and space). In addition, the faculty has not ignored the developments in artificial intelligence, and academics have been exploring ways to allow officer cadets to engage with large language models (such as ChatGPT) while learning to understand their strengths, weaknesses, opportunities and threats. Following a recent change to assessments, for example, students are now asked to reflect on artificial intelligence-generated results to research questions and compare them to established sources. As this is a recent change, it is still work in progress and the outcomes are continuously being evaluated, but it shows that both military training and military education agree on the importance of covering technological challenges on the syllabus.

In conclusion, while it is too soon to evaluate the effectiveness of Project Adair, what we can say is that its implementation and ongoing academic discussions on improving PME demonstrate that military and academic agendas are increasingly aligned – a development which is promising. It offers a solid foundation to further improve dialogue and coordination between military training and education at RMAS and emphasises again how important it is to continue the discussion. Agreeing on a conceptualisation of PME in this context by developing a joint definition is an essential step to further streamline PME work on both military and academic sides.



'WE'RE REVISING LETHALITY BUT ARE WE LEARNING?'

Inset: UK MOD © Crown copyright

AUTHOR

Colonel Jim Walker is the Assistant Head of the Leadership, Education and Development Group, having previously led the NCO Academy Project Team from concept into delivery in the Army Individual Training Command.

"An' it's Tommy this, an' Tommy that, an' anything you please; An' Tommy ain't a bloomin' fool – you bet that Tommy sees!"[1]

IT could be said that, somewhat like a contestant on *Strictly Come Dancing*, non-commissioned officer (NCO) PME has been on a 'journey' in the last few years. From 'Education for Promotion' and 'Command Leadership and Management' (perhaps best known for its infamous workbook) through to our current approach, a 'Select, Train, Educate and Promote' (STEP) model,[2] the central element of which is delivered through the Army Leadership Development Programme.[3] Face-to-face feedback, however, suggests that the 'STEP change' is not universally popular and there is a sense that the lack of direct competition for selection devalues promotion and an 'attendance course' disincentivises the pursuit of excellence. In fairness, one person's removal of competition is another's removal of undue stress, but we should be clear-eyed as to the trade-offs of the current policy. The Army Leadership Development Programme, therefore, "is not designed to validate or test a soldier's suitability for promotion, this process is completed by the MS [military staff] system."[4]

Soldier and NCO development has traditionally been based in practical, workplace-focused skills, of which the dreaded Command Leadership and Management workbook is an historical example. This has evolved into the current significant investment in apprenticeships and is further reinforced by the Army Talent Management System's skills-based approach, many levels of which can only be evidenced by performance in the workplace. This focus is necessary, but is it sufficient? The weakness of the trade-based approach is its limitation in growing the critical and creative thinking needed to deal with uncertainty and prevail in war.

In May 2024, the Army created a Leadership Education and Development Group (LEDG), which now sits within the newly-formed Army

[1] *kiplingsociety.co.uk/poem/poems_tommy.htm*

[2] *Para 2, page A-1 of Annex A to ACSO 3234*

[3-4] *Annex A to ACSO 3234.*

Individual Training Command as one of three 1*-led pillars. The creation of the LEDG is a seminal opportunity for the Army, focusing the bulk of non-trade training and individual development in one place. Army Individual Training Command prepares individuals to take their place in combined arms teams. The LEDG currently incorporates the Centre for Army Leadership, the General Staff Centre, the NCO Academy and Senior Soldier Entry Assessment, and will grow as it integrates the Education Branch, Army Education Services, Army Adventurous Training Group, Late Entry Officers' Course, Sandhurst Leadership Security and Warfare wing (an academic faculty) and others. The LEDG has been created to benefit from the power of combinations gained from combining these distinct teams. For the first time, the head of LEDG will have an overview of the NCO career pathway from lance corporal through to late entry commissioning and a role in advocating for balance of investment in its delivery.

Army Command Standing Order 3223, *Soldier Training and Education*, describes soldier PME in terms of further refining a trade and preparation for rank, rather than educating for uncertainty.[5] Maximising potential is framed as 'Personal and Talent Development'[6] rather than a cast-iron requirement of the job. And this is perhaps the flaw in our previous approach to creative decision-making in uncertainty, in that it is nice to have, not essential. The Chief of the General Staff has been clear that "the old ways won't work, we must think and do differently".[7]

The NCO Academy was established to address these challenges and aims to create five effects, three of which are most pertinent to this subject: to cohere, to prepare and to inspire. A great deal of the knowledge our NCOs need already exists; our problem is finding it. By acting as the NCO's agent, the NCO Academy aims to cohere information, so it is available at the point of need and the point of want. We haven't cracked the code yet, but we are making progress. No longer can we accept setting anyone up to fail, we must prepare every NCO for the roles the Army asks them to fulfil – and we see some obvious gaps. One priority effort is to prepare NCOs who work in our command posts at divisional, brigade and battlegroup level, through a partnership with the Junior Division at the Land Command and Staff College to explore how we deliver the knowledge and skills our NCOs need to be effective decision makers. And finally, inspiring our NCOs takes many forms, but in this context reinforces the moral component through inspiring their professional curiosity and lifelong learning.

"All this work is directly in support of the Army's purpose and has a warfighting output: through supplying context of the operating environment and decision-making tools to our NCOs, underpinned by Mission Command, we will achieve a tempo that defeats the adversary. This is a requirement at all levels of our force, not just where officers are present."

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If the aim is to equip our NCOs with the context and capabilities they need to be critical thinkers and creative decision-makers, what is stopping us? First, there is a volume problem. There are more than 50,000 NCOs (regular and reserve) in our force: the scale makes traditional approaches to PME almost impossible. The NCO Academy is exploring novel and modern approaches to transfer the knowledge most effectively, 'chunking'[8] the information down into accessible modules that build to the whole. The second issue is that the Army has a time problem. This is harder to overcome. We are frequently told that unless our courses/content are mandatory, they will be ineffective. A short examination of behaviours arising from mandating the Captains' Warfare Course as a pre-requisite for officer promotion shows some lessons in human nature. Yet our belief, in a *Field of Dreams* sense ("build it and they will come"),[9] is that there is a role for PME provided at the point of want or the point of need. It can be elective, chosen, or it can be there for the point at which you need it.

If we solve time and volume, do we also have a delegation problem? In theory, not: we have a doctrine of Mission Command, right? Yet we consistently struggle to apply this in barracks. Even where we build trust and mutual understanding and combine it with unity of effort, we seem to lack freedom of action and/or suffer from a lack of timely decision making.

On top of such challenges, we also have to wrestle with choosing where we focus the subject matter of PME, which should be grounded in warfighting, with a focus on "command, control, and leadership; understanding the Army within the Joint Force and modern security context; decision making in uncertainty and managing complexity. Most critically, we will teach 'tech-craft' alongside fieldcraft; the ability and confidence of our people to understand, adapt and integrate technology at pace, which is central to a more lethal Army."[10]

The adaptation and integration of the changing character of warfare must be at the pace of relevance, unlearning where necessary, but retaining the wisdom of what doesn't change: the unchanging nature of warfare.

So, the next time you consider the need for NCO PME, bear Rudyard Kipling's words in mind and rather than ask 'can we afford the time to do this?', ask 'can we afford not to?', because, in a dispersed and comms-denied battlefield, who will make the decisions when you're not there? In order to be lethal, we have to be a learning Army.

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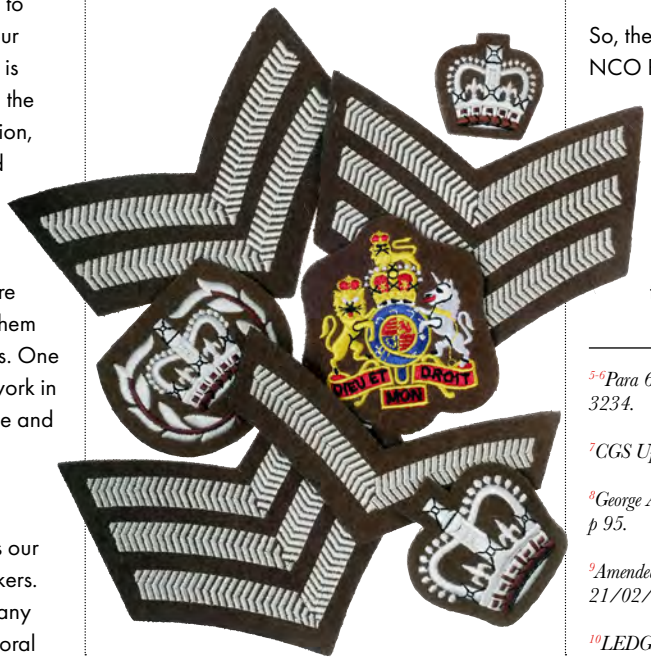


[5-6] *Para 6, page 2, ACSO 3223 and Annex A to ACSO 3234.*

[7] *CGS Update to the Army, September 2024.*

[8] *George A Miller, The Psychological Review, Vol 63, No.2, p 95.*

[9] *Amended from imdb.com/title/tt0097351/quotes, accessed 21/02/25.*

[10] *LEDG narrative, dated 02/10/24.*

WHAT LESSONS SHOULD BE BUILT INTO PME TO IMPROVE LETHALITY AND READINESS?

AUTHOR

Colonel James 'Ratty' Thurstan is the Assistant Head Lessons at the Lessons Exploitation Centre in Warminster.

THREE years into the war in Ukraine, and one-and-a-half years after the Hamas attacks on Israel – the rapidly changing character of conflict is providing evidence of how technological change is affecting the battlefield.

Whilst everyone sees these changes through a context-dependent lens – there are some inalienable truths that underpin this. At the Lessons Exploitation Centre our analysis bears out that the macro implications for warfighting, as articulated through Project Lewes, are good aiming markers to drive our warfare development to adapt at the pace of relevance. For that reason, the challenge of transforming at the pace of relevance remains one of Director Land Warfare's top three priorities.

The question posed in the title of this article has spurred the Lessons Exploitation Centre to reflect on the implications for Professional Military Education (PME) and this note will unpack our thoughts on what we believe is important for PME to address. For the purposes of this short article, it will tackle each of the macro-implications one at a time – and then also look holistically through a 'common to all' standpoint. Clearly the tone will be reflective of the bias in this question towards the conceptual component of fighting power; but there will be PME implications for further study which lean towards the moral and physical components too.

THREAT DRIVEN, ADAPTABLE AND INNOVATIVE

We must know as much as possible about our quarry, and the hunter mindset is key to success on the modern battlefield. Basic understanding of threat must continue to improve and be consistently represented, scalable and repeatable at all echelons of training: from basic training and throughout the Land Training System. Furthermore, to set the conditions for an unfair fight, we must learn to adapt, inculcate innovation and leverage existing capabilities to gain tactical advantage. This innovative mindset of the hunter will instil a recce strike ethos amongst our soldiers... but it must be underpinned by the basics.

FIGHT BY RECCE STRIKE AT EVERY LEVEL

As our tactical and operational doctrine evolves to address these challenges, it will be critical for the warfighter to understand our doctrine and those guiding principles on how the fight should play out. On the US Army Chief of Staff's reading list is a War Room article from the US Army War College – *How to Transform the Army for Drone Warfare*.[1] It sums up the

[1] *warroom.armywarcollege.edu/articles/transform-for-drones*

challenge perfectly: "It is one thing to fly a drone. It is another to infiltrate by ground into a frontline patrolled by enemy drones, launch undetected, navigate the contours of the enemy's electromagnetic defences, and then synchronise with other drones launched from separate locations to perform different functions. This level of complexity is akin to the difference between being able to drive a tank and being able to plan and execute combined arms manoeuvre with an armoured formation. It requires a practiced team with a higher order of domain expertise." The implications for PME are clear – that expertise comes from study and developing an innate understanding through education (as well as training) across the force, in order to be masters of 21st century battlecraft.

TREAT SURVIVAL AS A DELIBERATE OPERATION

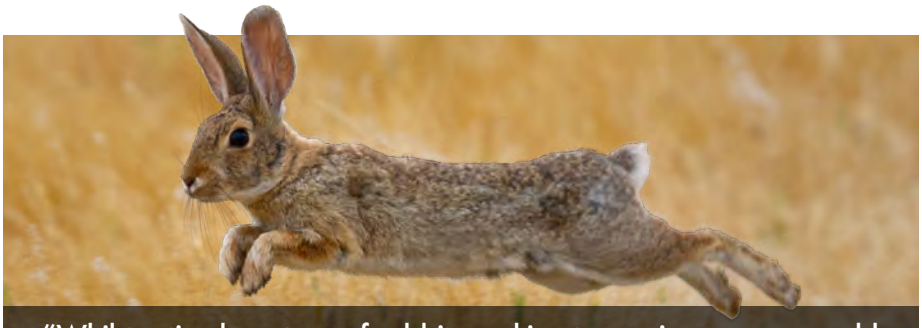
The corollary to being the hunter, is not becoming the hunted. The 'transparent battlefield' and similar mantras are well known now. Survivability is also innately linked to our ability to deliver the lethality we seek, as whether in the electromagnetic spectrum or physical domain, the very act of prosecution of an attack will often force your 'breaking of cover' and you become, if you were not already, increasingly vulnerable. The survivability onion is as valid a conceptual tool as it ever was – and we must fight by it.

"All the world will be your enemy, Prince of a Thousand enemies. And when they catch you, they will kill you. But first they must catch you; digger, listener, runner, Prince with the swift warning. Be cunning, and full of tricks, and your people will never be destroyed."
– Richard Adams, *Watership Down*

Whilst a timeless story of rabbits seeking to survive seems an odd place to draw a quote, it uniquely sums up the 'art' of survival. This mindset of surviving to fight must be educated into our warfighters in order that they can apply the science (technical competency in killing at all levels) to be the hunter, not the hunted. We must also master the art and science of deception too; again, this will fall to both education and training to address the need for competence.

MANOEUVRE AGGRESSIVELY IN THE ELECTROMAGNETIC SPECTRUM AND CYBERSPACE

The ability to manoeuvre aggressively (and effectively) comes from understanding one's environment and the battlefield. In a previous generation of warriors, the electromagnetic spectrum was usually the preserve of Royal Signals specialists and one or two other select few. That level of understanding across a



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warfighting force, in any level of leadership role, from the most junior to the top, will swiftly result in the annihilation of that force under command. Our education must adjust to address that reality fast – as our adversary is schooling themselves on this now. History matters – and learning from the past remains vital; we must understand the constants of war. Warfighting today is shaped by the physical, human and electromagnetic geography of the battlefield. Our PME pathways must prepare our people for this reality. There is still a geographic framework – but it has an electromagnetic and cyber geography that is at the heart of warfare today. We must all master it.

SUSTAIN IN A MANNER FIT FOR THE PRECISION AGE

At the heart of the sustainment challenge is the tension between operational effectiveness and logistical efficiency. Technical logistical enhancements have, for good reason at the time, privileged efficiency; and we now see the risks to operational effectiveness of this approach. We must recall our warfighting logistic competencies and then refresh them for the fight described above. At the tactical level, our logisticians must be adept at camouflage, concealment, deception and dispersal as they present legitimate targets. At the operational and strategic level, we must continue to work with industry 'from factory to foxhole' to ensure a balance of efficiency and effectiveness. As with so much – there is an art and a science here – and the acme of skill is to combine the two. Warfighting is often described as large scale combat operations. The graceless or uneducated application of 'large scale' without understanding (gained through education) will result in large targets – for which our battle hardened and experienced adversary will be only too pleased to punish us.

