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THE CENTRE OF GRAVITY SERIES

A publication of the Strategic & Defence Studies Centre

February 2021



Educating for what? PME, the ADF and an uncertain 21st century

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Strategic & Defence
Studies Centre

The *Centre of Gravity* series

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Centre of Gravity series paper #57

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CRICOS#00120C

ISSN: 2208-7311 (Online)

ISSN: 2208-7303 (Print)



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Educating for what? PME, the ADF and an uncertain 21st century

Dr Aurore Chow and Dr Jack Bowers

Executive Summary

- ✦ The Australian Defence Force (ADF) recognises that changes in Professional Military Education (PME) are required for Australian defence personnel to develop a sophisticated understanding of the full spectrum of power.
- ✦ Australian PME needs to be contemporary and future focused, to extend from an ADF cultural orientation to learning, and be developed and delivered by expert educators.
- ✦ A positive recent step is the JPME Continuum which is a framework to integrate learning across the careers of officers. It shifts education for officers from three large “steps” towards a “slope” in which multiple but smaller educational opportunities are available.
- ✦ The paper recommends initiatives for curriculum and pedagogy which will enable PME to be more accessible, more diverse, more relevant, and ongoing, including: diverse and heterogeneous curriculum, development of teachers and pedagogical expertise, an approach to critical thinking as a disposition, classroom practices that allow students to deal with complexity, academic discomfort, uncertainty.

Policy Recommendations

- ✦ Australian PME needs a creative curriculum with diverse disciplines for study, multiple platforms for engagement, and must accommodate individual choice and ability in pathways and topics.
- ✦ Australian PME must be robust and challenging in its methods, disruptive of normative habits of thinking, and reward critical inquiry and creative thinking. There must be opportunities in PME for military professionals to take risks in their learning, without those risks having consequences for their careers and livelihood.
- ✦ Australia currently has minimal expertise in teaching PME, either in civilian or military arenas. An update of PME in Australia can only happen if there is a significant input into the growth and development of PME practitioners, both internal and external to the Australian Defence Force.
- ✦ Creating a culture of ongoing learning will not be achieved without changes to the human resources and cultural practices of all three services. A defence force that is anti-intellectual cannot gain an intellectual edge.

Educating for the Unknown

Professional Military Education (PME) is the study of force by the profession of arms. The profession of arms requires constantly adapting to uncertainty, yet Australian PME is not well prepared to meet that goal, in structure, curriculum or methods. In order to improve, PME must offer a curriculum more connected to the broader world and a learning environment that safely encourages students to try, fail, reflect, and learn.

In the 20th century, the priorities for PME were relatively clear because the character of industrialised warfare was relatively clear. While PME has always incorporated learning new technologies, the principles of mass and manoeuvre, leadership and subordinate, were considered sufficient to prepare military officers for the next war. Military organisations could afford to be mono-cultural because war as an event was clearly delineated temporally and spatially, and binary in its oppositional elements.

Now, however, the context for war has changed. Military organisations are more hetero-cultural and diverse in their expertise because war is more heterogeneous. The lines between state actors and non-state actors have become less certain; the limits to the battle space have become less certain; the line between peace and war less certain.

In the West, we've tried for too long to maintain the fiction that the line between war and peace is absolute, or that there's a clear distinction between military objectives and political objectives. Slowly, Western countries are becoming more comfortable with the grey zone between war and peace, and the suite of political and military activities within that are the responsibility of defence forces, security organisations, intelligence networks and governments.

Educating for uncertainty entails both a suitable curriculum and an environment which fosters learning. It requires a broad curriculum that extends beyond traditional PME subjects ignites passion for lifelong learning and encourages students of PME to make connections between their profession and the broader world. It requires a learning environment that inculcates critical thinking make connections between their profession and the broader world; to put it simply, creative education leads to creative thinking. And it requires educators who know how to create and facilitate learning in those open, uncertain environments. These elements of curriculum, learning dispositions and learning environments combine to create cognitive dissonance and discomfort in the classroom. When students learn to become confident dealing with discomfort in the classroom, they can become adept at dealing with uncertainty in the profession of arms.

