



Australian Government
Defence

The Australian Joint Professional Military Education Continuum 2.0



To defend Australia and its national interests in order
to advance Australia's security and prosperity
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The Australian Joint Professional Military Education Continuum 2.0

Foreword

The events of recent years demonstrated that our nation must prepare for and respond to threats to our economic, social and environmental sovereignty. As the world changes, so must the Australian Defence Force and the Department of Defence.

Technological acceleration and geopolitics are changing the world and our concept of warfare. Despite this turmoil, our responsibility is enduring and timeless: to defend Australia and its national interests in order to advance Australia's security and prosperity.

As part of a coherent strategic effect, the role of the Department of Defence (Defence) is to shape Australia's strategic environment, deter actions against Australia's interests and respond with credible military force when required.¹ Defence's approach to meeting these challenges must be to maximise military and people capability. People capability is the key to delivering on our commitments and our responsibility to the Australian community.

A strategic learning culture is essential to grow and develop our people for current and future challenges. It will arm our people with the skills and knowledge to out-think our adversaries. Defence must also cultivate the behaviours, attitudes and mindsets to break down silos and unite across our organisation; and work with national, regional and international partners to create an advantage in strategic competition and war.

This second edition of *The Australian Joint Professional Military Education Continuum* provides authoritative direction for joint professional military education and training, defining the learning requirements for all Defence military and civilian employees. It is the spine against which all Services and groups should align their education and training. We commend *The Australian Joint Professional Military Education Continuum* to you as an enduring framework for future-proofing Australia's intellectual edge in warfighting, positioning Defence to shape, deter and respond in complex and uncertain environments.



G Moriarty
Secretary
Department of Defence



AJ Campbell, AO, DSC
General
Chief of the Defence Force
June 2022

¹ Department of Defence, Defence Mission (Australian Government, Canberra, 2020).

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Introduction

Professional development is an important responsibility shared between the individual, the Defence organisation and those that lead and influence our people. In particular, the Defence organisation has the responsibility to provide our staff, and those leading them, with the support and guidance to optimise what is a lifelong journey.

This second edition of the *JPME Continuum* is a reflection of Defence's continuous improvement processes. Practical experience with the first edition demonstrated that we needed to evolve the format and content of the document to provide greater value to both individuals and workforce design organisations.

This capstone publication plays a critical role in providing high-level alignment and commonality for all of the professional development systems nested within Defence's key organisations. It is deliberately descriptive, rather than prescriptive. It empowers us to bridge the gap between our common development goals and the nuanced needs of our separate domains and practices.

Though the Continuum provides a joint development pathway, it is not seen as a substitute for rank task profiles, nor does it replace the need for workplace performance needs analyses. It is an enterprise level framework that informs those workforce design activities to achieve greater alignment across our diverse Defence workforce.

Experience has also shown us that this document cannot be used as the curriculum for Professional Military Education Courses. What we teach our people constantly evolves to meet the emerging priorities of the strategic context. Instead, the Continuum provides both an enduring framework and a tangible articulation of what our people should strive to accomplish in the workplace through the application of professional wisdom.

The development system outlined provides guidance for our people to plot their own relative progression. While the Continuum does align levels to ranks, this is often an artificial delineation, with many of our people operating at different levels to their peers. With self-reflection and mentored support, individuals can tailor their professional development journey to align with their personal needs, aspiration and professional goals.

As with all people-focused organisations, our success depends on our culture. The pursuit of excellence in Professional Mastery must be underpinned by an organisational culture of career-long learning that is embraced and primarily driven by the individual. Our people must become the masters of their own learning journey. To inspire them on this voyage, Defence must be an organisation that demonstrates that we value professional development.

This is a fantastic time to be part of a team whose common purpose is the protection and advancement of Australia's strategic interests, but we must constantly invest in our own professional currency as part of the journey to achieving an intellectual edge.



S Edgeley

Air Vice Marshal
Defence Education
Training Authority
(DETA) / Commander
Australian Defence College
June 2022

About this book

The *Australian Joint Professional Military Education Continuum* (the Continuum) is shaped by the suite of Defence strategic level guidance, including the Defence Transformation Strategy, the 2020 Defence Strategic Update, the 2020 Force Structure Plan, Creating One Defence and Joint Futures and Concept guidance.*

It is subordinate to the Defence Enterprise Learning Strategy.

This Continuum sets out a coordinated framework for professional development systems with Defence. Combined with *ADF-P 7 Learning* and the *Defence Enterprise Learning Policy* (DELP), it informs Single Services and Groups in aligning their own professional development systems.



*Includes publications, guidance and/or direction, such as the *Joint Concepts Framework Handbook* or future publications of Joint Futures and Concepts in Force Design Division, ADF Headquarters.

Who is the Continuum for?

All Defence personnel

This Continuum continues our ambitious journey to unite all Defence services and groups providing both alignment and consistency to all subordinate single Service and Group frameworks. In turn, these systems provide bespoke interpretations tailored to their respective personnel. In addition to descriptive, and sometimes prescriptive, learning outcomes, these more detailed frameworks will also provide links to resources and learning opportunities.

This capstone document will require careful observation of how the Continuum is applied and how it can be improved over time. The interface between the military and civilian workforce will benefit from this foundation by defining the commonalities and divergences.

JPME is more than just formal courses. While these have an important place in the ongoing professional development of Defence personnel, they actually only represent a relatively short period of time in a lifelong journey of personal and professional improvement. True growth and reputation development comes from sustained application of high-performance attributes in the workplace. While intensive, short bursts of largely theoretical concepts are critical to the journey, they are not enough on their own. Developing Professional Mastery requires exploitation of the entire spectrum of learning and development opportunities.

While visually represented as a sequential pathway linked to rank or level, it is adaptable for tailored entry points, learning sources, progression rates and gateways where appropriate. Professional currency demands continuous lifelong learning, regardless of rank or level progression. There are always exceptions, with some individuals, or even entire categories, operating at a level different to their rank/level peers. However, the levels are described by rank because this is the most readily identifiable indicator for the majority of the workforce in that performance area.

Terminology

While every effort has been made to ensure this document is valuable to all Defence personnel, there are occasional specialist terms that might be unfamiliar to some readers. Parts 1 and 2, in particular, are written for all personnel of Defence. Part 3 is tailored for those responsible for implementing systems and providing learning opportunities to others. Executive summaries are provided for each part.

The five learning levels of JPME

The five learning levels are provided as a guide for JPME learning opportunities relevant to respective responsibilities based on rank or level. The transitions are not intended to be rigid boundaries, but indicative with overlapping dimensions.

A glossary appears at the back.

Level 5 National	08+, SES Band 2+, E10
Level 4 Integrated	06–08, EL2–SES Band 2, E9B–E9C
Level 3 Joint Operational	04–06, APS 5–EL2, E8–E9A
Level 2 Intermediate	02–04, APS 3–6, E3–E7
Level 1 Induction	Ab Initio–02, APS 1–3, Recruit–E3

Continuum structure

PART 1

The Ends: Developing an intellectual edge through professional wisdom

Part 1 discusses Defence's strategic context and outlines the need for an intellectual edge. It then introduces the Professional Mastery construct with its three elements, and their respective sub-elements.

PART 2

The Ways: Professional Mastery by levels

Part 2 provides a more detailed exploration of Professional Mastery by breaking down its three components of Social, Defence, and Technical Mastery, by learning level. It provides an initial single-page representation of the entire Continuum framework before sequentially exploring each learning level in greater depth.

Part 2 is designed to be read by anyone in Defence. All personnel are actively encouraged to not only compare themselves against the level they currently operate at, but also to look ahead to the levels above and map their own learning and development journey. Professional currency demands lifelong improvement regardless of rank or position advancement.