SEIZE THE INITIATIVE IN THE INFORMATION ENVIRONMENT

We must shift how we think about information from an afterthought, and the sole purview of information professionals, to a foundational consideration for all military activities. We must design all activities and operations from the outset to account for the use and impact of information on relevant actors. Technology, digitisation and information warfare provide an asymmetric advantage but require funding, workforce, equipment and training. PME must ensure that we have commanders and staff that think upstream in the information battle, can plan for it and then also execute it effectively in a synchronised and coordinated manner. The symbiotic relationship between lethality and survivability was described earlier. Likewise mastering the management of exploiting information and protecting against disinformation is an absolutely key activity. Our PME must ensure that our people are suitably skilled to navigate this complex and often opaque conceptual space.

BE GREATER THAN THE SUM OF THE PARTS: A HOLISTIC PERSPECTIVE

In summary, as the technological revolution drives accelerants into warfighting, our PME challenge is to ensure that today's warriors can not only understand, but excel and apply a manoeuvrist approach to their planning and execution of operations. Field Marshal Slim described the orchestra of war. The analogy is powerful – because however beautifully you may play any one individual instrument, if the orchestra cannot come together in harmony, then the finished product is disastrous. One wonders, were he still alive today, if he might just reflect that his analogy is now more akin to that supporting a ballet rather than the comparatively simple concert orchestra he described. Our PME challenge today, therefore, is to ensure our education pathways equip our soldiers and officers with the conceptual understanding to plan, refine, execute and thus realise potential through the effective integration of new technologies. This will enable a level of lethality that we could previously only have imagined.

‘QUICK FIXES’ FOR FIRST STRIDES OF A CAREER-LONG MARATHON

AUTHORS

This article was produced by Intermediate Command and Staff Course (Land) 21B’s syndicate B9 as part of the Exercise Agile Owl series. Any follow-up should be addressed to **Major Mike Weir (SCOTS)**.

“People will always be the centre of gravity for the Army… The British soldier, when imbued with values and standards, teamed, trained and developed, is the force multiplier.”[1]

THE Army’s Leadership Competency Framework (LCF)[2] is this paper’s North Star. It tells us that the skill of leadership is a combination of the things our leaders are, the things they do and the things they know. The LCF is also clear that developing as an effective leader is a career-long marathon. Career Stage One, for the junior officer, is the first ten (or so) miles.

The LCF exhibits elements of both trait and skill-based leadership theories. The elements focusing on the character of leaders is grounded in a traits-based leadership approach. Here, we focus on Professional Military Education (PME) after the regular commissioning course, relying on Sandhurst to secure our ‘what leaders are’ flank, whilst accepting that the character of our leaders must be constantly reinforced throughout their careers. Our concentration is instead on skills theory – focusing on what leaders know, specifically the ‘leaders know their profession’ sub-section of the LCF. This is not just about military-specific skills; Katz called leadership skills a combination of the technical, conceptual and human.[3] The LCF’s professional knowledge competencies see leaders develop and wield a combination of all three.

EXAMINING CAREER STAGE ONE AGAINST THE LCF

Our imperfect methodology was to overlay the LCF’s ‘leaders know their profession’ subsection with both the mandatory and elective sections of the junior officer’s PME. Inevitably, in combination with our own experience as recent Career Stage One customers, it allows us to create an illustrative snapshot of areas of dual-use advantage, unhelpful overlap and educational gaps. Common to all is the development of written and verbal communication skills, which is a subset of Katz’s human skills category. Four propositions emerged, which we offer in priority order.

1. CREATE A ‘LEADING CULTURAL CHANGE’ MODULE

We first propose a wholesale revision to the content of the military analysis ‘A’ module (Application of Force). We offer that the overlap between the module content and that already taught at the Royal Military Academy Sandhurst should see it fall victim to ruthless prioritisation in favour of a new Leading Cultural Change module.

The moral case for arming our junior officers with deepened leadership and cultural theory is unarguable; if the Army is to resource the Army Plan for Improving Organisational Culture, protect our licence to operate and, more importantly, do right by our people then more focus is needed here.

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The teaching of cultural change theory, earlier and with more depth than that at Intermediate Command and Staff Course (Land), should attract higher prioritisation than it currently does in Career Stage One. Students can still have their conceptual ability to analyse and synthesise new ideas developed, but by studying Schein, Cameron & Quinn and Hofstede rather than doubling down on Clausewitz. The advantage of our proposition is its utility more widely across other elements of the LCF. This module would develop junior officers in the other elements of what leaders know (themselves and their people) and what leaders do (building teams and developing individuals), by building a personal cultural change toolkit.

2. CREATE A PME DRUMBEAT

Our lived experience is that Career Stage One PME often has no steady drumbeat. Formal courses are often necessarily spread out, with the business-as-usual mentoring of young officers by unit chains of command being inconsistent, and occasionally non-existent. We propose to support those chains of command to steady that rhythm by arming them with the tools to create a regular PME drumbeat.

Op Teamwork has shown us the benefits of annualised collective training and has sensible flexibility for those deployed on operations.

> "Op Teamwork has shown us the benefits of annualised collective training and has sensible flexibility for those deployed on operations."

We propose a similar regular module for Career Stage One officers, with two functions. First would be a section on 'How the Army Works', similar to the Army HQ briefing series at Intermediate Command and Staff Course (Land), which would give junior officers the wider 'Army situational awareness' that our group agrees would have been beneficial from at a much earlier stage. Second would be briefings on emerging ideas, practices and trends in the Army. The former should remain constant (i.e. what Army HQ directorates do, an overview of the strategic effects cycle and force generation processes), with the latter being thematic.

Similar to Op Teamwork, this should consist of both instruction and discussion and should be delivered as distributed training by chains of command, who must be held to account for its delivery and supported with briefing material. Increasing this situational awareness would ensure junior officers better know the operating environment and know organisational processes. It could be a model to roll out to other cohorts if proven useful and helpfully it would demystify significant chunks of the No5 board too.

3. CONTINUOUS SPECIAL TO ARM TRAINING

This proposition emerges from our gap analysis. Many officers arrive on Career Stage One courses as the sole representative of their cap badge in a syndicate without being (relatively) expert on all the capabilities of their own trade. The preparatory training of Career Stage One officers to close this gap must be a cap badge responsibility.

Previously, several cap badges ran bespoke collective preparation programmes to ensure that their officers were best prepared to represent their entire trade on the Junior Officers' Tactical Awareness Course and Captains' Warfare Course, rather than their own sub-specialism. Most of these have now

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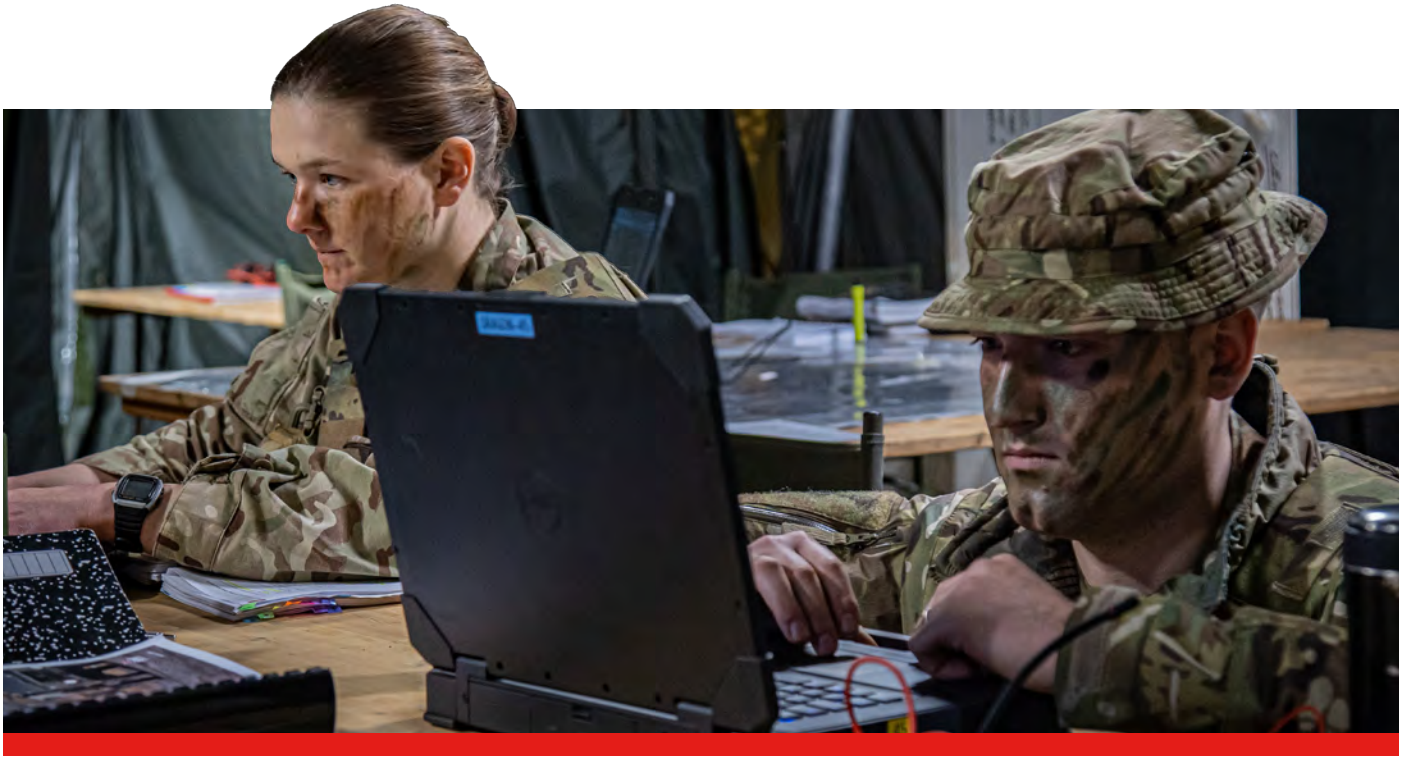
[1] *Army Command Plan 2024 Part 1 – The Army Strategy*

[2] *The Army Leadership Competency Framework, Centre for Army Leadership, 2024, army.mod.uk/media/25795/20240514-lcf_booklet_v142.pdf*

[3] *See Robert L. Katz, "Skills of an Effective Administrator," Harvard Business Review 33, no. 1 (1955): 33–42, where leadership skills are described as a combination of Technical, Human and Conceptual skills.*



"We are supportive of ongoing refinement of the Junior Officers' Tactical Awareness Course and Captains' Warfare Course programmes, particularly the inclusion of Exercise Avon Execute [pictured] and emphasising the practise of combined arms manoeuvre. These courses are a strong spine for Career Stage One."

been suspended due to resource constraints, the impact of which is the individual officer being less knowledgeable in their trade, with a knock-on effect on others' ability to gain understanding.

We recommend an alternative solution: the creation of special to arm military knowledge modules aligned to the Junior Officers' Tactical Awareness Course and Captains' Warfare Course. Importantly, they should be open to all ranks on the Defence Learning Environment as reference material both on and off courses. This last point should be expanded to the core military knowledge modules too; all ranks should be able to use modules as reference material.

4. MANDATE THE ARMY HIGHER EDUCATION PATHWAY

While our mapping of Career Stage One and Army Higher Education Pathway modules against the LCF is not perfect (for example, every module requires the 'critically analyses information' sub-skill), it does illustrate our second key point: officers who complete the Pathway receive significantly richer Career Stage One education than those who do not. By mandating the Pathway for officers, the opportunity emerges to significantly deepen junior officer conceptual education, further de-risking proposition 1.

We do not underestimate the scale of this proposal. Open source data[4] indicates that the Army has contracted for 351 Bachelor of Science or Master of Science Army Higher Education Pathway places per academic year (approximately 55 per cent of Sandhurst's capacity for officer cadets) at a cost of circa £13 million over a decade. There will be many other obstacles, but we indulge in this one 'big idea' to prompt debate.

CORE COURSES

Despite four propositions to enhance the effectiveness of Career Stage One, we judge it important to recognise the continued success and recent updating of the 'core' courses.

The progressive teaching of the combat estimate is the golden thread that connects the commissioning course and the beginning of Career Stage Two at Intermediate Command and Staff Course (Land). Its dual-use advantage is that it is both a practical tool that all officers can expect to employ on various staffs, and a set of problem-solving frameworks[5] that can be applied to novel situations. The associated cross-training on the capabilities of the constituent units in the formation at play is also key professional knowledge for the junior officer. Indeed, our mapping of special to arm courses, the Junior Officers' Tactical Awareness Course and Captains' Warfare Course and their associated military knowledge modules against the LCF shows utility across all 'professional knowledge' sub-skills.

We are supportive of ongoing refinement of the Junior Officers' Tactical Awareness Course and Captains' Warfare Course programmes, particularly the inclusion of Exercise Avon Execute (adding, unsurprisingly, the execute function to the combat estimate phase) and emphasising the practise of combined arms manoeuvre. These courses are a strong spine for Career Stage One and this process of refinement must continue.

CONCLUSIONS

We propose four changes of varying ambition to the Career Stage One pipeline. The first three we argue can be implemented at relatively low cost and on a shorter timeline:

- Create a 'Leading Cultural Change' military analysis module, to replace the current 'Application of Force' module.
- Create a continuous PME drumbeat, broadening the situational awareness of our junior officers.
- Reinvigorate continuous special to arm training, better preparing our officers for the 'golden thread' courses.

We offer our fourth recommendation as a prompt for debate, mandating the Army Higher Education Pathway would be a significantly longer-term project, but the value it offers should certainly be exploited more comprehensively.

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[4] *Provision of the Army Higher Education Pathway 2 Contract Award Notice, https://bidstats.uk/tenders/2023/W01/790036537*

[5] *PMESII-PT, ASCOPE, OCOKA, ROBOT, stakeholder analysis (Q2) etc.*

ALIGNING OUR SIGHTS: THE ROLE OF HISTORY IN PME

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AUTHOR

Colonel Martin Todd is a former Course Director of Intermediate Command and Staff Course (Land) and now Director Plans, Land Command and Staff College.

TODAY the British Army, and especially those charged with overseeing its professional education, are being enjoined to look 'forwards not backwards' and 'to get old ideas out of the military mind'. Of course, these messages reflect urgency to modernise in the face of a manifest threat: rebuilding capacity after three decades of under-investment and restoring long-neglected warfighting skills, all while exploiting emergent technology. In this context, it has been expressed that, right now, our people need training more than they need education.

Yet, herein lies a paradox. If we could look forwards with any certainty, we wouldn't be where we are now. If, as the ancient Greeks thought, we walk backwards into our future with only the past and present in view, then it is axiomatic that to predict our future we must first know our past.[1] This put me in mind of a simile shared with me in 2016 by the then Head of Strategy, Brigadier Roly Walker, who likened directing future force development to aiming a rifle, i.e. by aligning a rear-sight (knowledge of the past) with a fore-sight (our best estimate of the future). This has stayed with me, so, when I heard the Chief of the General Staff's call to look forwards, I did not interpret it as direction to dispense with historical study. However, I fear that this is how it could be interpreted, especially as the Army hastens to meet demanding near-term goals, so completing a long process of erosion that would leave us all the poorer.