While PME has always incorporated learning new technologies, the principles of mass and manoeuvre, leadership and subordinate, were considered sufficient to prepare military officers for the next war.

The following sections offer suggestions on the road ahead for Australian PME. While the current 4 areas of study in the Continuum are relevant to warfighting, the areas of study should expand to embrace a broader curriculum that helps ADF members connect to the broader social context. Expanding on the Strategy's plan for innovative learning methods, the paper advocates learning environments that foster critical thinking dispositions and in which students can safely encounter and learn to manage uncertainty. Finally, the paper outlines significant changes that are required to meet the Strategy's goal of to "developing first rate instructors."

Understanding the changing context

Let's imagine a new ADF soldier with the talent for leadership and command. What does she need from education to help her deal with the changing environment?

First, her conflicts will go well beyond the kinetic and require much more highly skilled decision-making and adaptability. The ADF's *Future Operating Environment 2035*, articulates five global trends which will shape the future environment in which the ADF will operate. These are: people and culture; climate and resources; economics and governance; geopolitical trends; and technology. Second, she will need to be proficient – and judicious – in understanding the

use and limits of new technology. With the complexities of 21st century technology, non-state actors, globalisation, climate migration, and competition for resources – simply having the right weapons is clearly insufficient. Third, she will need both broad awareness of global trends as well as the critical thinking and research skills to quickly learn about specific challenges that may require an ADF response such as resource availability, digital networks, and changing relativities of power. Significant changes in military education are required in order for military officers to develop a sophisticated understanding of the full spectrum of power.

Preparing for Uncertainty with Education

The ADF recognises the need to update PME in Australia to meet contemporary demands. The appetite for change is evident in several key documents.

In 2019, the ADF concluded a review of PME, and released a framework, *The Australian Joint Professional Military Education Continuum* (2019). One of the main recommendations of the review is a plan to integrate learning across the careers of officers. Prior to the review, the structure of PME in Australia was not conducive to continuous learning. Rather, it has had three steps: an initial period of education equips new officers with tactical mastery; a staff course prepares officers for staff duties and operational leadership; and a senior course develops strategic leadership for national security. These three significant steps, stretched across a career of thirty years, have become insufficient to meet the emerging needs of military leadership. The Continuum shifts education for officers from the three large “steps” towards more of a “slope” in which smaller, more targeted educational opportunities are available. This structural change makes a positive contribution towards the goal of inculcating a culture of lifelong learning into the ADF.

In the 2019 Continuum, JPME in Australia is considered to have five learning levels. Across each of its five levels are four Core Professional Learning Areas of Study: (i) national security policy and strategy; (ii) command, leadership and ethics; (iii) joint warfare; and (iv) technology and capability. We might think of these as foundations of curriculum

The implementation of the Continuum is outlined in the *Australian Defence College Strategy 2018-2023*. The strategy comprises areas of focus. Notable among these focal areas, number 3: recruit and develop first-rate instructors and staff, and win the resources for them to be successful. And number 4, lead innovation and adaptation in learning methods and learning delivery.

With the release of the new Continuum and accompanying Strategy, the rumblings of change in Australian PME show promise. By recognising that the changing environment is at odds with traditional PME, the ADF has the potential to make changes to adapt. The emphasis on “Joint” education, bringing together the services to act as one defence force, is in line with the changing environment and preparing for uncertainty. The Continuum offers a pathway for more continuous learning, which communicates that ADF sees the need for iterative development. The Strategy identifies that the ADF sees value in developing first rate instructors who use innovative learning methods and delivery.

At the same time, there are cultural roadblocks successfully implementing change in PME. There are tensions within PME that reflect the uniqueness of the profession of arms. PME must train personnel for expertise in some aspects of their job while also educating them to be able to excel in a climate of uncertainty. PME is therefore concerned with the development of (i) knowledge competencies – explicit areas of knowledge which are relevant to the security and defence of the nation – and (ii) learning dispositions – attitudes and inclinations towards engaging intellectually with the world – for a unique profession. It is not sufficient for PME to focus solely on the knowledge competencies of tactics and operations, with some explorations into military strategy at a higher level. A different PME is required for a military leadership which will need to understand a new, complex, and evolving battle space.