PART 3

The Means: Holistic learning

Unlike the previous two parts, Part 3 is primarily written for learning and development specialists. It provides an advanced discussion on how to nurture the intangible dimensions of Professional Mastery. It primarily focuses on the art of facilitating and mentoring learning, beyond the traditional training system.





PART 1

The Ends

Developing an intellectual edge
through professional wisdom

Part 1 Executive summary



Global security developments are placing increased demands on Defence to ensure Australia's national interests are protected into the future.



Defence requires an intellectual edge to shape, deter and respond to national threats.



Developing Defence's intellectual edge requires organisational depth in professional wisdom.



Individual professional wisdom comes from extensive and balanced Professional Mastery combined with common sense and high intellect.



Professional Mastery comes from advanced academic understanding of Defence, Social and Technical Mastery combined with extensive workplace experience.



Defence selects its personnel based on their intellect but strategies exist to help them develop even further. Scope also exists for Defence to better understand and mitigate barriers to advanced intellectual thinking.



The concept of design thinking is primarily a holistic shift in mindsets but is complemented with practical cognitive techniques to help exploit innovation in Defence.



JPME development is both an individual and organisational responsibility. Maintaining a strong culture of self-improvement is everyone's responsibility.



A tenet of any profession is ongoing and regular learning, regardless of advancement in rank or role. Defence prides itself on having a workforce that is highly motivated in helping achieve our mission through continuous improvement. Individual professional currency is a key enabler to organisational excellence.

Strategic context



Defence's role is to defend Australian interests through the use of military power to preserve the political, economic and social liberties that define Australia's national identity and values.

Defence advises the Australian Government on potential responses to aggression and how to support the country's national security objectives.

The 2016 Defence White Paper² outlines Government's plan for a more capable, agile and potent future force that has greater capacity to respond to strategic risk wherever Australia's Defence interests are engaged. The 2020 Defence Strategic Update³ further refines Government's strategic objectives that guide all Defence planning, force structure, force generation, international engagement and operations.

Critical to Defence's effectiveness in discharging its responsibility is its ability to shape, deter and respond on a continual and concurrent basis. Great thought, foresight, careful consideration and planning are required when preparing to operate within environments that are complex, contested and ambiguous. Only an intellectually prepared Force, one that remains adaptive to evolving geopolitics, technological disruptions and demographic shifts, will be able to achieve the strategic objectives the Australian Government has set.

Train for certainty, educate for uncertainty

This Continuum sets the foundation for preparing the next generation of Defence personnel for an unknown future. While current and emerging threats provide some degree of immediate JPME focus, its fundamental goal is to develop transferable abilities

for unforeseen challenges. An important dimension to this future-proofed system is recognising when and how to off-load lower order cognitive activities to automation through human-machine teaming whilst simultaneously exploiting augmented cognition for the most challenging problems.⁴ Emerging learning opportunities for human performance optimisation (HPO) must also remain aligned to parallel advancements in cognitive pairing, nootropics and genetic engineering.⁵

The Future Operating Environment 2035 forecasts a high-technology future with smart machines, smart systems, robotics and computational super-structures; and the increasing vulnerability of state and non-state adversaries. The rapid development of cyber, big data flows, hypersonics, neuropharmaceuticals, and novel weapon systems challenge our understanding of the character of war. Threats to human security, such as natural disasters, Grey zone operations and global pandemics, place further demands on Defence to respond domestically and internationally. Shifting geopolitical dynamics make it increasingly important to harness the intellect of our people and enhance their ability to make confident, knowledgeable and ethical decisions in complex, high-pressure situations. Being recognised for innovation increases our reputation among allies, whilst simultaneously making us less predictable to our adversaries as we shape, deter and respond. Our greatest future advantage, therefore, lies in cultivating an intellectual edge.

² Department of Defence, 2016 Defence White Paper (Australian Government, Canberra, 2016).

³ Department of Defence, 2020 Defence Strategic Update (Australian Government, Canberra, 2020).

⁴ Ryan, M, (2018) *Human-machine teaming for future ground forces*.

⁵ Ford, K & Glymour, C, (2014) The enhanced warfighter, *Bulletin of the Atomic scientists*.

The Profession of Arms, Professional Mastery, and Professional Wisdom

Belonging to a profession requires the relentless pursuit of Professional Mastery regardless of advancement in rank/level or role. This continuous improvement culture leads to improved Professional Mastery which, when coupled with increasing intellectual skills, grows professional wisdom.

The collective enhancement of individual professional wisdom provides Defence with the intellectual edge over our adversaries. This intellectual edge enables us to excel across the spectrum of shape, deter and respond. All three of which are concurrent, continuous and connected.

The pursuit of an intellectual edge is both an individual and organisational responsibility.

Although Defence Australian Public Service (APS) personnel are not considered to be members of the Profession of Arms, as they are employed under different conditions and legislation, they are considered critical members of the Defence workforce and are essential in supporting uniformed Defence members to achieve Defence's mission. The pursuit of Professional Mastery, Professional Wisdom and the intellectual edge is also applicable to Defence APS.

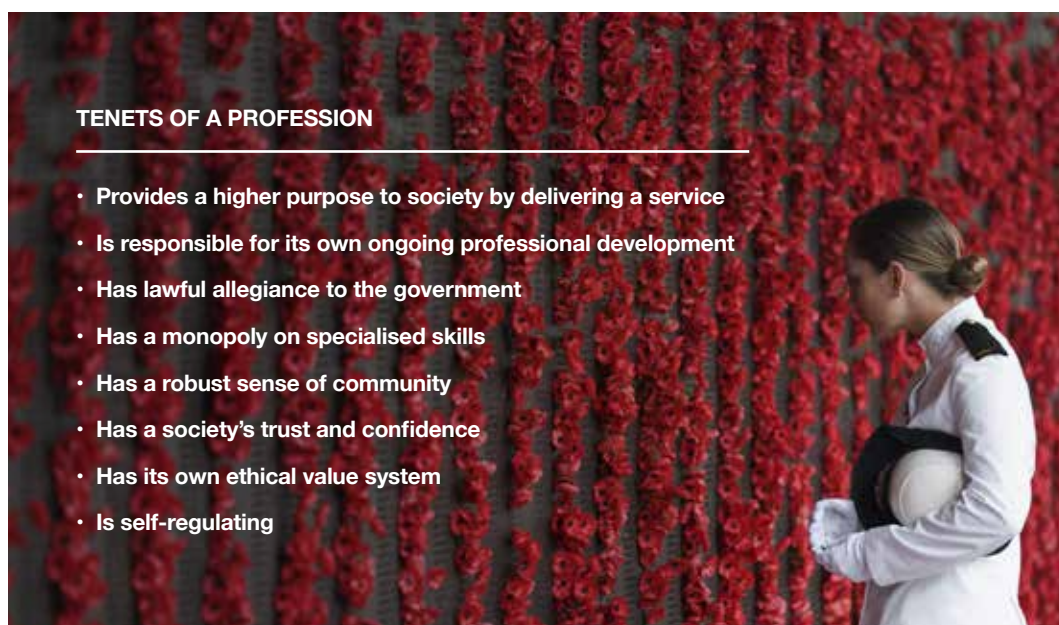
Professional currency

As a professional organisation, Defence personnel must remain current in both their chosen Domain and category specialisation. This requires them to regularly seek continuous learning opportunities regardless of how long they remain at various JPME levels. JPME enhancement need not be limited to formal courses alone; targeted career learning experiences and other external opportunities must be actively sought out.

Intellectual humility

Linked to the need for professional currency is the ethos of intellectual humility. Constant refinement of professional wisdom only comes from having the humility to be open to new ideas and acknowledging we never stop learning. Regardless of our rank or years of service, we can always learn from others and actively seek opportunities to improve.