Hence, the aim of this article is to re-assess the case for history as a vehicle for understanding our core business of warfighting, in which technological and tactical change are historical constants.

The idea that understanding history is important in learning the military art is an ancient one. Thucydides recorded the events of the Peloponnesian War in the hope that knowledge of them would aid his future compatriots because those events would "at some time or other and in much the same ways, be repeated". This would have resonated in classical societies that understood the world through the lens of history. However, with the fall of Rome, this tradition was lost and not revived (at least in the West) for a millennium. Indeed, it was not resurrected in the military sphere until the 19th century, when the practice of war gradually became a subject of serious study. As Williamson Murray has noted, this has left a difficult cultural legacy for the professional officer: "In effect, Western man has set himself to march into the future with little regard to the past."[2] Nevertheless, the first 'modern' strategists, including Clausewitz, Jomini, Mahan and Corbett, all relied on history, sometimes none too rigorously applied, to prove their theorems, and so it was to history that the first staff colleges turned. At the Army Staff College at Camberley, the link between strategy and history was explicit in the designation of the 'Professor of Military Art and History'.

[1] *Bernard Knox, Backing into the Future: The Classical Tradition and Its Renewal (New York, 1994), pp. 11-12.*

[2] *Williamson Murray, 'Thoughts on military history and the profession of arms' in Williamson Murray and Richard Hart Sinnreich (eds.), The Past as Prologue: The importance of history to the military profession (Cambridge, 2006), p. 81.*

However, the experience of the First World War did little to recommend study of past wars to help predict the character of future wars. Basil Liddell Hart later ridiculed the academic regime at Camberley in sardonic terms: "To be able to enumerate the blades of grass in the Shenandoah Valley and the yards marched by Stonewall Jackson's men is not an adequate foundation for leadership in a future war where conditions and armaments have radically changed."[3] Liddell Hart undoubtedly had an axe to grind, but even so his critique targeted the slavish cramming of historical facts rather than historical analysis per se. He also objected that too much focus was placed on the manoeuvre of the Eastern theatre of the American Civil War rather than the attrition of the Western theatre, which he argued (in retrospect) was a better signpost to the road ahead.[4]

Nevertheless, the belief that looking backwards is of little profit to the military professional has proved enduring, including in the pages of *The British Army Review*. In 1970, an officer, who would later be Director of the Royal Army Education Corps, wrote: "Military history necessarily deals with a past which is in many ways tactically, strategically, politically, economically and certainly technically irrelevant to the military present and future."[5] Such sentiments echoed Admiral Sir 'Jackie' Fisher's verdict that "history is a record of exploded ideas. All conditions are changed" (this despite his fondness for quoting Mahan and patronage of Sir Julian Corbett). Of late, these arguments have been more frequent, impelled by belief in the transformational

"This dearth of historical inquiry continues to be relieved by a staff ride of the Normandy campaign... This remains the capstone exercise of the course [Intermediate Command and Staff Course (Land)], projecting insights from all its modules against the canvas that screams current relevance – large-scale warfighting against a peer enemy in an allied, joint and combined arms context."

effects of technology, which have encouraged the notion that they have changed not only the character of war, but its very nature (i.e. what war actually is).[6]

Such logic has been vigorously countered by military practitioners and academics alike. Professor Sir Michael Howard noted: "Past wars provide the only database from which the military can learn how to conduct their profession: how to do it and even more important, how not to do it." However, he cautioned that this is a "didactic purpose to which few other branches of historical study would lay claim and one which they regard with understandable suspicion". He highlighted its chief perils as: "Expecting it to provide 'school solutions' rather than to educate the mind", and "parochialism", which ignores the considerable depth and breadth of context within which any military operation takes place.[7] Professor John Gooch concurred that there are "no 'hard lessons' in the past", but asserted the value to the military mind of reading to gain "knowledge" and "insight"; the latter, he noted, "makes greater demands... but brings greater rewards".[8] Meanwhile, a former Director General of the Defence Academy, Lieutenant General Sir John Kiszely, while acknowledging Howard's prescription to study military history "in depth, in width and in context", noted that the required time was beyond the scope of modern staff courses, suggesting ruefully that such study "in the British Army at least... is a question of self-education".[9]

These conclusions mean that today's command and staff courses offer only vestigial historical

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[3] *Basil Liddell Hart, The Remaking of Modern Armies (London, 1927), pp 170-1.*

[4] *B. H. Liddell Hart, "The Signpost that was Missed," Infantry Journal 41, no. 6 (November–December 1934): pp. 405–11.*

[5] *Lt Col (later Maj Gen) A. J. Trythall, "What Are War Studies?", British Army Review, no. 35, Aug 1970, pp. 21-4.*

[6] *Admiral Sir John Fisher, Address to the Royal Academy Banquet, 1903, quoted in Fisher, Records (London, 1919), p.80.*

[7] *Prof Sir Michael Howard, 'The Use and Abuse of Military History', RUSI Journal, 1961.*

[8] *Prof John Gooch, 'History and the nature of strategy' in Past as Prologue, pp. 133-49.*

[9] *Lt Gen J. P Kiszely, 'The Relevance of history to the military professional: A British view' in Past as Prologue, pp. 23-7.*

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content. The Captains' Warfare Course has one assessment based on an historical case study (based entirely on personal research) in its six-week programme. Meanwhile, the Intermediate Command and Staff Course (Land) has only three historical exercises across its 26 weeks. One is a period of historical reflection on the 'realities of command' set against historical case studies, and another, an assessment that requires students to analyse an historical case study to draw lessons for modern doctrine. Until recently, nothing was considered prior to 1939, suggesting that relevance is merely a function of proximity in time but no other dimension. Further, a module that examined the history of the 'future of war', which revealed a consistent pattern of our recognising trends but being unable to adapt in time due to financial and factional constraints, was removed to make way for a study of the modern Pacific theatre. However, this dearth of historical inquiry continues to be relieved by a staff ride of the Normandy campaign, expertly guided by the excellent academics of King's College London. This remains the capstone exercise of the course, projecting insights from all its modules against the canvas that screams current relevance – large-scale warfighting against a peer enemy in an allied, joint and combined arms context. It is notable that research by Dr David Hay, Reader in Higher Education at King's, has confirmed that it is not only an immensely rich learning experience, but also something of a model for higher education in general.[10]

So, what does the study of military history offer to those undertaking contemporary PME?

Context. History illustrates that wars are not just defined by the ways and means in which they are prosecuted or the political ends to which they are applied, but also by a legion of contextual factors: geography, economics, culture, society and technology to name but a few. Depending on circumstance, some of these factors may represent continuities and others discontinuities; the study of historical case studies can help us to judge what may be relevant in future conflicts. Hew Strachan and David French have argued convincingly that there is no single 'British way in war', but there are definite patterns in how the British state and its armed forces have responded to the demands of war. Moreover, we also learn that wars often arrive suddenly and in ways that defy neat prediction. If we are to be better prepared than we were in 1914 and 1939, had we not better understand why deterrence failed then, and why it succeeded during the Cold War?

"As we, again, find ourselves surprised and unprepared by a strategic crisis based on a national failure to imagine the worst, surely the value of historical insight cannot be lost on us?"

Nature of war. History underlines that, as Clausewitz argued and few have sought to contest, war has an unchanging nature that is rooted in human responses to violence, fear, chance and uncertainty. War might, in essence, be a simple duel of wills, but these factors make even the simplest action difficult: the concept of friction. Managing friction and motivating humans to act when under the severest strains will continue to challenge future commanders, so understanding how commanders have attempted to do so before remains relevant. For example, discussing the realities of combat and how to prevent soldiers from taking revenge on prisoners has resonant impact when standing on the ridge overlooking the neck of the 'Falaise pocket' at St Lambert-sur-Dives, where these challenges were faced in brutal reality in August 1944.

Intuition. Technologies, conditions and human norms might change over time, but analysing past campaigns can serve to develop understanding and train the judgement of our leaders. This quality might be best generated by combat experience and practical field training, but learning from the experience of others can be complementary and may also offer a more accessible and less costly (in several respects) way to gain such wisdom.

Managing change. On a more institutional level, if technological and linked tactical changes are constants in military history, then understanding how they have been managed in the past offers us relevant insights for our own near future. It might challenge confidence that we are better at it now. The First World War saw not only the advent of numerous new technologies and the tactical adaptations that flowed from them, but also the rapid gearing of British society and economy to deliver a genuinely national war effort. Surely, some understanding of how these challenges were met, for good or ill, would offer us valuable insight to those we face now?

None of this is to propose that land PME should privilege mastering history over assimilating lessons from current operations, understanding the military potential of technology or the ability to apply practical command and staff skills. However, it does argue that history has a valuable place in PME that must be preserved. At an individual level, appreciation of history can help to shape warfighting leaders who understand the human nature of war, can readily identify continuities and changes in contextual character, and can adapt accordingly. At an institutional level, those same capacities will provide the 'rear-sight' to align with our best 'fore-sight' of what may lie ahead. As we, again, find ourselves surprised and unprepared by a strategic crisis based on a national failure to imagine the worst, surely the value of historical insight cannot be lost on us?

[10] *To these few, but important examples must be added the array of opportunities to study under the Army's Higher Educational Pathway, although few of those taking up these options elect for historical study.*

STAFF COLLEGE, THEN AND NOW

AUTHOR

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WHILE the Land Command and Staff College at Shrivenham celebrates the 20th anniversary of the Intermediate Command and Staff Course (Land), last year marked the 225th anniversary of the establishment of the Senior Department of the Royal Military College at High Wycombe – the official start of a formal system of what is now known as professional military education in the British Army.

When walking around Shrivenham today, there may seem little similarity to the first iteration of the staff college over 200 years before. Officers 'studying' in Oxfordshire now stroll the smart corridors of Roberts Hall and the Cormorant Building dressed in multi-terrain pattern uniform whilst checking their phones to see what the latest artificial intelligence might tell them ahead of their forthcoming syndicate room activity on concepts such as multi-domain integration. Two centuries earlier, their forebears sat in the smoke-filled Antelope Inn on High Wycombe High Street, dressed, much to their displeasure, in their smart 'regimentals', reading and translating Frederick the Great's *Instructions to his Officers* from German and French into English, before listening to the commandant of the college, François Jarry, lecture to them in French on 'operations in the field'.[1] Furthermore, the 30 officers of yesteryear had to acquire a horse to attend what, at the turn of the 19th century, was a two-year course and self-fund their educational enrichment. Today, there are no saddles needed and taxpayers allow a much larger cohort, circa 300 officers, to enrol in the six-month course each year.

Yet, if a slightly hungover and intellectually inquisitive officer was time-travelled from the officers' mess in the Antelope in 1799 to the Henderson Bar at Shrivenham in 2025 they would find themselves having much in common with their successors. This article seeks to offer a comparison between these two periods of PME and to highlight seven similarities in experiences and the pedagogical practices of the staff college.

1. A PHYSICAL AND METAPHORICAL SPACE TO REFLECT

The British Army's 'staff college' has gone through a series of name, location and administrative changes since 1799. Its physical home has changed six times, from High Wycombe (1799-1813) to Farnham (1813-1821), Sandhurst (1820-1862) and Camberley (1862-1996), before becoming part of the Joint Services Command and Staff College at Bracknell (from 1 January 1997-2000) and relocating to Shrivenham (2000-present).[2] No matter the moniker or specific surrounds, each has given officers a physical and metaphorical space away from other duties and responsibilities to allow them a chance to reflect on their profession and the practice of war more generally. At the turn of the 19th century, this came at an important time in the careers of the officers who attended High Wycombe. In much the same vein as today, officers tended to have already gained a solid grounding in their profession of around eight years' service with some experience of active service overseas.[3]

2. A MIXTURE OF MILITARY DIRECTING STAFF AND CIVILIAN ACADEMICS

In 1799, the students at the college received their education from a mixture of military and civilian instructors. Lieutenant Colonel John Le Marchant was instrumental in the foundation of the college at High Wycombe (and indeed his portrait still hangs pride of place at Shrivenham, as the first picture to the right of the main entrance in the Cormorant Building). Le Marchant, as Superintendent, had some military assistance – around four other officers at any one time – but most of the instruction was delivered by civilians, most notably

[1] *'Warrant Containing Statutes for the Government and Conduct of the First [later, Senior] Department of the Royal Military College', Royal Military Academy Sandhurst Archive (RMASA), RMC WO 99/2 Box 3.*

[2] *A.F. Mockler-Ferryman, Annals of Sandhurst: A Chronicle of The Royal Military College from its Foundation to the Present Day (London: William Heinemann, 1900), p. 88; B. Bond, The Victorian Army and the Staff College, 1854-1914 (London: Eyre Methuen, 1872), p. 110.*

[3] *See, Appendix VI 'Officers who attended the Senior Department of the Royal Military College, High Wycombe (May 1799-May 1809)' in, W.R. Fletcher "Scientifics' and 'Wycombites': A Study of the Quartermaster General's Department of the British Army, 1799-1814' (PhD Thesis, King's College London, 2019), pp. 334-344.*

[4] *The Tenth Report of the Commissioners of Military Enquiry (House of Commons, 26 February 1810), pp. 40-41 and Appendix VI.*

[5] *Supreme Board of Commissioners Royal Military College, Report draft of Royal Warrant, 14 October 1801, RMASA, RMC WO 99/2, Box 3.*

Jarry (a retired officer with both Prussian and French military experience) who, along with various professors of mathematics, field fortifications, French and German, instructed the students.[4] This is the case today with a mixture of practical training delivered by the military directing staff on the one hand and more educative elements guided by the academics of the Defence Studies Department, King's College London on the other.

3. A 'SCIENTIFIC' EDUCATION

The purpose of the Senior Department of the Royal Military College was refined soon after its establishment, specifically to educate officers for the Quartermaster General's Department (which was then the 'operations' rather than 'logistics' branch at headquarters). As the Royal Warrant for 1801 explained, the college was "... for the purpose of instructing officers in the scientific parts of their profession, the duties of the Staff, particularly those that belong to the Quartermaster-General's Department in the Field".[5] This meant the curriculum concentrated on staff work focused on the movement of troops both on campaign and on the battlefield, based initially on educating officers is their cartographical skills, to relate movements to a firm appreciation of the ground, before then being instructed by Jarry in 'The Disposition and Movements of Troops, under all the various circumstances of Offensive and Defensive War'.[6] Their expertise in this area led to the alumni of High Wycombe calling themselves 'Scientifics', as well as 'Wycombites' (as opposed to the Wykehamists of Winchester College). This practical scientific education (we might now say 'training') would be something familiar to the officers on the Intermediate Command and Staff Course (Land), who spend around half the course concentrated on staff planning and execution cycles, based on the *Staff Officers' Handbook* and the *Planning and Execution Handbook*, rather than Jarry's lectures or Frederick the Great's 'Instructions'.[7]

4. USING THE GROUND AS AN EDUCATIONAL TOOL

The key basis of the 'scientific' education at High Wycombe was the instruction in cartography and the subsequent coordination of troop movement. The main way this was practised was around the Buckinghamshire countryside, where "[t]he old general [Jarry]... took them out upon the ground, and gave them lectures on the placing of troops and the occupation of ground".[8] This is a common feature today, where aspects of the course are related directly to the ground, for example during 'terrain walks' in the UK and a staff ride in Normandy, which forms the culmination of the course.