There are tensions within PME that reflect the uniqueness of the profession of arms.



A diverse, flexible curriculum

Historically, PME is grounded in utility. However, two separate but related tensions have pulled PME in different directions within different services at different times: training versus education; and theory versus practice. In any discussion of the relationship between military cultures and education, it has to be acknowledged that within some elements of the military in Australia, there is an ingrained scepticism, sometimes even hostility, towards intellectual endeavour or creative thinking; in other parts, confident ignorance based upon cultural myopia is proudly exhibited; even when there is enthusiasm for intellectual endeavour, only particular ways of thinking are privileged. Across military communities, in different countries at different times, these priorities, as well as conceptions of what comprises education or training, and the values underpinning such judgements, are deeply contested.



The tension between training and education in PME is evident across an individual's career. The three services have often had a focus on technical expertise and the use of specific technologies. These topics can be effectively conveyed through "training" – instruction to follow a method to an outcome. As officers are promoted, and expectations shift towards the broader issues of strategy, policy and national security "education" becomes the focus. But belief in the value of "education" is contested. In some sections of Australian military culture, leadership theory, philosophy and military history are lauded, while other parts understand education purely as training in the practice of warfighting. This relates to the tension between the values of studying theory and practice. While some in PME believe in a circular reinforcement between studying theory and practice, others argue that the study of theory should be for academics and the study of practice for practitioners.

A belief that studying practice is more valuable than studying theory, relates to a belief that PME should be confined to a narrow curriculum – topics like the study of operations, tactics and use of physical force. Even when they have recognised the changing character of security threats, Western military cultures have usually confined themselves to the study of physical force and have been reluctant to acknowledge the nexus between political and military power, or have chosen to draw a line in the sand, as if a line in the sand can be drawn.¹ But in a strategic environment of ever increasing complexity, it is not effective to separate the study of kinetic force from the broader political and social world from which use of force becomes necessary.

Certainly, the explicit study of war has value for PME. The nature of war endures and studying the past can inform the conduct of future wars. But there is a case to be made for expanding the syllabus to include disciplines outside of military history. History of cultural and political movements can offer context for interpreting the conduct of war. Current studies of international relations, policy, regional politics and strategy can help Defence members understand the current context for military operations – for what

purposes is military force likely to be used now and in the future, and what are likely to be the second and third order effects of those conflicts? Study of technology and artificial intelligence offers insights into how a country can be defended in an era of increasingly unconventional acts of aggression.

Disciplines that appear tangential to PME offer useful insights into the conduct of war. Literature offers the chance to consider the human condition, the power and limits of empathy, courage, and self-preservation. How is a person or a society likely to respond to conflict and destruction? Where will a country be 10 or 20 years after a conflict? Fine arts reveal the way a society sees itself and sees those outside of it; psychology and economics provide further insights. War is fundamentally a human endeavour, and so humans and their limitations must be at the core of war studies.

Not only do the subjects themselves offer value and insight, each discipline has conventions and methods of thinking, reasoning, and making meaning.² Learning to think within the conventions of multiple disciplines requires mental flexibility and elasticity, forcing a learner to engage in metacognition, analysing how they reach conclusions and the biases and shortcuts they take along the way.³ This awareness of multiple ways of reasoning and the ability to adapt thinking and reasoning patterns to suit the context is necessary for dealing with uncertainty.

Just as offering a range of learning opportunities helps prepare the individual for uncertainty, a curriculum that offers a range of experiences prepares learners and the organisation for uncertainty. A group with diverse knowledge sets is more likely to have better performance.⁴ The current system of PME in Australia incorporates this principle to some degree by sending officers to international courses. But within some of the flagship programs discussed above, the entire cohort takes the same classes for the duration of the course. The ADF is missing out on the benefits of heterogeneity in education pathways. The PME continuum could easily achieve greater heterogeneity by incorporating electives, streams, or even individual research projects into courses. The greater barrier is the military cultural value of homogeneity. There is a fear among learners in PME that even a different tutor will lead to a different classroom experience that is “better” or “worse.”