Our calling as a profession is a noble one, but one that also conveys great responsibility to always be at our best. Professional wisdom means confidence, not arrogance.



TENETS OF A PROFESSION

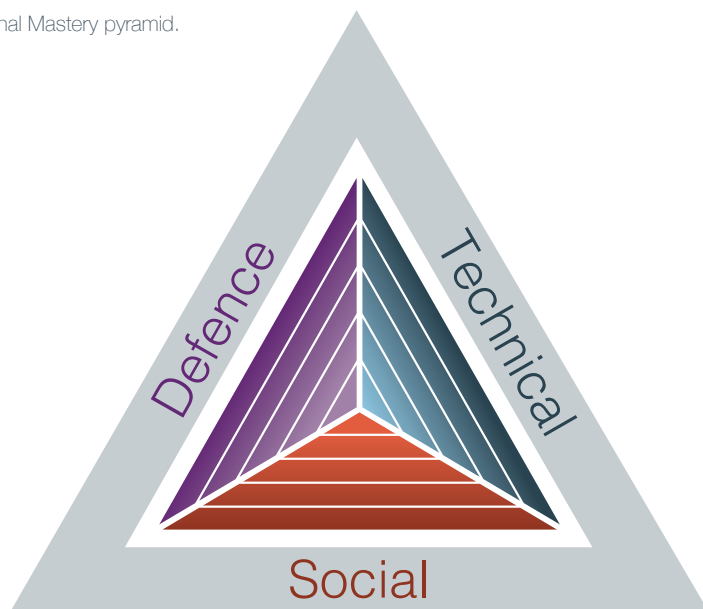
- Provides a higher purpose to society by delivering a service
- Is responsible for its own ongoing professional development
- Has lawful allegiance to the government
- Has a monopoly on specialised skills
- Has a robust sense of community
- Has a society's trust and confidence
- Has its own ethical value system
- Is self-regulating

Figure 1 Ongoing professional development is a tenet of any profession.

Professional Mastery

Professional Mastery is the sum of an individual's depth and breadth of knowledge and understanding of a profession combined judiciously with the ability to apply it through the lens of personal experience and intellect.

Figure 2 Professional Mastery pyramid.



Defence employs a Professional Mastery model represented as a five-level, triangular pyramid (Figure 2), each side being vital to the balance of an individual in terms of the expectations of them at their current JPME level. The three sides of the pyramid reflect the Be-Know-Do approach and mirror the three elements of military power – Moral, Intellectual and Materiel.⁷ Social (Be), the moral element of military power, is developed within Social Mastery. This captures the soft skills of influence, ethics, character and culture. Defence (Know), the intellectual element of military power, is developed within Defence Mastery. This is typically more theoretical and transferable, so it tends to be enhanced largely through deeper educational study.

Technical (Do), the physical element of military power, relates to capabilities. This includes platforms, equipment, logistics and other Fundamental Inputs to Capability (FICs) – all of which rely heavily on competent personnel to operate them. The development of this skilled workforce falls within the Technical side of the Professional Mastery pyramid. Because this is often prescriptive, it develops mainly through training and workplace experience. Service and Group Frameworks might tailor the labels to suit their respective domain, but the division of mastery remains the same. The following pages explore the sub-elements of each side in more depth.

⁷ For more on military power see ADF-C-0 Australian Military Power.

Defence Mastery

Defence Mastery captures the essence and unique characteristics of working within the Defence environment. During their career, people in our Organisation develop a progressively deeper understanding of what, how and why Defence contributes to protecting and promoting Australia's national interests.

On enlistment, newer members of the ADF are introduced to the basic concepts of military power and how it contributes to Australia's national power.

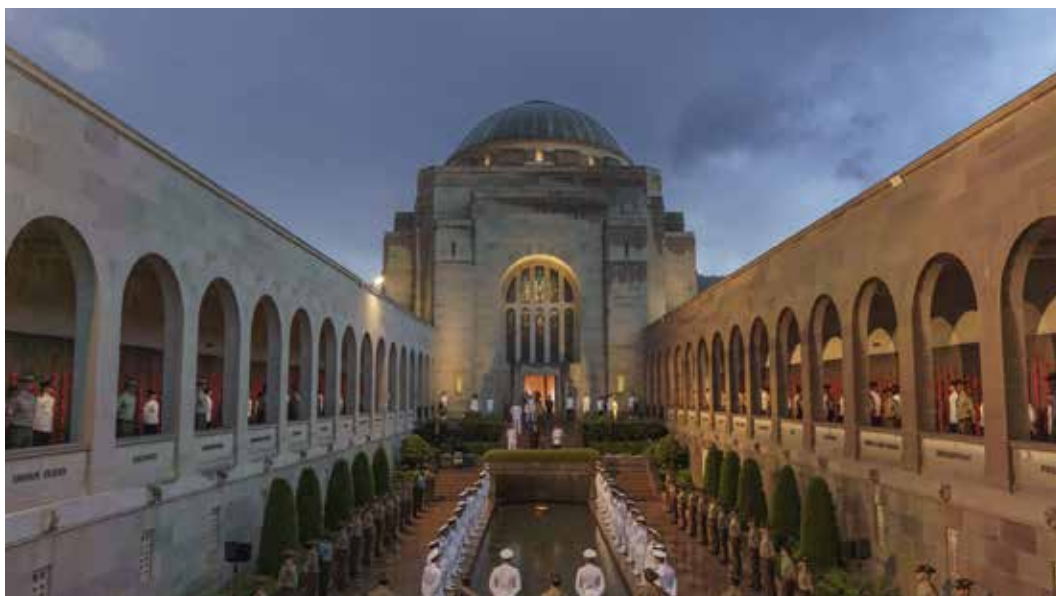
This is typically mixed with a strong focus on their own domain or environment and the way it contributes to the wider context. As personnel gain experience and further education, this foundation understanding evolves to include an even stronger appreciation of how different aspects of Defence work harmoniously together to achieve a greater effect.

During JPME Level 2 development, personnel will typically focus primarily on their own Service or Group's contribution to military power. In tandem with Technical Mastery progression, Defence Mastery helps contextualise their overall role in Defence.

JPME Level 3 represents a greater emphasis on how individual ADF capabilities contribute to joint operations. Those operating at this level will be offered both formal off-job learning and workplace experience to enhance their performance in this area.

Defence Mastery at JPME Level 4 becomes increasingly orientated towards capability integration. Those working at this level require an advanced appreciation of all ADF capabilities and how to optimise these to achieve strategic missions.

JPME Level 5 orientates toward the political-military interface where the full impact of military power can be provided to support Australian Government policy.





Cognitive abilities

A significant element of Defence Mastery is exploiting the cognitive dimension of the intellectual edge.

As discussed earlier, the ability of personnel to exercise astute thinking in the fields of problem recognition, analysis, understanding and resolution is vital when delivering on Defence's promise to the nation. While the military's prime responsibility is to prevent conflict through shaping and deterring, unfortunately there are times when we are called upon to respond. When this happens, it is almost certain that all other options have been

exhausted and that the ADF is the last line of defence. There is no other agency standing-by; failure is not an option.

Timely and effective decision making comes from continued application in developing our problem-solving skills. Regardless of where on the conflict spectrum we find ourselves, cognitive agility is particularly important when faced with imminent danger. If the situation involves an adversary, then the ADF needs to think both faster and smarter than them if we are to succeed. Improving cognitive skills is a fundamental component of all JPME levels.