5. THINKING ABOUT THE FUTURE OF WAR AND A POTENTIAL LARGE SCALE EUROPEAN WAR

When the college at High Wycombe was founded, Britain had only been involved in a relatively small deployment to the continent in the 1793-1795 Flanders Campaign, and various other expeditions outside Europe. There was, however, the prospect of British land forces being engaged in a large-scale European war, and indeed this is what happened, with the officers from High Wycombe serving on the staff of major deployments to Europe, most notably with Wellington's Army in the Peninsular War (1808-1814) and during the Waterloo Campaign (1815). Ever since then, a key role of the Army's staff college has been to keep the flame of large-scale continental conflict alive in an Army frequently focused on conducting smaller operations at lesser intensity. It will surprise few readers that today's officers are principally focused on the possibility that the British Army might once again have to fight in a large-scale European war.

6. THE BUILDING OF PROFESSIONAL NETWORKS

Perhaps the most striking similarity between 1799 and 2025 is the important role the staff college plays in creating professional networks and a collective understanding between officers. There are endless examples of how the 'Wycombite' network came into fruition throughout the Napoleonic Wars, but a small snapshot is provided when looking at the students attending the college in 1802. During a period when only 30 officers could study at any one time, incredibly, that summer, George Murray (later Wellington's Quartermaster General) was there along with William De Lancey, Benjamin D'Urban, Charles Cathcart, Alexander Abercrombie, Robert Waller, William White and Augustus Northly, all of whom would go on to be prominent members of his department at Wellington's Headquarters during the Peninsular War.[9] Today too, one of the most common comments is that the links forged at the Land Command and Staff College stand officers in good stead, with useful networks established that they can draw on throughout their future careers.

7. A COLLECTIVE UNDERSTANDING ACROSS THE OFFICER CORPS

A key feature of the education received at High Wycombe was that the curriculum was fairly standardised, and this helped to build a collective staff system and common understanding between staff officers, which, for example, came into fruition at the Battle of Albuera (16 May 1811). All seven officers of the Quartermaster General's Department serving with the Army at the battle had attended High Wycombe: Lieutenant Colonel D'Urban and Major Hardinge (serving on Beresford's staff), Captain White (with Lumley's cavalry), Captains Waller and Thorn (HQ 2nd Division) and Major Broke and Captain Bainbrigge (HQ 4th Division), not to mention two prominent 'Scientifics' who found themselves as brigade commanders, Lieutenant Colonels William Myers and Alexander Abercrombie.[10] These officers had built up a common understanding and familiarity in the classroom at the Antelope and in the Buckinghamshire countryside and when crisis hit during the battle, they rode over and spoke with each other and quickly deployed the 4th Division to the right flank of the 2nd Division, despite the confusion that reigned at the critical moment.[11] This familiarity amongst staff officers and common understanding of practices is something also cultivated at Shrivenham with strong bonds built up within and outside the classroom that undoubtedly help ready officers for future operations. Notably, today this 'military networking' extends to the US Army's Command and General Staff College at Fort Leavenworth, where each Intermediate Command and Staff Course (Land) student spends two weeks engaged in collaborative planning with their US peers, helping to promote interoperability with the Army's principal warfighting partner.

CONCLUSION

Whilst there may be some notable differences between 1799-1813 and 2025 there is perhaps more in common than not between these two eras of the staff college. The seven features cited proved to be of value and ultimately contributed in one way or another to a winning military machine which ended the titanic Napoleonic Wars. Victory in a conventional war is perhaps the greatest test for an army and the intellectual capacity of its officers, cultivated at staff college, forms a key component to the ingredients needed to achieve this, whether developed in the Antelope Inn at High Wycombe or at the Land Command and Staff College at Shrivenham.

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[6] *Warrant (1809), p. 31, RMASA, RMC WO 99/3, Box 4.*

[7] *See, Staff Officers' Handbook 2014 (Land Warfare Centre, 2014); see, Planning and Execution Handbook (Land Warfare Centre, 2018).*

[8] *Viscount Monck's evidence, 8 May 1855, in Report from the Select Committee on Sandhurst Royal Military College (House of Commons, 18 June 1855), p. 143.*

[9] *Student Register, RMASA, WO 99/11, Box 15.*

[10] *Appendix XXIII "Biographical Index of Officer in the Quartermaster General's Department with Wellington's Army (Peninsula and Southern France, 1809-14) in, Fletcher "Scientifics' and 'Wycombites".*

[11] *Fletcher, "'Scientifics' and 'Wycombites", p. 281.*

MIND WARFARE: CRITICAL THINKING AND THE CONTEST FOR COGNITIVE SUPERIORITY

AUTHOR

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MODERN warfare requires cognitive agility, adaptability and an ability to navigate complexity. Contemporary challenges defy linear problem-solving and necessitate deeper intellectual engagement. Increasingly, this sixth, cognitive domain of operations[1] demonstrates adversaries seeking to exploit the human mind as a battlespace, recognising that shaping perceptions, influencing decision-making and undermining cognitive resilience can be as strategically significant as kinetic effects. Critical thinking is the cognitive bedrock of effective command, enabling leaders to interrogate information, synthesise perspectives and make sound decisions in high-stakes environments. As cognitive warfare becomes an increasing reality, developing intellectual resilience through Professional Military Education (PME) is essential for operational effectiveness.

Yet, persuasion, rhetoric and misinformation continue to shape strategic landscapes, often obscuring rational analysis. History is replete with examples of flawed decisions based on emotional appeal rather than logic; a trend persisting in today's headlines. Identifying fallacies, evaluating evidence and challenging assumptions is a fundamental skill essential for sound judgement. As outlined in *Joint Doctrine Publication 04*, understanding and decision-making are influenced by biases, cognitive short cuts, incomplete information and misinformation, necessitating a deliberate and structured approach to developing reasoning skills.

PME is crucial in developing intellectual autonomy, cognitive flexibility and emotional intelligence, and ensuring leaders are not only technically competent but able to apply sound judgement in dynamic and unpredictable situations. In cultivating critical thinking skills – ensuring that knowledge acquisition is accompanied by structured reflection, systems thinking and applied decision-making strategies – effective PME strengthens intellectual autonomy, cognitive flexibility and

[1] *B. Claverie, B. Prébot, N. Buchler and F. Du Cluzel, 2021. Cognitive Warfare: The Future of Cognitive Dominance. NATO Innovation Hub. Available at: innovationhub-act.org/wp-content/uploads/2023/12/Cognitive-Warfare-Symposium-ENSC-March-2022-Publication.pdf [Accessed 5 Jan. 2025].*

emotional intelligence to enable our leaders to adapt and thrive in unpredictable situations. In an evolving global context, PME must foster a culture of ingrained adaptive thinking and ethical reasoning alongside doctrinal and operational proficiency.

Emerging cognitive warfare sees the human mind as a critical battleground, with adversaries manipulating information to exploit biases and shape decision-making processes,[2] necessitating a new approach to defence and security. Yet at a time when critical thinking skills need developing and refining, the increasing reliance on artificial intelligence and large language models presents both opportunities and threats. Technology must enhance rather than replace critical thinking. With the offer of efficiency and vast knowledge retrieval, passive acceptance of artificial intelligence-generated recommendations, without critical interrogation of validity, biases or ethical implications, has the potential to erode independent thinking. Traditional assessment methods, whilst necessary for performance evaluation, may further contribute to this erosion by incentivising success within predefined frameworks rather than fostering true intellectual adaptability. A balanced approach is required to encourage critical exploration, cognitive risk taking and artificial intelligence literacy; ensuring that leaders develop intellectual resilience and evaluate information critically. Thus, PME must both teach critical thinking and create conditions for its habitual practice. Embedding argumentation, logic, metacognition and evidence-based reasoning into learning will prepare leaders to both operate in complexity and lead within it.

CRITICAL THINKING: FROM PHILOSOPHY TO MILITARY DECISION-MAKING

Critical thinking has deep historical roots in philosophy, logic and scientific inquiry, evolving from ancient dialectic reasoning methods to modern evidence-based practice frameworks. Socratic questioning, challenging assumptions through dialogue, remains as relevant today as it was in ancient Greece, forming the foundation for structured debate within PME syndicate room discussions for good reason.

Plato[3] warned against the dangers of unscrutinised persuasion, leading to flawed decision-making, highlighting how rhetoric can manipulate rather than inform. Today, emotional appeals and political slogans – for example, "Make America Great Again" (Trump, 2016 and 2024), "Take Back Control" (Vote Leave, 2016), "For the Many, Not the Few" (Labour, 2017) – demonstrate the enduring power of rhetoric over substance, leveraging sentiment over detailed policy discussion. Aristotle's work on logic formalised the distinction between deductive reasoning (reasoning from general principles) and inductive reasoning (inferring patterns from observation).

Centuries later, Karl Popper's falsifiability principle[4] argued that all theories should remain provisional until tested and disproven, yet history repeatedly demonstrates the difficulties faced in challenging entrenched beliefs. The intelligence failures in Iraq (2003) illustrate how untested assumptions can lead to strategic failure; intelligence agencies influenced by confirmation bias, prioritised information that aligned with pre-existing assumptions, failing to critically evaluate flawed sources suggesting the presence of weapons of mass destruction. Recognising how reasoning can be distorted is as crucial as applying logic correctly, particularly in an era when misinformation and influence operations are increasingly weaponised.

Modern evidence-based practice reinforces the need for leaders to challenge assertions. Widely used in medicine and business, evidence-based practice is equally applicable to military strategy – systematically evaluating evidence provides a structured approach to decision-making in uncertainty. Barends et al (2014) define evidence-based practice as the integration of multiple sources of evidence:[5]

- Scientific research – high-quality empirical findings;
- Organisational data – intelligence, reports and trends;
- Stakeholder perspectives – input from affected parties;
- Practitioner expertise – professional judgment.

Applying evidence-based practice ensures decisions are grounded in verifiable evidence rather than intuition.

NAVIGATING MISINFORMATION AND COGNITIVE BIASES IN DECISION-MAKING

If information is the currency of decision-making, then misinformation is a deliberate effort to devalue that currency. Cognitive biases are exploited to influence choices, shape narratives and undermine strategic clarity. Russia and China have leveraged information operations as tools of statecraft, employing disinformation to manufacture

[2] *Claverie, B., & Du Cluzel, F. (2022). The Cognitive Warfare Concept. Innovation Hub Sponsored by NATO Allied Command Transformation.*

[3] *Shorey, Paul. The Republic, Vol. I: Books 1-5 (Loeb Classical Library No. 237). Harvard University Press; William Heinemann Ltd., 1937.*

[4] *Popper, K. (2002) The Logic of Scientific Discovery. London: Routledge*

[5] *Barends, E., Rousseau, D.M. and Briner, R.B., 2014. Evidence-Based Management: The Basic Principles. Centre for Evidence-Based Management. Available at: https://www.cebma.org [Accessed 5 Jan. 2025].*

"Technology must enhance rather than replace critical thinking. With the offer of efficiency and vast knowledge retrieval, passive acceptance of artificial intelligence-generated recommendations, without critical interrogation of validity, biases or ethical implications, has the potential to erode independent thinking."

and amplify divisions within NATO regarding support for Ukraine;[6] including using reflexive control.[7-8] China's cognitive warfare strategies involve co-opting information platforms, think tanks, academia and businesses, to disseminate tailored narratives.[9] Cognitive resilience is increasingly required in the changing operational landscape of misinformation, psychological warfare, propaganda and digital manipulation.

McGuire's Inoculation Theory[10] offers a valuable psychological framework for countering propaganda and digital manipulation[11] while building cognitive resilience. Just as vaccines expose the immune system to weakened pathogens to strengthen immunity, cognitive inoculation involves deliberate exposure to manipulative narratives and logical fallacies. This trains individuals to recognise manipulation tactics before being fully exposed, helping develop resistance to misinformation and influence operations.[12] To avoid becoming passive recipients of misinformation, PME should develop information literacy,[13] create opportunities to critically engage with competing narratives, challenge disinformation and refine their reasoning through exposure to complex, ambiguous problems as well as teaching information analysis.

"Just as vaccines expose the immune system to weakened pathogens to strengthen immunity, cognitive inoculation involves deliberate exposure to manipulative narratives and logical fallacies. This trains individuals to recognise manipulation tactics before being fully exposed, helping develop resistance to misinformation and influence operations."

Daniel Kahneman's Dual-Process Theory,[14] distinguishes between:

- System 1 (fast, intuitive thinking). Rapid, experience-driven, but prone to bias;
- System 2 (slow, analytical thinking). Deliberate, effortful and logical.

System 1 is essential in time-sensitive environments, but over-reliance on intuition can lead to errors in complex decision-making. System 2 thinking is necessary for navigating uncertainty, assessing intelligence and making strategic choices. Stanovich and West (2000)[15] assert that rational thinking extends beyond intelligence, influenced by cognitive style and capacity for reflective reasoning (System 2). Recognising when instinctive judgements must be overridden by deliberate reasoning is an essential PME function. This can be achieved through several methods, including scenario-based training to encourage deliberate analysis; red teaming and pre-mortem analysis to identify potential flaws in decision-making; and consistent reflective practice to learn from our successes and errors to then inform future decisions.

COGNITIVE LOAD, METACOGNITION AND FLEXIBLE MENTAL MODELS

Karen Carr's work on critical systems thinking[16] recognises that modern warfare requires a departure from linear thinking. Critical systems thinking highlights the need to understand interdependencies, second-order effects and unintended consequences. *Joint Doctrine Publication 04* urges leaders to integrate multiple perspectives rather than relying on siloed information. Systems thinking tools, such as causal loop diagrams and horizon scanning, embedded in PME help train leaders to anticipate cascading effects of decisions. By integrating critical systems thinking with evidence-based decision-making, decisions can be grounded in a comprehensive understanding of complex systems, supported by verifiable evidence.

Critical thinking does not occur in isolation; it is influenced by cognitive load, learning structures and reflective practice. Cognitive Load Theory highlights that information overwhelm impairs effective processing and evaluation. Thus, PME must be designed to scaffold learning and structure complexity progressively to facilitate active engagement with concepts supporting long-term retention and application. Similarly, metacognition, the ability to think about one's own thinking, is a key adaptive reasoning enabler. Reflective models such as Gibbs' Reflective Cycle[17] and Kolb's Experiential Learning Cycle[18] provide structured approaches for leaders to evaluate their past decisions, identify biases and refine their cognitive strategies.

EMOTIONAL INTELLIGENCE, EPISTEMIC HUMILITY AND LEADERSHIP DEVELOPMENT

While logical reasoning is central to critical thinking, decision-making is rarely a purely rational exercise. Critical thinking is also about understanding others, regulating emotions and engaging effectively in interpersonal interactions. Interpersonal dynamics, emotional intelligence and the ability to manage uncertainty all shape leadership. Emotional intelligence plays a vital role in coalition operations, multi-domain warfare and strategic decision-making, where self-regulation and social awareness enhance team cohesion and operational effectiveness. Encouraging emotional intelligence development alongside analytical reasoning could provide an advantage, particularly in complex multinational environments where relationships are critical to success.