A final endorsement for educational heterogeneity is its capacity to promote “continual learning and intellectual curiosity”, one of the goals of the Australian Joint Professional Military Education Continuum.⁵ The key to lifelong learning is sparking passion, and passion is highly individual. Giving a learner the opportunity to study a topic of interest can foster intellectual curiosity that spreads to other disciplines. For some military professionals, studying operations or military history is seen as a chore, and if those subjects are the only ones offered, the learner can become disengaged. With opportunities to study a subject of interest and spark passion and intellectual curiosity, they are more likely to build the learning dispositions that will encourage engagement in core subjects as well.

Broadening the curriculum of PME (or maintaining that breadth where it exists) enables a defence force that is suited to the future of warfighting. A defence force with a broad education will have members who can fulfil the full spectrum of jobs within the force and create a force that can be diverse in its membership and diverse in its capability - effectively navigating the blurred lines between peacekeeping and warfare, allies and enemies, civilians and combatants.

Study of technology and artificial intelligence offers insights into how a country can be defended in an era of increasingly unconventional acts of aggression.



Skills and Learning Dispositions

Less explored than PME curriculum, but no less important, are the skills, or learning dispositions, which enable the learning experience to cross contexts. Even if a curriculum is broad, it must be limited by the time available, but equipping officers with learning dispositions enables them to continue the learning journey once the official stage of PME is complete. Learning dispositions will help an officer explore new topics independently, outside of the walls of the classroom.

Skills, however, are not simply tools which are transferable from the classroom to a job. Underpinning skills are a complex interplay of processes which come under the umbrella term “critical thinking.” In his “Model for Engaged Learning and Teaching,” John Willison has identified six interrelated activities which may be engaged in any order depending on the situation: embark/clarify; organise/manage; evaluate/reflect; find/generate; analyse/synthesise; and communicate/apply.⁶ Obviously, then, we need to teach critical thinking, right? Well, no, not exactly. The key to teaching critical thinking is to have a context; without the context, it’s a bit like learning to shoot without a target. As educationalist Matthew Lipman would put it, “teaching students about critical thinking is about as likely to create a nation of critical thinkers as having students learn the results of research into bicycle riding is likely to create a nation of bicycle riders.”⁷ That is, critical thinking requires a scaffolded approach to Willison’s verbs. It

requires choosing the right materials to engage with, developing the right questions, testing one another’s reasoning, reflecting on what it is that has been done, and then doing it again. Persistence, support, challenge: it’s about growing your intellectual muscle.

But there’s a further consideration here, that is, between skills and dispositions. The difference is important, and is illustrated by two questions: “Can you play the piano?” and “Do you play the piano?”⁸ That is, we need to think of education as more than a set of tools which are applied under certain circumstances. Good critical thinkers are able to shift from deductive reasoning towards inductive reasoning, from linear (or bounded) thinking to organic (or open-ended) thinking; problem finding is prioritised over problem solving; deep learning is encouraged over surface learning.⁹ Australian officers require much more than a set of competencies: they must have a desire and an inclination to apply the actions outlined by Willison’s model, and to discern when and how to apply each one in context. At this level, critical thinking is not a way of *thinking* at all, but a way of *being*.



Some students of PME come to their military education with a solid grounding in critical thinking, and can build on that foundation; for others, engaging in critical thinking is a challenging and sometimes frustrating experience in which unfamiliar ways of thinking disrupt individual’s views.¹⁰ Undermining students’ assumptions, setting tasks without linear solutions, getting students accustomed to nuanced, contextualised answers, is all fundamental to developing a disposition for critical inquiry and a capacity for dealing with uncertainty.