Profession of Arms

The Profession of Arms is introduced from the most junior levels. However, its prominence becomes increasingly important

from late JPME Level 2 and into Level 3. This is also the time when the Joint Warfare learning area focuses on the core purpose of the Profession of Arms: understanding the nature and changing character of war. It covers the philosophy and theory of the ADF's employment in the unique role in the defence of Australia. Topics included, but are not limited to:

- Philosophy of war and military theory
- Critiqued military history
- Spectrum of competition
- Operational and strategic art
- Global military trends
- Conceptual staff planning processes
- Campaigning
- Future operating concepts
- Warfare domains and interoperability
- Joint, inter-agency, combined and coalition interoperability.



National Security Policy and Strategy

Like the Profession of Arms, National Security Policy and Strategy is briefly introduced at

the most junior levels. While some personnel will engage in this area sooner, the majority of Defence become increasingly involved in this field from JPME Level 3 onwards. By Level 4, this topic becomes a major area of study.

The National Security Policy and Strategy learning area focuses on Defence and Australia's place in the regional and global context. It gives Defence personnel an understanding of the whole of Defence as a department, the broader security community and other government agencies. It examines the systems and support for strategic logistics and sustainment. It addresses Defence's relationships

and how we communicate with the government; and it examines strategy from awareness level to synthesising and generating strategic direction. Topics include, but are not limited to:

- Strategy theory and practice
- Strategy and policy relationship
- Understanding the global environment
- National security and intelligence
- The Defence and security organisation
- Deterrence Theory
- Preparedness and mobilisation
- Strategic logistics/sustainment
- Communication with government
- Inter-agency collaboration
- Gender, Peace and Security
- Civil-military relations.

Technical Mastery

Technical Mastery is the combination of an individual's training, knowledge, experience and skills that ensures their ability to carry out specific employment functions with a high level of competence. Technical Mastery can apply either to someone's initial enlistment category⁸ or subsequent Joint Stream roles, which require a base level of general military expertise combined with additional professional development.

On enlistment, military personnel will undertake recruit or initial officer training to learn the fundamental skills expected of anyone in uniform.

This will involve weapon handling, security tactics, military law and administration, among other related topics. A significant part of Technical Mastery induction training interweaves with other aspects of the Military and Social Mastery to help assimilate civilians into the Profession of Arms. Holistic learning opportunities mean a single activity might include aspects of all three masteries. Drill, for example, is a powerful way of teaching a number of intangible attributes despite the actual Technical Mastery appearing to have minimal workplace requirement.

By JPME Level 2, ADF personnel will be given both formal and experiential learning development opportunities to hone their Technical Mastery in their area of specialty. Members of the APS are typically employed with an expectation of being pre-trained but will be offered additional development opportunities for the job they perform.

By late JPME Level 2, experienced Defence personnel become increasingly valuable for employment in a wider range of fields. While some personnel choose to remain within their specialisation to achieve even greater expertise, others might seek an alternative career path, or perhaps just broaden their military awareness by taking an out-of-category posting, secondment or deployment.



JPME Level 3 allows for both advanced expertise in their initial employment area or continued transition to generic military roles. Personnel at this level will continue to be developed accordingly.

As personnel continue to JPME Levels 4 and 5, they become increasingly diverse in their employability and will typically be moved into new roles to increase their depth of expertise well beyond initial employment. Both short and long courses will complement these new posting areas, deployments or secondments.

Some roles within Defence require personnel to maintain linkages to external organisations for their Technical Mastery and to maintain professional currency.

⁸ These are known by various names across Defence. The more common include Proficiency Qualification (PQ), Corps, Specialisation, Category, Trade, Vocation, and Work-family.

Joint Streams

There are five Joint Streams where Defence needs a diverse pool of experienced technical experts to fill generic roles:

- **Military Support**
- **Operations**
- **Capability Development and Delivery**
- **Strategy, Policy and Engagement**
- **Intelligence**

From mid-JPME Level 2, Defence personnel can seek specialist learning opportunities through: overseas postings and exchanges; deployments; exercises; courses; continuing schooling; secondments to other Groups, Services and Government Departments; or postings to Joint Stream positions. A commensurate progression in Defence Mastery is an important contributor to Joint Stream suitability. Each of these opportunities not only help broaden people's employability across the ADF's core business but also add value to its capability preparedness and delivery. In most cases, additional training is provided for Joint Stream roles. However, individuals can make themselves more employable through deliberate professional development. The following list of secondary skill

areas is not intended to be exhaustive, but gives an indication of additional learning topics to increase suitability for Joint Stream opportunities:

- Learning delivery
- Learning design or management
- Psychology, anthropology and sociology
- Philosophy
- Defence capabilities
- One Defence Capability System (ODCS)
- Macroeconomics
- Technological literacy
- Force Design
- Policy development
- Data literacy and skilling
- Current and emerging technology
- Application of technology for operations and workforce
- Enterprise systems
- Media and strategic communications
- Recruiting
- Human Resources
- Strategic management
- Foreign languages.



Social Mastery



Social Mastery captures the essence of emotional and social intelligence. From self-leadership through to leading the Organisation, all Defence personnel have opportunities to develop their personal character and ability to influence others.

Social Mastery is the human element of our profession. While not unique to the Profession of Arms, it represents an important pillar of it.

Social Mastery represents the deliberate and continuous development of the concepts articulated in ADF-P-0 ADF Leadership. Relentless striving for excellence in Social Mastery is critical in achieving balanced Professional Mastery.

Social Mastery not only requires an understanding of self and others but also demands integrity and moral courage to maintain consistency in identity. Social Mastery is often thought of in terms of awareness and management in both self and social dimensions.

Social Mastery is a holistic notion that is easier to judge in others than ourselves and is often only noticed by its absence.

Reducing Social Mastery to discrete categories is problematic because all dimensions overlap. However, in the interests of articulating a framework for personal development, the JPME Continuum separates out the complex system into the following four inter-related themes:

- Influence
- Military ethics and values
- Character, and
- Culture.

The Centre for Defence Leadership and Ethics (CDLE) is Defence's authority for all four elements of Social Mastery. Additional frameworks and supporting resources are available from their website or by contacting them directly.

Influence

Influence is an umbrella term that captures the essence of how we achieve change. While Command is uniquely military, the concepts of leadership, management and communication remain relevant to all. Within the JPME Continuum, there is a structured and progressive development system that supports ongoing improvement in each of these areas. Time is afforded for our newest personnel to establish their own organisational skills. While this stage is referred to as Lead Self, there are aspects of peer influence that transcend across to other areas such as bystander intervention. As Defence personnel progress up the learning levels, they accept greater responsibility for their followers. This advancement comes with a growth in leadership style. Earlier stages will be more transactional but will soon evolve to transformational approaches. As with all sub-elements of Social Mastery, influence is intertwined with the other three.

Military ethics and values

Military ethics and values are critical for all Defence personnel. Society holds us to a higher standard than the wider community; and rightly so. We should be a beacon of virtue upon which the country can rely on in times of need. Military operations often present ethically challenging situations that demand greater depth of maturity. While military and international law are a starting point to our decision processes, we all need to have a robust understanding of moral codes and ethical frameworks to help us resolve dilemmas or challenging situations. Furthermore, simply studying the theory of these concepts does not make

us ethical. Like all aspects of Social Mastery, the theory is just the beginning. To achieve Professional Mastery, we must constantly strive to improve ourselves; and in the case of ethics, this means internalising our belief systems to the point where they are instinctive.

Character

Individual character is best understood as a complex human phenomenon that is more than the sum of its parts. When we talk about someone's individual character, we are referring to the distinct attributes or qualities they embody as a unique person. Specifically, this involves positive personal strengths that manifest through their actions as virtues.

Importantly, virtues are actions, and not just ideals. They are the physical expression of a person's character, and can be intellectual, moral, civic or performance related. The nature and expression of individual character is fundamentally important, because it enables an individual to embody virtue and live out principles articulated through organisational values.