Supporting epistemic humility development, the ability to recognise one's knowledge limitations, encourages better decision-making. Not as an admission of weakness, but as a recognition that effective leadership involves knowing when to seek input, re-evaluate assumptions and engage with

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[6] *Foreign Policy Research Institute. (2024). Intelligence, China, and Russia: Information Operations Against NATO. Retrieved from https://www.fpri.org/article/2024/11/intelligence-china-russia-information-operations-against-nato*

[7] *Reflexive control is a method of influencing an opponent's decisions by presenting them with assumptions that alter their behaviour.*

[8] *Snegovaya, Maria. "Putin's information warfare in Ukraine." Soviet Origins of Russia's Hybrid Warfare', Russia Report 1 (2015): 133-135. Available understandingwar.org/report/putins-information-warfare-ukraine-soviet-origins-russias-hybrid-warfare*

[9] *Center for Global Security Research. (2024). Disinformation Workshop Summary: Understanding China's Cognitive Warfare Strategies. Retrieved from cgsr.llnl.gov/sites/cgsr/files/2024-08/CGSR-Disinformation-Workshop-Summary.pdf*

[10] *McGuire, W.J., 1964. 'Inducing Resistance to Persuasion: Some Contemporary Approaches', Advances in Experimental Social Psychology, 1, pp. 191-229.*

[11] *An example of this is Cambridge Social Decision-Making Lab developed 'Bad News Game': https://www.getbadnews.com/en*

[12] *Sander van der Linden, S., 2023. Foolproof: Why Misinformation Infects Our Minds and How to Build Immunity. London: Fourth Estate.*

[13] *Kelley, Michael J. "Understanding Russian Disinformation and How the Joint Force Can Address It." The US Army War College Quarterly: Parameters 54, no. 2 (2024): 6.*

[14] *Kahneman, D., 2011. Thinking, Fast and Slow. London: Penguin.*

[15] *Stanovich, K. E., & West, R. F. (2000). Advancing the rationality debate. Behavioral and brain sciences, 23(5), 701-717 available: http://www.keithstanovich.com/Site/Research_on_Reasoning_files/bbs2000_1.pdf*

[16] *Carr, K., 2021. 'Critical Systems Thinking in Defence Leadership: A Framework for Complex Decision-Making', Defence Studies, 21(4), pp. 465-482.*

[17] *Gibbs, G., 1988. Learning by Doing: A Guide to Teaching and Learning Methods. Oxford: Further Education Unit, Oxford Polytechnic.*

[18] *Kolb, D.A., 1984. Experiential Learning: Experience as the Source of Learning and Development. Englewood Cliffs, NJ: Prentice Hall.*

diverse perspectives. Leaders willing to challenge their own assumptions, seek input from others and acknowledge uncertainty are better equipped to navigate complexity. PME should encourage a culture where intellectual humility is viewed not as a weakness but as a strength, reinforcing the idea that critical thinking is a lifelong practice rather than a static skillset. Syed[19] reinforces this notion that cognitive diversity strengthens decision-making, as exposure to alternative viewpoints reduces groupthink and encourages deeper analytical reasoning.

EMBEDDING CRITICAL THINKING IN PME

Joint Doctrine Publication 04 presents a robust framework for situational awareness, cognitive mitigation, structured decision-making and ethical reasoning, however, its effectiveness relies on application over passive consumption. These skills are often assumed rather than explicitly taught or practiced to a high standard. It is only through rigorous development and application that we recognise their frequent absence not only within military decision making but within the wider media, political debates and even within academic discourse. PME must integrate critical thinking as an active habitual process, reinforcing skills that balance tactical execution with strategic foresight, misinformation detection and effective decision-making under uncertainty. The deliberate integration of argumentation into course design will ensure decisions are based on logical structure rather than assumptions, intuition or cognitive short cuts. Argumentation forms the foundation prior to developing the higher order thinking skills essential for effective leadership and operational success.

Course design should systematically develop these skills through diverse active learning strategies: structured debates and war-gaming to test reasoning and anticipate counterarguments; scenario-based exercises that expose leaders to operational dilemmas requiring analytical problem-solving; Socratic questioning and dialectical engagement as standard practice in syndicate discussions, encouraging leaders to routinely challenge and refine their reasoning; and instruction on logical fallacies, heuristics and cognitive biases to strengthen source evaluation and prevent errors in judgement. Finally, leaders must critically assess information sources to avoid being compromised by misinformation, incomplete data or poor analytical rigour. By embedding these elements into PME, we move beyond rote doctrinal compliance to cultivate intellectual agility.

Integrating reflective practice frameworks ensures dynamic learning application. PME must foster a culture where reasoning is continuously refined, enabling leaders to analyse information rigorously, anticipate second-order effects, and navigate complex moral and strategic dilemmas with composure. Embedding metacognition, systems thinking and ethical reasoning will cultivate leaders who do not just function in complexity but thrive within it.

PME AS A FOUNDATION FOR LIFELONG CRITICAL THINKING

The history of critical thinking demonstrates that questioning assumptions, refining problems and seeking truth are essential to sound decision-making. In Defence, leaders cannot afford to rely on intuition or rhetorical persuasion. Strengthening cognitive resilience, metacognition and interdisciplinary problem-solving enables leaders to confront the uncertainty and deception that define modern conflict. However, developing critical thinking is not just about improving decision-making within PME, it is about fostering intellectual habits that will serve leaders throughout their careers. While PME provides the foundation for structured reasoning and adaptive thinking, its greatest value lies in cultivating an ongoing commitment to self-reflection, intellectual challenge and continuous learning. As warfare and leadership challenges continue to evolve, leaders who can interrogate information, engage with complexity and remain adaptable in their thinking will be those best prepared to lead. Cultivating these capabilities requires an enduring commitment to the development, practice and refinement of critical thinking throughout a professional career.

Critical thinking must not be an isolated academic skill but an intrinsic leadership element, continuously practised, refined and applied.

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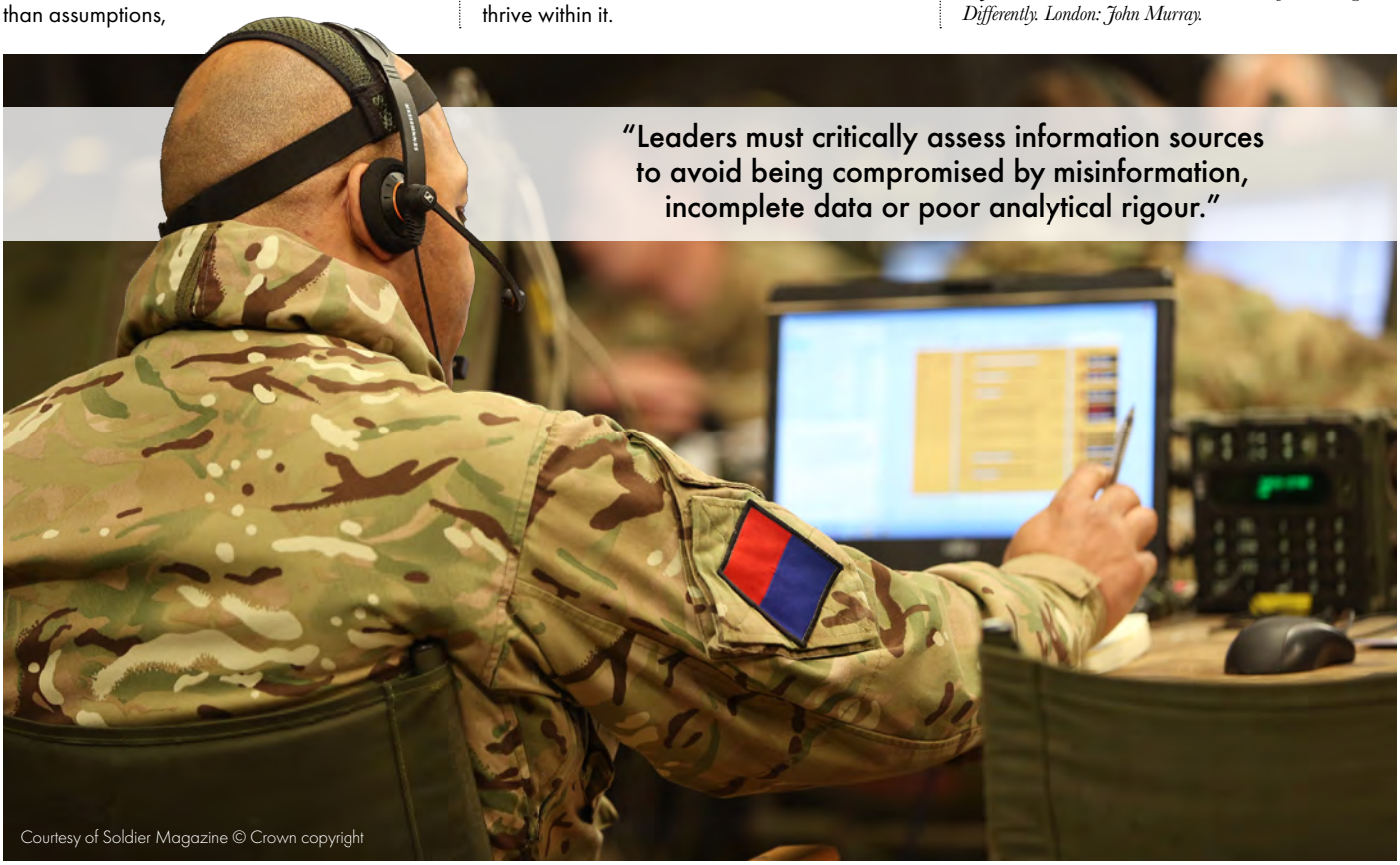
[18] *Syed, M., 2019. Rebel Ideas: The Power of Thinking Differently. London: John Murray.*



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‘EDUCATE FOR UNCERTAINTY, DEVELOP FOR THE UNKNOWN’[1]

AUTHORS

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PROFESSIONAL Military Education (PME) in the US Army has undergone a significant transformation in response to evolving defence policy, technological advancements and shifts in global security dynamics. One of PME’s core outputs is exposing officers to the strategic direction outlined by Department of Defense policies, including the National Defense Strategy,[2] National Military Strategy[3] and National Security Strategy.[4] These strategies emphasise agility, innovation and multi-domain operations to address a rapidly changing security environment. PME has evolved to align with these priorities, moving away from traditional models toward more dynamic and flexible educational approaches. This includes a focus on allowing officers to tailor their own educational experiences and specialise in niche disciplines. For a select few, this also means additional programmes of education aimed at equipping them with a greater knowledge of the operational and strategic levels of war, with the express purpose of increasing their utility in demanding staff appointments, as well as in command.

ROLE OF PME IN US ARMY DEVELOPMENT

Historically, PME focused on preparing officers for command and leadership roles. During the Cold War, PME institutions such as the US Army Command and General Staff College and the US Army War College focused almost exclusively on large-scale conflicts. However, the post-Cold War era introduced new challenges, such as counterinsurgency, cyber warfare and joint multinational operations. PME has had to evolve to address these complexities, incorporating broader perspectives on irregular warfare, cultural awareness and interagency cooperation.

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[1] *Quote by Lieutenant General Milford H. Beagle Jr., Commanding General, US Army Combined Arms Center.*

[2] *https://apps.dtic.mil/sti/trecms/pdf/AD1183539.pdf*

[3] *https://www.jcs.mil/Portals/36/NMS%202022%20_%20Signed.pdf*

[4] *https://www.dote.osd.mil/Portals/97/pub/articles/2022%20National%20Security%20Strategy%2020221012.pdf*

THE IMPACT OF POLICY

Department of Defense policies like the National Defense Strategy and National Military Strategy have shaped PME's evolution, emphasising the need for a military that can compete, deter and win against both state and non-state actors. These policies highlight strategic competition, global influence and readiness for multi-domain operations, all of which directly affect PME curricula. Of note:

■ **National Defense Strategy and PME.** The 2018 National Defense Strategy reoriented US military priorities toward strategic competition with near-peer adversaries like China and Russia. This shift had a profound impact on PME, requiring officers to understand the complexities of great power competition, which now extends beyond traditional military conflict into economic, cyber and informational domains. Curricula were revised to include lessons on integrated deterrence, hybrid warfare and the need for effective joint and coalition operations. Specialist programmes have also emerged, taking many forms depending on the requirements of single services and joint staffs. Recent additions include data literacy, critical thinking, space warfare and artificial intelligence courses – what Command and General Staff College terms a 'Complexity Toolkit' – while older programmes still tend to focus on creating new generations of strategists and operational planners. In addition, the US military has created a system of skill identifiers, a permanent way to mark specialities, similar in practice to the British Army's functional knowledge, skills and experience system, though far wider in application.

■ **National Military Strategy and multi-domain operations.** A key theme of the National Military Strategy is multi-domain operations,[5] which involve integrating military operations across land, air, sea, space and cyber domains. This approach represents a departure from traditional domain-specific strategies and necessitates a new kind of education that promotes cross-domain understanding. PME has also adapted by expanding the study of joint, interagency and multinational operations.

■ **Cybersecurity and information warfare.** With the increasing significance of cyber capabilities and information warfare, PME has adapted to incorporate these domains into its educational programmes. Officers are now instructed in cyber operations, electronic warfare and information operations as part of a broader strategy to integrate these capabilities into military operations. This also includes developing skills in psychological operations, media literacy and strategic communication, which have become vital in modern conflict. Of note, the US Army is establishing new 'information advantage' programmes, which will furnish competitively selected officers with the skills necessary to understand and integrate new and emerging technologies into campaign planning.

> **"The US Army is establishing new 'information advantage' programmes, which will furnish competitively selected officers with the skills necessary to understand and integrate new and emerging technologies into campaign planning."**

KEY INNOVATIONS IN PME: FLEXIBILITY AND ADAPTATION

The evolution of PME in the US Army can be characterised by a shift towards more flexible and adaptive educational frameworks – the so-called 'Agile Posture' – with greater focus on real-world applications of military power and attempts to incorporate new and emerging threats and technologies at pace. Historically, PME relied on in-residence programmes at institutions like the Command and General Staff College and US Army War College. However, global events, rapid technological change and the need for broader professional development have led to innovations in the delivery of PME:

■ **Blended learning and digital platforms.** PME now uses blended learning models that combine in-person instruction with online coursework. Platforms like the Army's Distributed Learning Program allow officers to access educational content remotely, offering flexibility and allowing an Army spread across the globe to learn more effectively. These platforms also permit the Army to tailor training to individual career needs.[6] Additionally, digital tools such as virtual simulations and interactive decision-making scenarios are now part of PME curricula, giving officers opportunities to practise their decision-making skills in realistic, threat-based, simulated environments. That said, the Army also appreciates the benefits of in-person training, so the highest-rated officers still attend classroom-based PME.

■ **Leadership development and ethical training.** The Army has increasingly emphasised the importance of leadership and ethics in PME. As military operations grow more complex and involve diverse environments, future leaders must be prepared to lead ethically in difficult situations. PME has incorporated robust training in ethical decision-making and moral leadership, focusing on how to navigate morally ambiguous scenarios that arise in modern conflict. This emphasis is critical to ensuring officers can lead effectively in diverse, multinational and interagency environments.

■ **Interagency and joint training.** Given the complexity of modern conflicts, the US Army recognises the need for officers who can operate within a broader network of agencies and organisations, both within and outside the US Government. PME has placed increased focus on interagency collaboration, particularly with intelligence agencies, the Department of State and non-governmental organisations. Officers are schooled to understand the full spectrum of conflict, from military operations at the division and corps-level, to diplomacy and humanitarian assistance, ensuring they are prepared for a range of potential scenarios. US agencies, as well as sister Services, are routinely invited to send officers and civilian staff to attend PME alongside their Army counterparts.