Learners are most actively engaged when they feel emotionally safe but cognitively destabilised.¹¹ That is, a learner is most switched on when grappling with a concept that they don’t immediately understand, but feel confident that they can try and fail without social stigma. When knowledge is presented as contested rather than certain, the learner must actively seek to confirm or reject information. This uncertainty in the classroom environment mirrors uncertainty in a professional context. In this context, learners practise skills and develop dispositions that decrease psychological distress and increase cognitive adaptability when faced with uncertainty. These learners not only build up a tolerance for sitting with uncertainty, but develop adaptive ways to operate within that uncertainty. Similar to the way practicing reloading a weapon builds muscle memory to perform the task under stress, the student of PME practices coping with complexity and ambiguity so they can perform in the future warfighting environment.

Pedagogy

The first two reforms of curriculum and learning dispositions will not be possible without effective teaching and pedagogy. It has been the case that Australian PME employs “subject matter experts” for teaching subjects like military history and strategic policy. This should continue as the curriculum broadens, and those subject matter experts should be conscious of relating the content to the military context and PME aims. Perhaps more importantly, those who are in teaching positions, both civilian and military, need to value and have capacity for creating learning environments.

Australian PME needs to treat teaching and educating as a specialist skill – separate from training. Creating the learning environments described above, in which knowledge is contested and students feel safe to try and fail, is distinctly different from a dynamic of knowledge transmission. Many civilians and military professionals were learners in environments in which the teacher knew the information, and the student accepted the information. When put in the position of teacher, these former students do what they know. But an environment of knowledge transmission, with the teacher as the authority and the student as the consumer of information, is not conducive to developing a military “intellectual edge.” Overcoming this challenge is difficult. The PME classroom cannot completely undermine the legitimacy of military rank and hierarchy. The person leading the classroom will invariably be of a higher rank than the students. So, the key to achieving democracy in learning in the PME classroom is that one factor must be exempt from power and hierarchy: the validity of knowledge and “truth”.

Achieving states of uncertainty that are conducive to developing learning dispositions states is contingent on educators adopting corresponding pedagogical practices. If the educator has a training mindset, in which information is uncontested and should be memorised and executed, the learner doesn’t have the opportunity to be uncertain. In a PME context, both learner and educator are often experienced and comfortable with a training mindset. Professional military educators need professional development opportunities to become familiar with pedagogical practices that are suited to open ended, exploratory education.

For the ADF to create those professional development opportunities, there will need to be trade-offs between time and quality. In the current system, military practitioners are posted as educators for a single posting cycle – 2 years. While there are benefits of educators being experienced practitioners, a 2 year rotation means that an ADF member spends one year upskilling and only one year using their new teaching skills. Often, some of the most gifted ADF teachers only teach for one year, being promoted or re-allocated to another job after the first academic year. An important part of developing as a teacher is making iterative improvements to the same lesson over time. A double posting cycle (4 year appointment) would be ideal in PME, a balance between developing teaching expertise and cycling in “fresh blood”. However, extending placements as teachers requires that the position to be seen as prestigious. At the moment, service members often see taking time to work at the War College as a pause to their “real” career trajectory. Honours and awards for teaching might go some way to help this, but it is a symptom of the broader society. Teachers all over Australia are underpaid, and therefore undervalued. Even at the university level, academic staff are more rewarded for research outputs than excellence in teaching. Defence could lead Australia in that cultural transformation.

Australian PME needs to treat teaching and educating as a specialist skill – separate from training.



Conclusion

In the current outlook of increasing uncertainty, PME must be underpinned by an understanding that Defence is seeking creative, adaptable thinkers, leaders with initiative whose disposition is to question assumptions, seek ideas and communicate effectively while remaining grounded in the practical outcomes necessary for the profession of arms; to a large extent, curriculum is simply the means towards those ends. The challenge, therefore, is to marry curriculum and pedagogy, and this requires informed leadership, financial and intellectual commitment, as well as both individual and institutional stamina.