The concept of individual character in a Social Mastery context is about the development of functional excellence and practical wisdom in doing the right thing. This is developed through deliberate, intentional, habitual practice and sustained experience over time.

Culture

Culture is 'the way we do things around here'. For Defence, it means both understanding and embracing a shared ethos and way of living as well as appreciating and navigating the differences that make us human. These cultural skills are fundamental to Defence capability and preparedness.

Our embrace of the collective culture of Defence secures shared bonds of trust with each other. Gaining greater familiarity with Defence values we, in turn, lead others in our commitment to a shared ethos. As we grow in self-understanding, we come to greater awareness of our world views and the identities that inform us as individuals and members of our distinctive Groups and Services.



Working within cultural diversity means working effectively with cultural difference. Effective leadership that unites and communicates across cultural difference requires an understanding of different lenses and ways of explaining behaviour. Mastery of applicable anthropological theories translates into a high degree of self-awareness and the ability to effectively analyse and navigate diverse cross-cultural behaviour across the full spectrum of military operations and activities.

As we establish deeper personal insight and cultural understanding, we become ambassadors capable of strategically engaging with government and non-government entities, joint military partners, and multilateral institutions. We are able to lead and act effectively in any operational environment, recognise distinct organisational patterns, anticipate second and third-order mission effects, manage the perceptions of international partners, and successfully negotiate strategic outcomes for Defence.

The journey to Professional Wisdom begins on Day One.



Professional Wisdom

Wisdom is the ability to intuitively recognise developing situations before they occur and being able to influence them to a more favourable outcome.



Wisdom can be achieved in various aspects of one's personal or professional life. JPME is particularly focused on developing Professional Wisdom, although there is often crossover in other areas.

Professional Wisdom comes from the combination of deep theoretical knowledge and extensive practical experience – enhanced with intelligence and common sense. The absence of any four ingredients undermines both the rate and depth of wisdom acquisition.

The balanced development of all three sides of the Professional Mastery pyramid ensure personnel continue to advance their deeper understanding of Defence topics. In between concentrated periods of academic study, Defence offers a rich tapestry of workplace experiences. Scope always exists for continuous improvement in both these systems, but the current mechanisms provide a strong foundation.

The notion of common sense emerges from a pragmatic ability to distinguish idealism from realism when applying theoretical knowledge into practical settings. This is particularly relevant in recognising unwritten guidelines such as evolving norms and conformity in Social Mastery. Experience plays a significant part in common sense development.

The cognitive dimension of intelligence is perhaps the most neglected within JPME systems. Achieving full intellectual potential requires more than workplace experiences or advanced study. Unless the academic course involves a deliberate plan to progressively develop cognitive skills by teaching techniques and offering sustained coaching, development will be limited. A constructively aligned parallel curriculum of thinking skills, synchronised with the course's subject matter coverage, creates opportunities for learners to significantly improve their intellect. Professional Wisdom is enhanced when it is not left to chance.

Enhancing intellect



Exploiting the power of advanced thinking is critical to developing Professional Wisdom.

To flourish, higher cognitive skills require more than just individual learning through courses and mentoring; they need workplace cultures that are not only tolerant of innovation, but actively empower staff to practise. This involves a genuine balance between both divergent and convergent approaches within the umbrella concept of design thinking.

Formal learning requires habitual exploitation of both convergent and divergent thinking, in a sustained way. Formal learning institutes must enhance their content-centric syllabuses of measurable knowledge by increasing the opportunities for in-depth learning experiences where learners can actively employ diverse thinking systems over a sustained period. This requires an academic philosophy and parallel curricula to develop the intellectual edge alongside the body of knowledge syllabus found in learning management plans.

The Profession of Arms serves the nation by providing a niche capability that demands highly specialised expertise. The nature of this role is also inherently dangerous, and it is therefore necessary to properly prepare our newest personnel for the rigours of combat, in a safe way. Junior levels of the *JPME Continuum* are typically trained to set standards, in set ways. As they gain workplace experience, the dominant learning delivery approach transitions to teaching of general principles. These two approaches reflect convergent and divergent thinking respectively, but both are important.

The development of Professional Wisdom means all Defence personnel must appreciate the need for conformity when it is demanded, but not lose sight of opportunities to improve. Woven throughout learning the military's specialised body of knowledge, is an implicit expectation of compliance and predictability based on the doctrinal wisdom distilled from lessons learned.

The military is highly effective in promoting convergent thinking, but the transition to equally strong divergent problem solving takes time and must start early.

Divergent thinking is essential for all Defence personnel. While technical systems and battlefield tactics are generally complicated, and therefore employ set procedures, midway through Level 2, personnel become increasingly aware that most Defence challenges are actually complex. Unlike complicated problems, complex ones require both divergent and convergent approaches.

Complicated problems have set logic paths and can be reduced to checklists or flow charts. Complex ones, on the other hand, seldom have a perfect solution and the interconnected nature of considerations means compromises are necessary. Examples of these include ethical dilemmas and relationship challenges – problems that confront even the most junior personnel. Both the Defence and Social sides of the Professional Mastery pyramid require a combination of divergent and convergent thinking to be fully developed.

JPME learning opportunities, especially formal courses, need to begin developing both types of thinking from Level 1 onwards. By Level 3, divergent thinking needs to be fully developed as an intuitive attribute. Levels 4 and 5 demand even greater employment of design thinking mindsets to constructively influence evolving strategic challenges and wicked systems (see Glossary, p. 58).

Cognitive abilities are the glue binding all dimensions of Professional Mastery to enhance Professional Wisdom.

Because of its linkage to academic thinking, progressive development of cognitive abilities are visually represented on the Defence Mastery side of the Professional Mastery pyramid.

Design Thinking

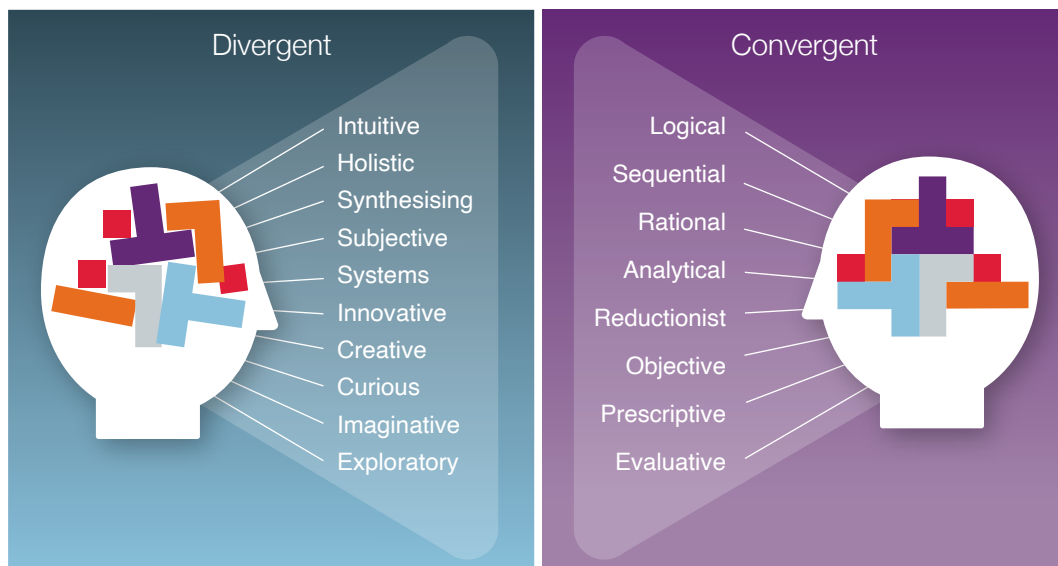


Figure 3 Design thinking involves both divergent and convergent thinking.