A FUTURE-ORIENTED PME SYSTEM

The evolution of PME in the US Army reflects the changing nature of modern conflict and aligns with strategic priorities outlined by the Department of Defense. As the US military faces new challenges, PME must continue to evolve, developing leaders who are innovative, adaptable and capable of operating across multiple domains. The integration of modern technologies, the emphasis on leadership and ethics, and the focus on joint and interagency operations are all key components of this evolution.

In the future, PME will continue to expand and innovate in response to emerging threats and technologies. The Army's ability to produce leaders who are not only tactically proficient but also strategically visionary will be essential for addressing the challenges of an increasingly complex global security environment. The continued success of PME will depend on its ability to remain agile, forward-looking and aligned with the overarching goals of US defence policy, ensuring that it can produce leaders capable of meeting the future's demands.

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[1] *TRADOC Pamphlet 525-3-1, The U.S. Army in Multi-Domain Operations 2028, https://api.army.mil/e2/c/downloads/2021/02/26/b45372c1/20181206-tp525-3-1-the-us-army-in-mdo-2028-final.pdf*

WAR IN EUROPE CATALYST FOR GERMANY'S 'RE-EXAMINATION'

AUTHOR

Lieutenant Colonel Richard Sernberg attended the German Armed Forces Staff College as a student and has been its liaison officer for the past two and a half years.

Photo: Bundeswehr/Marie Kellermann

WITHIN the German military, the majority of what we would term PME is delivered in the Führungsakademie der Bundeswehr (FüAk). Based in Hamburg, this organisation is joint, directly subordinate to the German Chief of the Defence Staff and, although often not explicitly mentioned, takes many of its training principles directly from the Prussian War College with its reputation for scientific rigour in planning. Officers from OF2 upwards are trained at the FüAk, initially on a course for all OF2s and subsequently at OF3/4 for the top 10-15 per cent of German military officers on the two-year General Staff Officers' Course.[1] There are also a number of stand-alone short courses for continuous professional development and for officers attaining senior leadership positions. As with many of our allies, the return of interstate war to the European continent has heralded change in the delivery of PME.

For Germany, February 2022 was a turning point of even greater significance than for many other Western nations. The overwhelming defeat of Nazi Germany in the Second World War, coupled with the physical destruction wrought on the country during five years of fighting, bred a nation where pacifism is something of a default stance and the military instrument of power is wielded hesitantly. Although Germany rearmed as part of NATO in 1956 and their armed forces grew to be one of the most powerful warfighting organisations in Europe, the fall of the Berlin War and the détente that followed saw this natural pacifist tendency reassert itself strongly. The, not insignificant, decision during the 1990s by the German Parliament to employ the Bundeswehr[2] on operations outside NATO territory and the enthusiastic embrace of globalisation in support of German industry led to a view that Europe was safe, and that the Bundeswehr could be reduced to a force focused purely on discretionary operations overseas and limited military aid to the civil authorities tasks at home. The renewed Russian offensive shattered this assumption and led to an unprecedented decision by the German Chancellor Olaf Scholz, a Social Democrat politician, to declare a "Zeitenwende",[3] immediately allocating an extra €100 billion to Defence. But he was clear that the Zeitenwende was not just about using money to arrest a decades-long decline in the Bundeswehr but also required a rapid refocusing of the whole nation back to homeland and Alliance defence, including the enablement of NATO forces, many of whom are likely to flow through Germany in the event of activation of the NATO Regional Plans.

In response to this Zeitenwende, the Bundeswehr is undergoing a period of organisational change. They have re-established several homeland defence units, are restructuring their forces to reduce the number of Service Commands[4] and have combined their territorial defence HQ with the German equivalent of the Permanent Joint Headquarters to create a Bundeswehr Operations Command. As a force that is almost fully focused on working within a

"[Scholz] was clear that the Zeitenwende was not just about using money to arrest a decades-long decline in the Bundeswehr but also required a rapid refocusing of the whole nation back to homeland and Alliance defence."

[1] *In German the 'Lehrgang General- und Admiralstabsdienst National (LGAN)'.*

[2] *The Bundeswehr is the German term for the Armed Forces.*

[3] *"Zeitenwende" can broadly be translated as an inflection point or a time of fundamental change.*

[4] *The Bundeswehr consisted of traditional Land, Sea and Air Forces, a Joint Enabling and Support Service and an independent Medical Service. The Joint Support and Enabling Service and Medical Service were subsumed into a Support Organisation and Cyber and Information have been elevated to become a fourth Service level command. These changes occurred on 1 Aprril 2025.*

Photo: © NATO

"Content changes principally reflect the move from a focus on discretionary operations overseas to major warfighting in Europe."

NATO construct they are also restructuring, particularly in the land domain, to best contribute to NATO's plans.

So how is the FüAk adapting to this fundamental change in German defence policy? The main areas of change are in the organisation of the academy, modifications to the content being taught, the contribution of the FüAk to wider public debate and adaptation of teaching methods to take advantage of technology. Understandably, much of this change is evolutionary in nature and is ongoing as this article is being written.

Changes to the academy's organisation are probably the most obvious outward sign. The effect on the FüAk of Bundeswehr structural change[5] is yet to play out within the academy but some changes are expected in the medium term once the wider organisation is complete. However, the realisation that homeland defence will require a national effort, beyond the country's armed forces, has seen the establishment of the improbably named, 'Gesamtstaatlicherisikovorsorge Faculty', probably best translated as the 'Comprehensive Defence Faculty'. Although still in its infancy, this new faculty is designed to bring together instructional staff not just from the Bundeswehr but from other German government departments. Some permanently employed within the FüAk and others supporting where available. The faculty is also designed to use the significant network afforded by the Bundeswehr reserves structure to draw on expertise existing in German society but less prevalent within the regular force. It will contribute to all major courses taught at the FüAk.

Content changes principally reflect the move from a focus on discretionary operations overseas to major warfighting in Europe. Planning exercises conducted during both the single service and joint phases of the courses have shifted from scenarios representing stability operations in fictitious countries to warfighting using the NATO Occasus scenario, a more realistic but still fictitious setting based on the eastern and northern flanks of NATO.

The FüAk is also directed to play a role in furthering the defence and security policy debate in Germany, as well as exposing its students to the issues that will shape the Bundeswehr in the future. The country, and the Bundeswehr in particular, is much more politically engaged than in the UK. The courses regularly conduct or participate in debates and seminars, including those open to the public, where contemporary security policy issues are discussed. Recurring themes at these events are the reintroduction of 'Wehrpflicht' or conscription, paused in 2011 but now seen as critical to generating sufficient personnel numbers for the Bundeswehr to fulfil the requirements laid upon it by NATO, and weapon deliveries to Ukraine, where Germany has been the second largest contributor for some time.

Finally, across all its PME delivery, the FüAk has been working to take advantage of modern technologies and methods and the opportunities that they provide. After being required to innovate rapidly during the COVID pandemic, the academy has embraced hybrid working with a standard week seeing all instruction delivered remotely on a Friday, particularly well received in a force that consists predominantly of weekly commuters at all ranks. They have also worked to build more reflection time for the students into the programme, always a tension with any PME system but simpler to achieve in the FüAk with the advanced staff course's two-year cycle.

The change to German PME is happening incrementally, there has been no 'big bang moment'. Much of what is taught and how it is taught would be recognisable to those who have trained here in the past 30 years. However, the FüAk, along with the country whose armed forces it serves, has identified the requirement for change and it is taking steps to adapt to the new reality in which it finds itself. To misquote Clausewitz, the nature of staff training conducted at the FüAk remains broadly the same but its character is in flux.

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[5] *The FüAk is organised in a faculty system where each of the single Services are represented by a separate faculty.*

FORGING FRANCE'S FUTURE

"The battlefield is a scene of constant chaos. The winner will be the one who controls that chaos, both his own and the enemy's."
– Napoleon Bonaparte

THE French Army's professional military education (PME) has undergone significant evolution in the past two years in order to better align itself with the contemporary operating environment and national strategic objectives. French PME is still structured into tiered career stages, focusing predominantly on developing leadership, strategic thinking and technical expertise. Increasingly, the focus is on integrating cutting-edge technology alongside timely adaptation to the challenges of modern warfare.

INITIAL TRAINING

The École Spéciale Militaire de Saint-Cyr remains France's premier initial army officer training institution (with 107 overseas cadets in 2024). Aside from a greater focus on multi-domain operations, including more cyber warfare and artificial intelligence, basic courses remain largely unchanged: Ecole Speciale Militaire (three years' academic and military/tactical training); Ecole Militaire Interarmes (two years' for those with prior military experience); and Ecole Militaire des aspirants de Coëtquidan (one year for specialists on shorter term contracts).

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Non-commissioned officers continue to be trained at the École Nationale des Sous-Officiers d'Active, again with an expanded focus on electronic warfare and digital combat.

Specialised schools such as the École de l'Artillerie and École du Génie routinely work to update training to incorporate latest developments in drone warfare and networked battlefield tactics.

MID-CAREER AND ADVANCED TRAINING

L'École de Guerre-Terre, the Paris-based land war school – equivalent to the Intermediate Command and Staff Course (Land) – runs annually from late August to early July but with a course that now comprises six-months of academic endeavour, covering tactics and staff work, followed by a six-month staff placement.

Graduates subsequently move directly as OF-4 to an 11-month École de Guerre – a joint course studying global conflict across the seven domains. The UK routinely has an allocation of five places. Last year saw the start of an 'anglophone division', taught completely in English but in tandem with the French course. École de Guerre has also adapted to include expanded modules on hybrid warfare and interoperability with other NATO forces, with much being drawn from the Russia-Ukraine conflict.

Similarly, the Institut des Hautes Études de Défense Nationale has increased its focus on strategic partnerships and European defence initiatives, mirroring to a large extent army courses but at a lower classification and to a much broader spectrum of students. The drawing together of diffuse international civilian and military organisations (academic, industrial and diplomatic) is an area where the French excel.

The Centre des Hautes Études Militaires is looking much further into the future and interpreting emerging threat analysis with the realms of cyber security and space.

TECHNICAL AND SPECIALISED TRAINING

Investments in cyber warfare education have

grown, with the École Militaire Interarmes developing new programmes on previously neglected areas like digital operations.

The French Ministry of Defence has expanded collaborations with École Polytechnique and the Institut de Recherche Stratégique de l'École Militaire to integrate artificial intelligence into operational planning and intelligence analysis. Efforts are very much concerted and in tandem.

HOW DOES THIS DIFFER FROM THE WAY WE DO BUSINESS?

The main differences between French and UK military education systems are:

Officer training. The UK's Royal Military Academy Sandhurst continues its 44-week training programme, focusing on leadership and tactical execution, whereas Saint-Cyr incorporates a stronger academic component with increased focus on academic, strategic studies. Similarly, the UK has increasingly adopted decentralised, flexible training modules, whereas the French system remains much more structured and hierarchical.

Mid-career education. The UK's Advanced Command and Staff Course in Shrivenham has expanded its focus to broader multinational operations whereas France's École de Guerre highlights strategic autonomy and European defence cooperation.

The British Higher Command and Staff Course emphasises operational leadership. France's Centre des Hautes Études Militaires also integrates cyber resilience and space-based warfare strategy.

Specialised training and doctrine. France maintains a strong emphasis on nuclear deterrence, reinforced by recent upgrades to its Forces Aériennes Stratégiques and Force Océanique Stratégique.

The UK's PME structure has been increasingly influenced by joint NATO operations, whereas France retains an independent mindset focused on expeditionary warfare and Franco-European military integration.

KEY CHANGES TO FRENCH PME

Recent adjustments to French PME reflect a broader response to technological advancement, as well as a revised geopolitical laydown (notably in North West Africa and the Sahel).

Enhancing high-intensity warfare readiness. The French Army has reinforced division-level capabilities to prepare for large-scale conflicts. Exercises such as Orion 2024 emphasised high-intensity, multi-domain operations including the use of cyber and space warfare components.

Strengthening deterrence capabilities. In the joint arena, France continues modernising its nuclear deterrent, investing in SNLE 3G ballistic missile submarines and ASMPA-R nuclear cruise missiles.

École de Guerre has integrated new modules on nuclear deterrence doctrine, ensuring officers are fully conversant with France's strategic posture and its associated rationale.

Integrating emerging technologies. Artificial intelligence and cyber warfare education have expanded at École Polytechnique, with new and evolving programmes on autonomous systems.

A dedicated Joint Cyber Warfare Academy was established in 2023 to train personnel in offensive and defensive cyber operations, and Commandment du Combat Futur is a French Army response to the constantly evolving battlespace. It acts as a nexus for operational lessons and doctrine.

Adapting to hybrid warfare and asymmetric threats. Lessons from counterinsurgency operations in the Sahel have led to revised PME curricula, emphasising hybrid warfare tactics and a greater emphasis on command by initiative.

Commandement des Opérations Spéciales has developed advanced interoperability training for special forces, incorporating new intelligence-sharing methodologies with NATO and EU partners.

Increasing international collaboration. France has deepened military educational exchanges with Germany and the UK, particularly via joint training programmes in cyber defence and electronic warfare.

The Institut des Hautes Études de Défense Nationale has expanded its international outreach, inviting military leaders from strategic partners to share expertise on modern deterrence. Considerable thought is given to leveraging military credibility and capacity to influence strategic command and control.

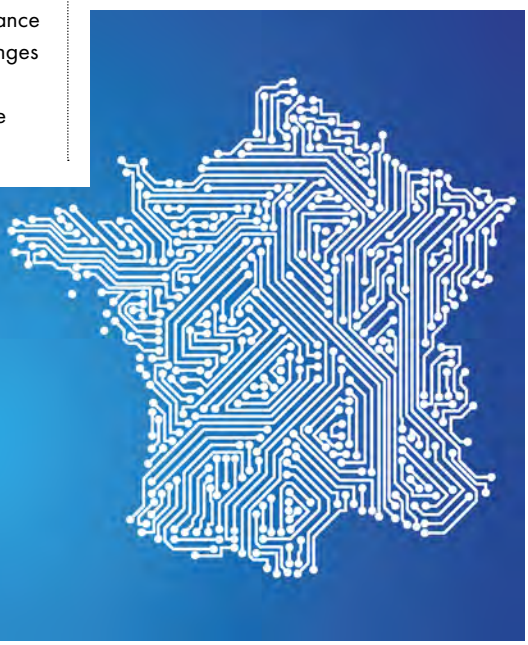
Ecole de Guerre's anglophone division allows for a much broader intake of students.

Reintroducing national service and civic training. The government's 2024 National Service Initiative includes military education components aimed at strengthening civil-military relations and crisis response capabilities.

PME institutions have been tasked with integrating aspects of resilience training for both civilians and reserve forces. National resilience and coherence are perennial hot-topics.

CONCLUSION

Both the French military and its education system have adapted significantly in the past few years to address emerging threats and reinforce deterrence capabilities. While retaining and even deepening academic-military integration, there's been a concerted refocus on elements of modern warfare – notably cyber operations, artificial intelligence and hybrid warfare strategies. Compared to the UK's arguably more flexible and NATO-centric system, the French model remains structured and independently minded, focusing on strategic autonomy and European defence cooperation. While these changes ensure that the French Army remains prepared for future conflicts in an increasingly complex global security environment, it also aims to safeguard an arguably Gaullist inclination towards unilateral action.