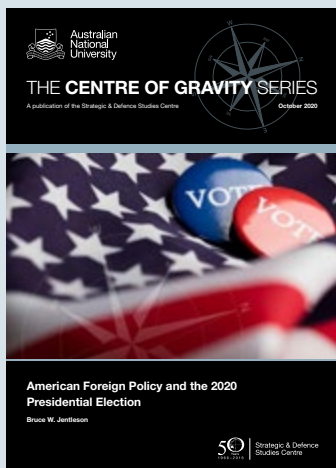
Three priorities are needed to drive PME forward into the next decade of uncertainty. First, PME must be contemporary and future focused. Whatever the future brings, the enemies, the battle space, the technology and the coalitions are unlikely to be anything we imagined, and so adaptability and creativity must be absolutely central to all that Defence is thinking about and preparing for.

Second, this will require ongoing learning – reading, collaborating, reflecting, challenging – throughout the careers of all officers. This is best achieved through a combination of expansive curriculum and teaching practices that inculcate critical thinking and learning dispositions. This, however, will require an overhaul of the human resources and cultural practices of all three services; of all of the challenges facing Defence, this one may be the greatest of all.

Finally, and integral to both points above, PME will require first rate teachers. Due to its size and location, Australia has minimal expertise in teaching PME, either in civilian or military arenas. An overhaul of PME in Australia can only happen if there is a significant input into the growth and development of PME practitioners – it will take a decade at least, so we need to begin now.



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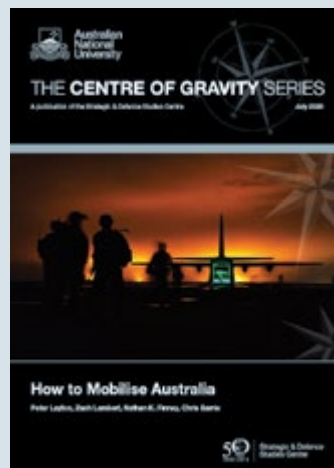
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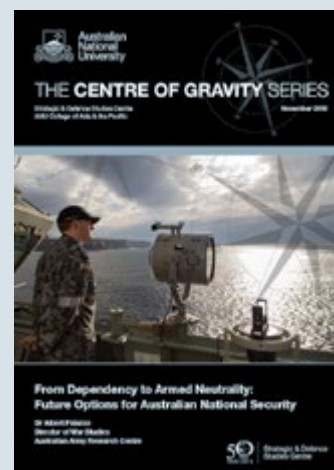
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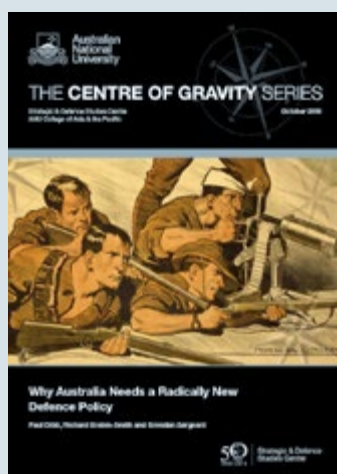
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Endnotes

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- 2 For an overview of disciplinary specific thinking, see Tony Becher, "The significance of disciplinary differences," *Studies in Higher Education*, 19/2 (1994), 151-161.
- 3 For a discussion of interdisciplinary and transdisciplinary thinking, see Henrik von Wehrden et al., "Interdisciplinary and transdisciplinary research: finding the common ground of multi-faceted concepts," *Sustainability Science* (Jul 2018), 1-14.
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- 9 Michael Platow et al., "On the role of discipline-related self-concept in deep and surface approaches to learning among university students," *Instructional Science* vol. 41 (2013), 271-285.
- 10 This disruption is intentional and key to the learning development of the students. See Stephen Brookfield, *Teaching for Critical Thinking: tools and techniques to help students question their assumptions* (San Francisco: Jossey-Bass, 2012).
- 11 This concept is supported in various literatures including the Yerkes Dodson Law (1908) which observes the positive relationship between arousal and performance; Zone of Proximal Development (Vygotsky, 1978), the idea that students succeed when just outside their comfort zone; and Growth Mindset (Dweck, 2006) that students only develop when they are striving beyond their current capability.



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