Design thinking is an umbrella term that describes the combined exploitation of divergent and convergent thinking to positively influence challenging, new and unique problems. At a superficial level, the techniques of design thinking appear to be just another problem-solving process. However, a deeper appreciation reveals the importance placed on shifting mindset to eliminate barriers to innovation.

Reducing cognitive biases and heuristics requires deliberate effort and time. Two of the most common biases seen in Defence are group think and authority bias. Design thinking is most effective when the group has diversity in both thinking styles and expertise. While recognising wisdom through rank is essential in normal workplace situations, true design thinking requires equality of contribution. Accountability for accepting final proposals will ultimately remain with those in authority, but the quality of options will be reduced when divergent thinking is constrained.

Design thinking is a group activity. While individuals can follow the process in isolation, the benefits of diversity in thought and contestability are lost.

Design thinking is not just for operational and strategic level problems. Its real value comes from influencing evolving situations where no single right

answer exists. Even at JPME Level 1, complex social and ethical challenges need resolving. For most tactical tasks however, Defence provides simple procedures to assist in problem solving.

JPME Levels 1–2 primarily employ structured decision-support tools to help step through key considerations. The most common example being the family of military appreciation processes (MAP). By Level 3, leaders employ such linear frameworks more as vehicles for developing deeper holistic thinking skills to address complex problems. As they continue through the JPME levels, they gain increasing wisdom from a combination of education, exposure (guided learning) and experience.

With Professional Wisdom, decision makers learn to rely less on structured frameworks, and instead employ a balance of staff advice and intuitive judgment. This latter attribute is often referred to as operational art (and later strategic art), which demands a divergent mindset where holistic consideration of an entire system is interwoven with a strong understanding of the Profession of Arms.

At a collective level, depth in Professional Mastery, combined with a deliberate and ongoing development of design thinking, hones Defence's intellectual edge.

The intellectual edge

Defence's intellectual edge is a relative state of collectively performing at a higher cognitive level than our adversaries. It is not a destination, but a constant striving for improvement in speed and quality of problem framing, decision making and system optimisation. These skills must progressively improve to meet the increasing demands of more complex and challenging problems at each level. Importantly, it operates at both individual and organisational levels.

To achieve and maintain the intellectual edge, a critical mass of individuals with Professional Wisdom is required. At the individual level, it is about deep exploration and application of both the Profession of Arms (body of knowledge) and thinking skills (cognitive techniques) to perform at a progressively higher level.

The organisational level is more than just the collective sum of high-performing individuals but includes a workplace culture of collaboration where innovative insights can flourish. No matter how brilliant individual members are, they cannot excel in a constraining environment. All levels of leadership must foster the collective intellectual edge by stewarding a workplace culture that incentivises innovative thought.

JPME must accelerate the collective membership's intellectual edge by not only deliberately teaching concepts but also facilitating ongoing employment of various cognitive tools in parallel with content-centric learning. Through sustained habit-forming learning in both the workplace and on formal courses, personnel will maintain the intellectual edge momentum throughout Defence.

JPME curricula and institutes have an obligation to proactively employ improved methods of developing the intellectual edge by teaching and employing best practice – not just on a psychological (individual) level, but also an anthropological / sociological (organisational cultural) one. To do this, JPME must enculturate a genuine and sustained organisational desire for honing the intellectual edge.



Figure 4 The intellectual edge is derived from the Defence's collective Professional Wisdom.

A full-page photograph of a man with a beard and a cap, wearing a military flight suit and a high-visibility vest, standing on an airfield. He is holding a leash for a brown and black dog sitting next to him. In the background is the nose and engine of a large military aircraft, with the number '206' visible on the fuselage. The sky is cloudy.

PART 2

The Ways

Professional Mastery by levels

Part 2 Executive summary



Professional Mastery comprises balanced development of Defence Mastery, Technical Mastery and Social Mastery.



The *JPME Continuum* provides a holistic framework to develop workplace performance attributes in each of the nine sub-elements of Professional Mastery.



Linking levels to rank is an indicative reference that is not perfect. Some Defence personnel will be operating at a level different to their worn rank.



The boundaries between the levels are not absolute. Transitioning between levels is often a gradual process.



The narrative format of performance attributes deliberately avoids behavioural objective language. Nested single Service and Group frameworks offer additional fidelity to the sub-element expectations.



Defence acknowledges that JPME is more than just formal courses. The narrative format of the Continuum deliberately includes attributes that are developed in the workplace through guided and own experiential learning.

The Continuum on a page

		Induction 1	Intermediate 2	Joint Operational 3	Integrated 4	National 5
Defence	Cognitive Abilities	Critical and Creative Thinking	Complicated Problems	Complex Problems	Wicked Systems	Multi-agency Wicked Systems
	Profession of Arms	Own Domain Awareness	Own Domain Mastery Joint Awareness	The Art of War Joint Competency	Military Power Joint Mastery	Integrated National Power
	National Security Policy and strategy	National and Military Power awareness	Operational Planning Military Science	Campaign Planning Operational Art	Theatre Operations Strategic Art	Coalition Operations Political Acumen
Technical	Employment Category	Initial Employment Competence	Advanced Specialisation	Capability Leadership	Joint Effects	Civil – Military Interface
	Core Military Skills and Joint Streams	Basic Military Skills	General ADF Knowledge and Skills	One Defence Capability System	Integrated Systems	
Social	Influence	Lead Self	Lead Teams / Lead Leaders	Lead Operating Systems	Lead Capability	Lead Integrated Systems
	Military Ethics and values	Conceptual Frameworks Defence Values	Ethical Philosophies	Moral Leadership	Lead organisation through ethical concerns	Stewarding the Profession
	Character	Resilient Moral Identity	Trust Development Through Consistency	Character Role Model	Generate Climates of Trust	Character Exemplar
	Culture	Culture Alignment	Diversity Appreciation	Cultural Stewardship	Cross Cultural Leadership	Cross Cultural Ambassador
		Foundation	Tactical	Operational	Enterprise	Strategic
		Developing	Predictable	Flexible	Agile	Anticipative

Profession of Arms

Within this area, Defence's newest members will be exposed to the conflict spectrum and theories associated with its employment. While additional emphasis will be afforded to one's own Service, consideration will be given to joint operations and planning processes. The topic will also include an exploration of current ADF operations and emerging technological impacts on future preparedness.

Cognitive abilities

Personnel will be aware of cognitive biases associated with thinking fast and slow. They will also develop both their divergent (creative) and convergent (critical) thinking abilities through both formal learning and immersive application.

National security, policy and strategy

The ADF's contribution to Australian National Power through shape, deter and respond activities will be understood in general terms. Tied with this awareness will be ADO roles and responsibilities, including civil-military relations. The importance of Defence's contribution in this regard will be linked to a general sense of Australia's strategic environment. Resource management fundamentals will help underpin responsible expenditure of Commonwealth funds.