"Artificial intelligence and cyber warfare education have expanded at École Polytechnique, with new and evolving programmes on autonomous systems."

IRAQI 'INTELLIGENCE' REPORT: CAPACITY BUILDING AND PME

AUTHOR

Colonel Gareth Whysall is Head of Professional Military Education in NATO Mission Iraq. Previous appointments include Chief of Staff Joint Warfare and command of education and training organisations, including with partner forces.

THIS article explores Professional Military Education (PME) from a different perspective to others in this special edition of *The British Army Review*. Established in 2018, NATO Mission Iraq is a non-combat advisory mission providing high-level strategic advice to the Iraqi Ministry of Defence and a number of subordinate organisations within the Iraqi Armed Forces, including those responsible for PME. Drawing upon NATO Mission Iraq Professional Security Education Division insights, it sets out principles for consideration when developing PME as a contributing tool of Security Force Assistance.[1]

NATO AND PME

Within NATO, coordination of the member states' PME is described in *Bi-Strategic Command Directive 075-002 Education and Training*, which allows partners to understand how they might cooperate with NATO.[2] It makes clear the value of PME as a Security Force Assistance lever in the direction for education to "increase interoperability; improve situational awareness and; expand forward presence".[3] However, military training can overshadow the role of PME in Security Force Assistance. With pressing security conditions often the driving factor for Security Force Assistance it is not surprising that this imbalance in perspective occurs. Training offers the prospect of more concrete returns, likely within a quicker period than PME might offer,[4] but PME is an essential component of establishing enduring defence reform. PME, through the intellectual component of human interoperability, ultimately seeks to improve the professionalism of military forces, operating towards or at NATO standards.[5]

The Defence Education Enhancement Programme provides NATO's tailored PME support to nations with the intent of developing intellectual interoperability between the Alliance and partners.[6] With explicit focus on PME institutions, the emphasis is on developing the taught curricula and on developing the teaching faculty to meet the needs of the partner country. The Defence Education Enhancement Programme provides reference curricula for a range of subjects as a basis for consultation and tailoring to meet local needs.[7] NATO Mission Iraq executes the programme through a mixture of deployed military personnel, civil servants and NATO civilians. The following insights are born from this background.

PME reform must consider the wider context, both nationally as well as militarily. PME reform is unlikely to occur in isolation of other reforms and change programmes, but there is a limit to how much reform any organisation can absorb – and that level is likely to be lower if the security situation is unfavourable.[8] In the case of

[1] *This article reflects the author's ongoing experience since joining the Mission in August 2024.*

[2-3] *coemed.org/files/Branches/DH/075-002_Bi-SCD_EDUCATION_AND_TRAINING_12Jun2023.pdf*

[4] *NATO's definitions of training ('Individual training is the development, improvement and preservation of the skills and knowledge necessary to perform specific duties and tasks. Individual training is a learned response to a predictable situation (skills)') and education ('The systematic instruction of individuals that will enhance and develop their knowledge, skills and competencies to perform duties and tasks associated to a post/role. It is the developmental activity enabling individuals to make a reasonable response in any situation, including unpredictable ones (mind-set))' are defined in Education, Training, Exercises and Evaluation Policy, MC0458/4 dated 3 January 2023.*

[5] *Iskandorov, K, Gawliczek, P, (2019) 'The south Caucasus and NATO's defence education enhancement programme. Retrospective analysis', Social Development & Security, 9(5). 3-14. See Allied Joint Publication 01 for descriptions of the dimensions of interoperability.*

[6] *Allied Joint Publication 3.16 Security Force Assistance provides overarching doctrinal guidance. For information on DEEP seenato.int/cps/en/natohq/topics_139182.htm*

[7] *Dreifke, T., Lysychinka, I., (2025) 'Reference Curricula: An Impactful Tool for Institutional Capacity Building?', Connections QJ, 24(1), 113-127.*

Iraq, the long-term consequences of 40 years of conflict have left behind multiple challenges to the state education system, resulting in weak institutions, with limited governance and questionable effectiveness. Consequently, the Iraqi Armed Forces must recruit from a generation and a half that are likely to have attained lower educational outcomes, including literacy, and with less developed human capital than their predecessors.[9]

The context should influence the choice of recommended methodologies. The military education system replicates and imports many of the problems (and benefits) of the national system along with the particularities of existing military and organisational cultures. The adoption of e-learning in the Iraqi Armed Forces is an exemplar of the difficulties of introducing a new approach without considering the wider context. An organisation that lacks effective digitisation, compounded by concerns about information security, was, inevitably, reluctant to embrace internet-based education.

Against a backdrop of competing priorities and unfavourable conditions, PME reform requires solid foundations of local support. In the case of Iraq, this has required working through the key stakeholders and helping them to establish and refine a locally agreed training management system. NATO Mission Iraq have expanded the Defence Education Enhancement Programme curriculum and faculty to consider institutional development and include English language advice (and training), which is an essential component to further the progress of intellectual interoperability. Together, these have focused advisory activity on encouraging the Iraqi Armed Forces to develop a curriculum that is coherent across the breadth of education and training institutions; ensure that teaching staff make use of modern teaching methodologies and techniques underpinned by an awareness of andragogic theory; and promote that learning takes place in institutions that operate sustainable and effective processes, policies and procedures. Noting that the PME offer competes for time with other commitments, this requires careful balancing. PME is often not the most pressing issue for leadership.

Internal mission coordination of PME and related lines of effort must be considered. NATO Mission Iraq has spent several years supporting the Armed Forces in developing non-commissioned officer education. The effectiveness of these reforms was stymied because of wider personnel policies that reinforced the status quo. Deliberate, bounded reform proposals have a greater chance of success than significant transformation proposals.

"The adoption of e-learning in the Iraqi Armed Forces is an exemplar of the difficulties of introducing a new approach without considering the wider context. An organisation that lacks effective digitisation, compounded by concerns about information security, was, inevitably, reluctant to embrace internet-based education."

PME advisers must beware the temptation of imports. With a view towards interoperability, it is tempting to offer extant NATO (or national) doctrine and standardisation agreements as the guiding principles or benchmarks for a host nation to achieve. However, that might be too much for some, and frequently overlooks the nuance of interpretation that occurs even within the Alliance. Shamir's study of the evolution of Mission Command in the US and British armies is an example of the divergence in application of a common idea.[10] It is better, though a more protracted option, to work with PME institutions to facilitate national development of such material. To do otherwise leads to the intellectual overburdening of partners and material that might not meet the requirement.

The PME market place is a crowded one. Inevitably, multinational efforts intersect with bilateral activities of individual member states and, in the case of NATO Mission Iraq, bump into adversary interactions. Coordination and de-confliction with the former is essential whilst the latter must be tolerated. NATO Mission Iraq has been able to harness bilateral activity to assist in the development of Iraq's capacity to conduct horizon scanning and in the development of curricula and courseware in various institutions.

Whilst there is widespread recognition of the slow(er) pace of PME reform, this can be difficult for adviser and advisee to accept; patience is essential even whilst acknowledging the potential requirement for rapid intellectual interoperability. The desire for progress can create tension when adviser and advised organisations have experienced differing levels of organisational maturity. Libel's proposed evolutionary development of PME organisations suggests that there may be a clash between approaches that reflect different understandings of the role and place of PME.[11]

Early agreement on the areas for development and the associated measures of progress are critical. In common with wider Security Force Assistance activities, there must be continuity of focus in spite of personnel rotations. To deliver this, a questionnaire-based self-assessment has proven useful in aiding senior Iraqi Armed Forces leaders to identify priority areas for development. Ideally, there must be local commitment to resource the areas of development financially, with personnel or simply in time. Without direct investment, there is likely to be little desire to build on the foundational support.

PME remains a valuable tool of Security Force Assistance reform if the inherently slow nature of reform is accepted. With the Chief of the General Staff's commitment to shaping an army that NATO wants, the Army ought to consider whether its own PME practitioners can do more to support Defence Education Enhancement Programme activities in addition to UK bilateral support. Whether as part of a multilateral or bilateral intervention, PME as an element of Security Force Assistance requires expertise in education practice and theory complemented by practical experience and understanding of the context of developing PME systems and institutions. Despite the pressing need to adapt to the threat in Europe, continued investment in PME assistance as part of Security Force Assistance offers a method to embed defence reform and maintain relations with states that otherwise might succumb to adversary influence.[12]

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[8] *Jolicoeur, P, (2018) 'Defense Education Enhancement Program in Ukraine: The Limits of NATO's Education Program', Connections QJ, 17(3), 109-119.*

[9] *World Bank Group, (2021), Building Forward Better to ensure learning all children in Iraq: an education reform path, https://documents1.worldbank.org/curated/en/430241627636852041/pdf/Building-Forward-Better-to-Ensure-Learning-for-All-Children-in-Iraq-An-Education-Reform-Path.pdf*

[10] *Eithan Shamir, Transforming Command: The Pursuit of Mission Command in the U.S. British, and Israeli Armies, Stanford University Press, 2011.*

[11] *Libel, T., (2021) 'Professional Military Education as an Institution: A Short (Historical) Institutionalist Survey', Scandinavian Journal of Military Studies, 4(1), 121-131*

[12] *Jolicoeur (2018) makes this same point in relation to Ukraine's use of the Defence Education Enhancement Programme.*

TIME TO ROLL THE DICE AND ENGAGE IN WARGAMING

AUTHORS

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"We must seek to regenerate [wargaming] culture and the associated skills among our people."[1]

RUSSIA'S invasion of Ukraine in February 2022 has led to urgent reinvestment in the capabilities, concepts and competencies fundamental to modern warfighting. This imperative has, of course, been reflected in courses delivered by the Land Command and Staff College.[2] Whereas Combined Arms planning has always been central, new focus is being placed on teaching and exercising the skills required to execute a warfighting plan, adapt it in contact and, ultimately, defeat an active opponent. Experience has demonstrated that wargaming, especially manual table-top games, have immense value in developing these skills and aptitudes in individuals and staff teams alike. However, while cheap and easy to employ, wargaming requires investment in time and understanding if it is to be productive, not least to break down certain ingrained cultural barriers. This article examines the application and development of manual wargaming in both divisions of the Land Command and Staff College, assesses its impact, and makes a case for greater and wider investment in it as a distinct capability within the Army and across Defence.

Participation in military wargaming is growing, yet its capability and practice by those in uniform remains limited. While course of action wargaming has long been recognised in doctrine as a means to test the feasibility of a plan, its efficacy has been subverted by a lack of understanding and of suitable resolution mechanics, especially when dedicated operational analyst support is not available. Moreover, Land Command and Staff College's experience has been that delivering 'mission execution' training using digital simulation systems came with large overheads but did not involve many of the training audience in tactical decision making – too many being employed in 'control' rather than 'playing' roles. By contrast, running manual wargames between syndicates has paid rich dividends in terms of student experience and expertise, albeit at the cost of considerable effort to overcome lack of experience and suspicion in some quarters that it is not 'proper training'. This suggests that wargaming should be taken more seriously both as a collective staff capability and as an individual trade skill; commanders and staff should be equipped with the understanding and skills to participate in, and ideally run, a simple manual wargame. This end is being pursued by the Land Command and Staff College across all its courses, although the fact

[1] *Gen Sir Gordon Messenger, 'Foreword', MOD Wargaming Handbook, (MOD, 2017), p. iii.*

[2] *Junior Officers' Tactical Awareness Course [JOTAC], Captains' Warfare Course and Intermediate Command and Staff Course (Land) [ICSC(L)] and the Army Reserve equivalents of JOTAC and ICSC(L).*

that it is not a mandated training objective for all courses can inhibit development when time and other resources are tight.

The basic case for wargaming is that it provides a cheap and objective mechanism for testing a plan or action against a set of enemy responses, or a framework for testing the capacity of a commander and staff to execute a plan against a 'thinking' enemy. In the process it can promote understanding of the opposed nature of war, highlight the factors that contribute most to success and enhance appreciation – and, therefore, management – of risk. The result should be 'better plans, better executed', which it follows enhance tactical lethality. The balance of this article will focus on how these benefits may be achieved.

COURSE OF ACTION WARGAMING

"...a systematic method for analysing a plan to visualise the potential ebb and flow of an operation or campaign. They are used to compare and test forming courses of action and allow 'what if' questions to be asked..."[3]

While the *Planning and Execution Handbook*[4] provides a basic guide to course of action wargaming, it provides little detail on how a wargame should be set up and managed to deliver certain insights. It also lacks a 'combat resolution' methodology that clearly defines the relationship between relative combat power and the chances of success for each type of engagement articulated as risk, which means that plans are conceived against flawed understanding of likely outcomes. These issues place considerable dependency on having an experienced and skilled facilitator, which is seldom the case. Consequently, observations from courses indicate that while course of action wargames provoke useful discussions about adaptations to a plan and decision support tools, they often lack direction and are prolonged by wrangling over each combat resolution. Too often they take place after the plan has been selected, and therefore serve to rehearse rather than test it. Greater staff awareness and skills would enable key aspects of emerging plans to be tested during course of action development, leaving a more refined plan that (time permitting) can be tested against more stringent adversarial conditions. While certain amendments to the guide would be advisable, ensuring that all staff officers are able to run a basic wargame would offer far greater assurance of effective planning.

"[Wargaming] can promote understanding of the opposed nature of war, highlight the factors that contribute most to success and enhance appreciation – and, therefore, management – of risk."

EXPLORING NEW SYSTEMS

Meanwhile, both divisions of the Land Command and Staff College have been exploring the utility of wargaming beyond its existing doctrinal role within the Combat Estimate process. This has focused on using it as a way to exercise students (representing commanders and staff) in the skills and drills of mission execution. This is an aspect of training that PME (and perhaps much of the rest of the Army) has struggled to replicate outside of major collective training events (i.e. field training and command field and command post exercises). It is a common observation from courses that students produce plans that are sound in theory, but we have lacked the tools to test them or train the skills of executing and adapting those plans against a live opponent. Indeed, recent experience shows that engagement in planning is sharpened by the knowledge that those plans will be tested.

For the Junior Division, this challenge embraces the battlegroup and brigade levels that are the focal points of the Junior Officers' Tactics Awareness Course and Captains' Warfare Course respectively. For the latter, the innovation of a week-long simulated brigade-level command field exercise amply provides the ways and means to deliver immersive planning and execution training hosted on *COMBAT*, fully supported by a full suite of higher, lower and enemy controllers. This is a major training exercise, with costs to match, and plans are afoot to expand the training audience to include the Junior Officers' Tactics Awareness Course. However, as in the Field Army, the need remains to prepare participants for such capstone exercises without the same resource costs. Hence, Captains' Warfare Course staff are now exploring options for a preliminary command post exercise based on a simple map and counter wargame, again hosted on *COMBAT*. Meanwhile, Junior Officers' Tactics Awareness Course staff, collaborating with a leading contractor, have begun utilising the latter's Battlegroup Wargaming System to test planning, tactical proficiency and decision-making; the course now incorporates three peer-threat scenarios. This system, which is now being distributed across the Field Army, represents a quick, low-cost execution tool, applicable to any order of battle from the platoon to battlegroup level, requiring only a map and classroom to deliver. While simple, the Battlegroup Wargaming System can integrate electronic warfare, fires and uncrewed aerial system operations, illustrating their impact on communication, surveillance and targeting in tactical Combined Arms warfighting. It also makes it easier for participants to visualise complicated battlefield geometry and the synchronisation of mission execution within a frictional context. Thereby, it helps to foster critical problem-solving skills while under time pressure and enables better understanding of the Combined Arms Approach.[5]

Since 2021, the Intermediate Command and Staff Course (Land) has trialled several methods of wargaming in support of various course modules. By way of introduction, a

[3] *MOD (2017), Course of Action Wargame, MOD Wargaming Handbook, MOD, p40.*

[4] *Land Warfare Centre (2023), Chapter 11: Wargaming, The Planning and Execution Handbook AC72099, MOD, pp. 11-1 to 11-8.*

[5] *"[Combine Arms Approach] is the synchronised and simultaneous application of forces and capabilities across all domains to achieve an effect greater than if each element was used separately or sequentially". LWC (2022) Chapter 2: Core Tenets MOD, Chapter 2, para 2-38, p2-11.*

simple matrix game based on a Baltic scenario enables students to explore interactions between state actors to support the Security and Defence Policy module. The game tests the ability to analyse and communicate a cogent plan and make dynamic decisions under time pressure. Consequentially, it sets an execution mind-set while also achieving the ability to provide appropriate challenge as a 'red team' function in later exercises at the formation level. Finally, some course members gain experience of leading and facilitating a game for their peers. Due to this positive experience, the course is now exploring a wargame to achieve training objectives for the Capability module.

For warfighting 'execute' training, although several digital systems have been trialled, none have been found suitable in the PME environment for testing planning products. The best solution identified has been a home-grown game named *Divisional Commander*, a manual map, counter and dice system designed for the Intermediate Command and Staff Course (Land) and further developed by its staff and students. Another low-cost solution, its purpose is to enable opposed mission execution set at the divisional level within a NATO corps context pitched against contemporary Red (i.e. Russian) capabilities. It is particularly designed to emphasise the distinct character of divisional operations with greater focus on deep and rear operations that serve to enable component brigades to execute close engagements. As an adversarial 'blind' game (players can only 'see' what is in range of their units or sensors) it forces players to synchronise actions, resource effects and anticipate key decisions. Critically, if the plan is deficient, or simply disrupted by enemy actions, then player staff teams must live with the consequences, adapting their plan and re-prioritising resources while in contact. Also, by requiring each syndicate to plan as Red forces, and half to execute in that role, it deepens understanding of the capabilities and tactics that characterise the pacing threat (i.e. Russia). Overall, it has proved an excellent tool for teaching the requirements of planning and executing Combined Arms Manoeuvre at the divisional level.

"Whether as a means to refine or test a plan, or to build the skills and intuition vital to making command decisions at any level and in most contexts, the method offers significant utility and flexibility at minimal cost."

While all these efforts have been successful in engaging staff and students with the benefits of wargaming, there remain certain obstacles to embedding it as a core staff skill. First and foremost, there is the challenge of culture. Despite the advocacy of several ministers and senior officers, the majority of personnel remain strangers to wargaming practice, and many are openly sceptical of gaming as a means to train and educate. This means that, within the short window offered by most courses, the Land Command and Staff College has to 'sell' wargaming to the majority of students who are at best uninitiated and sometimes quite hostile to the concept. The second key challenge is to familiarise controllers and players with a system of rules – i.e. the means for representing the movement, combat, surveillance, fires or logistics of opposing forces. This requires striking a balance between simplicity and realism: a simple game is easy to learn but poor at reflecting realistic tactical dynamics; whereas a complicated game can be highly realistic but impossible to understand when time and inclination are limited. Needless to say, without adequate understanding games provide at best slow and poor representations of realistic actions and reactions leading to false lessons, so it is important that players learn to manage systems without continuous external support. This is an obstacle that has previously prevented the widespread uptake of similar execution training tools such as *The Camberley Kriegspiel*, which lies neglected on the AKX [Army Knowledge Exchange].

PME colleges can offer solutions to these challenges, spreading awareness and facility with wargames amongst staff and students, so long as they are directed and resourced to do so. In particular, the progression of the Royal Military Academy Sandhurst, Junior Officers' Tactical Awareness Course, Captains' Warfare Course and Intermediate Command and Staff Course (Land) has scope to grow wargame expertise through the early stages of an officer's career, ideally built around a generic gaming system that allows the expanding scale and complexity from course to course. The same approach should also extend to the PME opportunities now being rolled out for non-commissioned ranks by the Leadership, Education and Development Group. Over time, this would ensure that the Field Army, and wider Defence, become replete with personnel able to lead and facilitate basic manual wargames as a simple mechanism for training their units or headquarters in the basic skills of planning and executing a mission, without the heavy resource demands of a major training event.

CONCLUSIONS

Overall, there should be little doubt that wargaming offers considerable value in the training and education of military personnel, especially that relating to planning and command and control in Combined Arms warfighting. Whether as a means to refine or test a plan, or to build the skills and intuition vital to making command decisions at any level and in most contexts, the method offers significant utility and flexibility at minimal cost. Of course, no single game can meet every need, so specific games must be chosen to deliver desired learning objectives. The key is that commanders or staff planners should be trained to conduct this basic training at the lower tactical levels without external support. With this internal capacity to train assured, the outcome should be that commanders and their staff teams arrive at major training events better prepared and practiced in the demands of decision making, managing risk and tactical coordination, or simply the "ability to tackle unknown or novel situations and to deal with uncertainty".[6] In this way, wargaming has the capacity to help build the lethality of the land force, but this is contingent on the Army enabling as many of its personnel as possible to engage with and learn from wargames as they conduct their individual training and education.

[6] *Land Warfare Centre (2022), Chapter 2: The Aim, Principles and Definitions of Army Training, Training Part 1: The Philosophy of Army Training AC72209, MOD, Chapter 2, pp2-1 – 2-2.*

RENEWED FOCUS ON NATO

AUTHOR

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NATO is the cornerstone of UK security and embedding a 'NATO first' approach in defence must incorporate a review of our own Professional Military Education (PME). To that end, the Land Command and Staff College has implemented key revisions to update content on NATO and increase knowledge of the UK's commitment. All courses are being adjusted to bring an enhanced level of NATO understanding into the core of our PME and deepen officers' comprehension. The following outlines just some of the development work that has been implemented to date in the Junior and Intermediate Divisions.

At all levels, we seek to improve understanding of NATO's Command and Force Structure, the Strategic Concept and NATO's 'Family of Plans' to include the Concept for Deterrence and Defence of the Euro-Atlantic Area and Supreme Allied Commander Europe's Theory of Victory. This is being delivered not only by visiting briefers from NATO HQ and SHAPE, but also through the development of an online military knowledge module held on the Defence Learning Environment. This module will provide an overview of NATO, the Strategic Concept, the Warfighting Capstone Concept, readiness and the new NATO Force Model.

In partnership with the Field Army Land Operations Command, HQ Allied Rapid Reaction Corps, HQ 1 (UK) Division, HQ 3 (UK) Division and the Army's Land Special Operations Forces, there is now a greater student understanding of the UK's commitment to NATO in the land domain. This has recently developed into an Intermediate Command and Staff Course (Land) visit day to Imjin Barracks in Gloucester to highlight the role of the Allied Rapid Reaction Corps as one of Supreme Allied Commander Europe's Strategic Reserve Corps and the contribution from the Field Army to the NATO order of battle. Course content has been updated to provide an increased understanding of corps-level operations, including an overview of NATO Tactical Planning for Land Forces (APP-28).

Across the Land Command and Staff College's Junior and Intermediate Divisions, exercise scenarios and operational staff work is being updated to reflect a NATO Article IV and V context, compliant with NATO terminology and doctrine. Concurrently, key leadership engagement with NATO PME organisations provides opportunities for exercise exchanges, and we are working to host greater numbers of NATO students and directing staff across the College. The bi-annual Exercise Eagle Owl for Intermediate Command and Staff Course (Land) at the US Command and General Staff College, Fort Leavenworth, Kansas, remains a keystone to enhance interoperability with our closest NATO ally; and recently the planning exercise scenario has been adjusted to include warfighting on continental Europe under NATO command and control.

Together with refocussing on becoming experts at warfighting and Russia as the pacing threat, centralising NATO understanding and interoperability into the core DNA of Land Forces contributes to increasing lethality in an Army designed to fight and win wars on and from the land as part of the Alliance.

'NOT A CASE OF EITHER/OR'

AUTHOR

Brigadier Karl Harris is the Director of the Land Command and Staff College.

I THANK Colonel Martin Todd and Major Luke Turrell of the Land Command and Staff College, and *The British Army Review* team, for conceiving and producing this edition, and drawing in such comprehensive and authoritative sources of wisdom. I also extend my sincere thanks to the authors for their considerable work. They examined core questions – 'what is Professional Military Education (PME)?' and 'why is it important?' – from numerous perspectives. To conclude this *British Army Review*, I would like to draw on some themes.

As this special edition has powerfully explained, the strategic imperative of PME is clear; indeed, the Staff College's genesis was to "address the obvious deficiencies in British Army staff work witnessed in the... Crimean War".[1] It is sobering that Crimea is bloodily topical as this *British Army Review* goes to print. Against a backdrop of considerable geopolitical strain, PME enhances Defence's lethality, cultivates and helps retain talent, and helps enhance Service culture. This was evident during General Jim Rainey's Kermit Roosevelt lecture,[2] when he advocated for professional military officers and soldiers to be passionately curious, intellectually humble and constantly challenging themselves to rigorously examine new ideas. PME presents an invaluable institutional investment to cultivate those ingredients of professionalism.

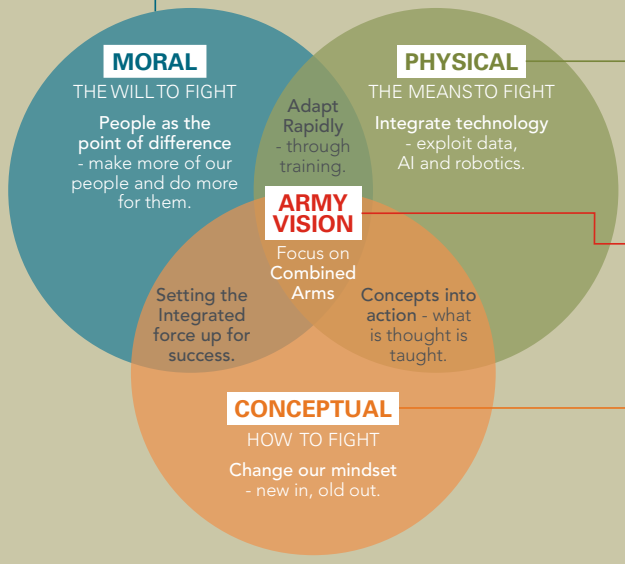
> "Against a backdrop of considerable geopolitical strain, Professional Military Education enhances Defence's lethality, cultivates and helps retain talent, and helps enhance Service culture."

The British Army's values and standards are the alchemy of our winning teams and hallmark of our professionalism. However, historians might highlight that developing professionalism through PME is a relatively recent development

LAND Command and Staff College (LCSC)

Mobilising leaders' minds and sharpening their intellectual edge so the British Army wins in war

HOW THE LCSC ENHANCES FIGHTING POWER.



PEOPLE AS THE POINT OF DIFFERENCE:

- LCSC's purpose is to invest in our people.
- Developing adaptable, warfighting leaders – able to direct and win the future fight.
- PME = education plus training: generating understanding and skills.
- Enhancing personal qualities and professional skills.

KNOWING THE MEANS TO FIGHT:

- Focus on Combined Arms excellence.
- Ensuring officers know Land force capabilities and can apply its doctrine.
- Enabling officers to understand and exploit new technologies.
- Evolving constantly to keep pace with the threat and new capabilities.

CHANGING MINDSETS:

- Training officers to plan and execute the unfair fight.
- Equipping future leaders with the intellectual edge to innovate and win in complexity and uncertainty.
- Spreading new thinking to all officers- at pace, while reinforcing values and standards.

REALISING THE ARMY VISION:

- The sum of LCSC's impact contribute **directly to building all components of fighting power.**
- LCSC courses offer **transformative professional experiences...** preparing officers to lead the **best soldiers** within an **integrated force** in **multi-national, joint** and **Combined Arms** contexts.

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for the British Army. For instance, it wasn't until 1741, with the establishment of the Royal Military Academy, Woolwich, that the requirement for a technical education was recognised. Then the Staff College at Camberley was established in 1858, albeit graduating officers at a relatively modest rate compared with today. And whilst 'CDRILS'[3] is now intrinsic to the British Army, it was not formally codified until 2000 when it became necessary to think and act differently, and more explicitly describe how those honoured to serve in the profession of arms must discharge their duties.

Thinking and doing differently also distinguishes between a 'profession' and an 'occupation'. The former is an absolute commitment to, and built on, a culture of high moral and ethical standards: "The soldier trade, if it is to mean anything at all, has to be anchored to an unshakeable code of honour."[4] This notion of honour is coupled with the requirement of professionals to be qualified in their profession, the embodiment of – and the custodians of – their body of professional knowledge. PME helps the British Army and its people to be custodians of the profession, upholding its moral and ethical standards.

Upholding moral and ethical standards is coupled with the unwavering duty to be excellent in our tradecraft. The Land Training System is the principal mechanism for the British Army to achieve combined arms warfighting excellence, assuring individual and collective levels of competence that pace the threats of our time. With the establishment of the Leadership, Education and Development Group and NCO Academy, the Army has a holistic structure linking the Land Command and Staff College, Leadership, Education and Development Group and Land Training System to reduce the gap between what is 'thought' in combined arms practice and 'taught' through PME and training. Now we must energetically exploit the Land Training System and PME as a coherent whole – an exciting challenge with enticing possibilities.

> **"To realise the British Army's ambitions and triple lethality by 2030, our institutional brain and culture developed through PME must be able to unleash the full potential of our skilled brawn honed through training... training and PME must be symbiotic."**

So, to realise the British Army's ambitions and triple lethality by 2030, our institutional brain and culture developed through PME must be able to unleash the full potential of our skilled brawn honed through training. It is not either/or; training and PME must be symbiotic. As Colonel Todd recalls earlier in this issue, the Chief of the General Staff previously conceived of PME like the sighting system on a rifle; the rear sight provides knowledge about the past, whilst alignment with the foresight provides our best estimate of what may be required of us in the future. The articles generously provided by the authors throughout this *British Army Review Special* help us to critically align past and present wisdom with our future. The strategic imperative demands that, as custodians of the profession of arms and through PME, we shall.

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[1] *Edward Smalley, "Qualified, but unprepared: Training for War at the Staff College in the 1930s", British Journal for Military History, Volume 2, Issue 1, November 2015, 55; journals.gold.ac.uk/index.php/bjmh//article/view/638 (accessed 23 March 2024).*

[2] *Delivered at the Defence Academy of the United Kingdom, 1 May 2025.*

[3] *Courage, Discipline, Respect for Others, Integrity, Loyalty and Selfless Commitment.*

[4] *Carl von Clausewitz.*

"THE PURPOSE OF THE BRITISH ARMY IS TO PROTECT THE UNITED KINGDOM BY BEING READY TO FIGHT AND WIN WARS ON LAND."

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