Joint Streams

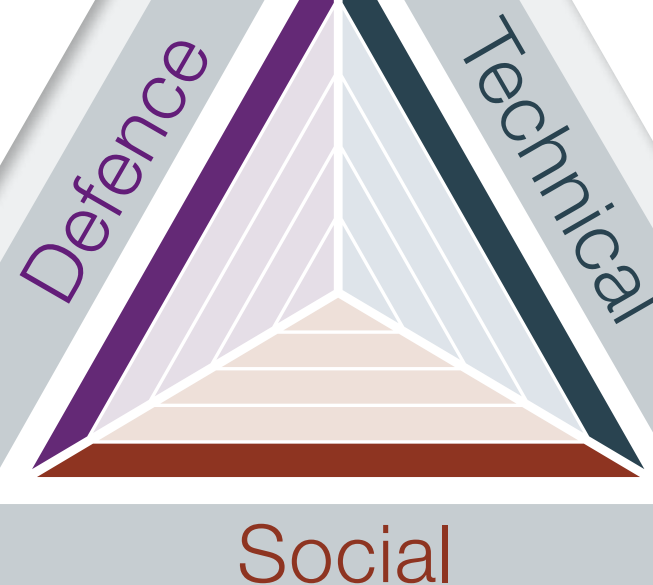
All members of Defence will also need to be competent in military administration, ADF roles and structures, and undertake all initial mandatory training. This foundation will continue to develop in subsequent JPME levels and increasingly expand opportunities for Joint Stream (out-of-category) postings and roles.

APS does not require core military skills.

Employment category

Following on from their respective recruit or commissioning course, ADF personnel will commence their Initial Employment Training (IET). This period can include workplace experience and periods of on-the-job training.

Graduation from IET marks the formal transition from Level 1 to Level 2. It is at this point when they are considered effective in the workplace.



Influence – lead self

As Defence's newest members, space is afforded to focus on leading self. This is a great opportunity to refine personal attributes that might not have been developed prior to enlisting. Positively influencing peers intersects with cultural alignment. Both bystander intervention and socialisation are important attributes in solidifying Defence's cultural norms with those around us. For officers, leadership of others is introduced.

Being able to communicate effectively is critical to being a valued member of the team. JPME Level 1 introduces uniquely military forms of written and oral communication.

Military ethics and values

Newer members to Defence will focus primarily on the expectations of the organisation in terms of acceptable conduct. This will be dominated by appreciating the additional standards society holds them to, as well as military law (for ADF), and the moral codes of conduct. Defence's core values serve as a foundation to this assimilation process. Increasing awareness of acceptable normative behaviour will be complemented with bystander intervention expectations. Ethics and values are closely linked to character development.

Character

The nature of individual character is understood as a fundamental component of leadership. The development of individual character is accepted as relational in demonstrating respect and humility in interacting with others. The ability to build and foster positive relationships with others complements a resilient and moral identity as a junior leader in the Profession of Arms.

Culture

On joining Defence, members will develop an awareness of Defence culture and their own cultural norms while supporting an inclusive environment that recognises a wide variety of different cultural identities and backgrounds. This builds Defence cohesion and enables our success as representatives of a multicultural Australia when serving both domestically and overseas.

Profession of Arms

Defence members at this level will have a sound understanding of their own Service or domain warfare systems and capability. As they progress through Level 2, they will display a stronger understanding about the ADF's holistic contribution to Joint Force warfighting domains. This will extend to the nature and theory of war, which has developed through an academic study of historical case studies and contemporary military issues. Importantly, such awareness will help inform their understanding of the impact of technology on current and future warfare. Awareness of gender perspectives on operations will contribute to their well-rounded application of the Profession of Arms.

Cognitive abilities

By recognising the difference between complicated and complex problems, personnel at this level will ensure their problem-solving strategies and decision making are optimised. In the earlier stages, personnel will employ more transactional, linear thinking, decision support tools (such as the Joint Military Appreciation Process or variations) but they will increasingly apply alternate thinking strategies to seek more sophisticated options. Greater availability of human-machine teaming systems will progressively reduce our reliance on lower order cognitive activity and thus facilitate more nuanced considerations to complex problems.

National security, policy and strategy

Australia's approach to the formulation of military strategy and its strategic environment (including international and geopolitical) will strengthen as members advance in this Level. Through both courses and experience, they will also acquire a stronger understanding of inter-agency strategies, policies and decision-making processes.

Joint Streams

As they progress through Level 2, Defence personnel will progressively develop awareness and then expertise beyond their initial employment category.

These broader systems and processes will expand to include one or more of the five key Joint Streams: Military Support, Operations, Capability Development and Delivery, Strategy Policy and Engagement, and Intelligence.

Employment category

Within JPME Level 2, Defence personnel will become increasingly proficient in their initial employment category. Through both their formal courses (initial employment training and subsequent intermediate courses) and workplace experience, they will display competency in their contribution to military power. As they develop greater technical expertise, senior personnel at this level will become suitable for growing the next generation, by seeking instructional roles.

Defence

Technical

Social

Influence – lead teams / lead leaders

Moving into junior leadership roles, personnel at this level will begin leading small teams and be expected to lead leaders by the later stages of the level. Initial exploration of transformational leadership theories will evolve into more mature transformational approaches.

Both written and oral skills develop commensurate with greater leadership responsibilities. Personnel at this level are expected to be competent in communicating effectively across the range of Service writing documents and common delivery formats.

Military ethics and values

The focus of this level is to move from knowledge of Defence's values towards a greater appreciation of ethical frameworks to help resolve moral dilemmas. Ethical understanding will emerge from a solid foundation in theories and justifiable decisions to challenging situations.

Character

An evolving identity as a leader of character is supported by specific personal development. The application of character skills and qualities augments practical and professional experience in committed contexts. Experience also allows the development of greater self-awareness, consequent self-management, and ultimately more appropriate responses to situations across the spectrum of experience.

Culture

Aligned with their increasing leadership responsibilities, personnel will actively advocate a shared Defence ethos while appreciating and fostering our unique cultural differences as individuals and members of a Service or Group. We integrate growing self-awareness with active recognition of diversity. Our guidance of others enhances organisational cohesion and provides a solid foundation for working effectively with cultural difference.

Profession of Arms

Those operating at this level will understand both internal Joint Force command relationships and international engagement with coalition partners. Their employment of operational art will consider instruments of national power and campaign design, while the relationship challenges between strategic, operational and tactical levels of war will be clearly understood. Continual professional development will keep Level 3 practitioners abreast of emerging trends and future warfare techniques. Expertise will be apparent in the planning requirements for force generation and the factors that shape execution of joint operations. National and military strategic planning considerations for Volatile, Uncertain, Complex, Ambiguous and Novel (VUCAN) environments will mature. Personnel will be increasingly aware of the influence technology has on current and future warfare as well as whole-of-government response options.

Cognitive abilities

Those operating at this level will be increasingly comfortable with systems thinking to perceive and influence complex adaptive systems. Various alternative thinking strategies, such as Design Thinking and Multi-Criteria Decision Making, will allow them to thrive in the challenging multi-domain environment.

Importantly, they will be able to translate complex strategic issues into tangible ideas for their subordinates.

National security, policy and strategy

This level is noted for its integration of civil-military functions and instruments of national power. This includes strategy and public policy development as well as contemporary operating environments and implications for military and security forces. Awareness of both Joint and multinational logistics will complement resource management systems of the Joint Force.

Employment category

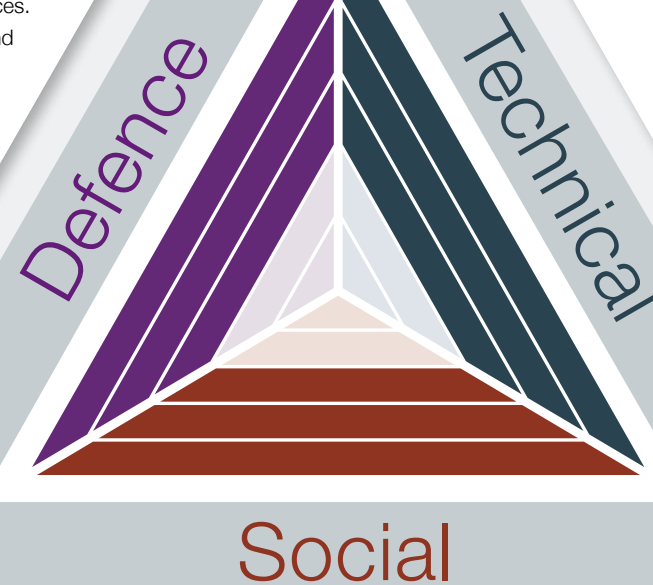
Through more senior category appointments and opportunities, those at Level 3 will display expertise within their specialist category employment. Completion of charge courses, deployments, exercises and pre-command courses, personnel will increasingly expand their specialist expertise to support joint effects.

Increasing leadership expectation will develop within their category's specialist vocation.

Joint Streams

Expertise in one or more of the Joint Streams specific processes will continue to develop with staff and/or leadership responsibilities aligning with roles held.

Examples of the advanced knowledge base likely to be demonstrated include: One Defence Capability System (or its successor) and FIC management, Joint Force staff roles, advanced Human Resources systems and processes, Whole of Government and international engagement approaches, as well as legislative requirements associated with the relevant Joint Stream.



Influence – lead systems

At sub-unit command level, growing and developing other leaders is increasingly important. Based on more transformational leadership approaches, a mature sense of own leadership style will be apparent to others. Coaching and mentoring subordinates in all aspects of Professional Mastery will be expected. For officers and APS, both written and oral communication should now be at a polished staff officer level. Enlisted members will be expected to have a similarly high standard. However, the types and formats of communication will be often tailored to the position.

Military ethics and values

Resolving complex ethical dilemmas based on sound judgment and pluralist logic is expected at this level. A balanced understanding of major ethical approaches will assist in both moral leadership and ethical decision making.

Character

Individuals have developed recognisable expertise as a character role model. The application of character skills, knowledge and experience are increasingly effective in complex, uncertain and ambiguous contexts. An ongoing commitment to being a leader of character is supported via self-activated opportunities to enhance versatility and experience. The addition of coaching and mentoring skills supports and encourages the development of the reflective self.

Culture

The ability to understand and influence foreign operations and environments while leading an inclusive team requires training in foundational and anthropological theories about human behaviour and cultures. At this level, stewards actively shape group identity, fostering individual skills and aligning team behaviours to effectively operate in a broad range of cultural contexts.

Profession of Arms

This level is recognised for its future Joint Force planning, development and sustainment challenges. Those operating in these positions will resolve military resource challenges and understand limitations of contracted support to operations. Operational artists will be adept at integrating strategic objectives to planning through the exploitation of emerging and non-traditional concepts for joint and multinational warfare. These skills will manifest in their ability to design and lead theatre strategies, campaigns and major operations. They will also be seeking opportunities to exploit technology's influence on current and future warfare as well as its role in whole-of-government response options.

Cognitive abilities

Cognitive performance will be enhanced through active seeking of diversity and a tolerance for ambiguity. Dealing with Defence-related wicked systems will be normal.

Problem solving will increasingly accept increased risk to reflect the greater depth of wisdom and confidence in one's judgments. This level is also noted for strategic thinking, visioning and championing a learning culture.

Level 4 leaders will be strong advocates of divergent thinking in their subordinates (when appropriate), to ensure Defence continues to improve systems and processes.

National security, policy and strategy

Those operating at this level have a very clear understanding of the impacts on national Defence policy and strategy. They will positively influence military capability development to enhance relevant instruments of national power.

A strong awareness of contemporary global affairs and trends, combined with a deep understanding of international relations theories, will enhance their management of national military resources to support national security and foreign policy. Gender, peace and security impacts will continue to guide their strategic policy development.

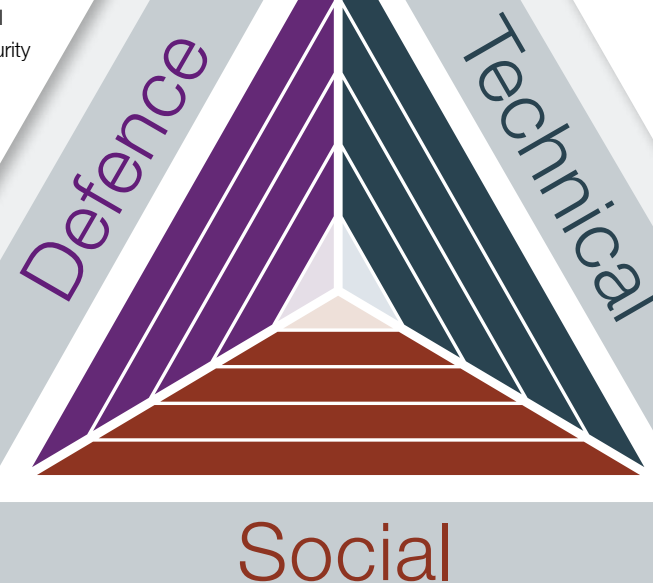
Employment category

For those still in key roles within their primary category, there will be strong leadership expectations to ensure the delivery of capability, strategic advice on capabilities, limitations and future needs, as well as shaping the professional development system to grow future generations within the field.

Joint Streams

Those operating at this level will be considered Generalists who possess a wide range of skills and expertise in multiple Joint Stream areas. With the exception of a select few specialists, these personnel will have actively sought out opportunities to broaden their versatility beyond their specialisation. Typical areas will include: strategic planning, civil-military relationships, campaign planning, strategic governance, business and financial acumen, One Defence Capability System leadership, strategic direction setting of emerging capabilities, policy leadership for future capability needs, and industry engagement for sustainment and growth.

At the enlisted level, Tier B and C warrant officers provide a vital link across the ADF, not only championing 75% of the ADF at the strategic table but also helping translate the top-down messaging. To do this, they must excel in understanding both worlds. Strategic level warrant officers also play a pivotal role in the command team relationship not only as advisors to decision makers, but also in the strategic leadership of organisational culture, ongoing professional development, and the ideological underpinnings of the Profession of Arms throughout the ADF's workforce.



Influence – lead capability

In staff, command and post-command roles, authentic leadership will improve performance during change, transitions, crisis management and achieving results through diverse teams in VUCAN environments.

Exceptional Professional Mastery will transition to a mentoring and coaching role as will written and oral communication expertise. On a personal level, continued investment in peer networks will build future cooperation across Defence, Government and allies.

Military ethics and values

Complex ethical dilemmas will be resolved based on sound judgment and reasoned logic. This ability will come from a deep understanding across the spectrum of leading ethical approaches at a philosophical level.

Level 4 leaders will have a strong understanding of the difference between unit culture and climate in terms of ethical conduct. Importantly, they will actively mentor their subordinate leaders in the promotion of positive workplace climates.

Character

Leaders of character are readily identifiable at this level and are credible and competent in generating a climate of trust. A personal commitment to exercising sound judgment and practical wisdom creates confidence across differing leadership contexts. Resilient behaviours and demonstrated composure create significant influence, shaping and realising organisational capacity and individual potential.

Culture

Mastery of key anthropological concepts generates deeper self-awareness and the resilience and agility needed to lead and act effectively in challenging and unfamiliar cross-cultural environments. These abilities will come from a highly developed capacity to reason and plan for cross-cultural challenges while building common objectives in a wide variety of cross-cultural settings, including operational, analytical, diplomatic and managerial contexts.

Profession of Arms

Senior officers and their equivalents will be comfortable in crisis leadership situations across all aspects of Defence. They will be highly effective when commanding Joint Task Forces or conducting influence operations. This performance will come from a deep understanding of Joint Force attributes, structures, capability requirements, emerging concepts and risks affecting military strategies and campaign development. Their strategic leadership abilities will extend to synthesising operational lessons learned across all Force elements including deployment, employment and sustainment. All of these areas will be enhanced by their astute awareness of political and resource implications in joint warfare strategy and planning.

National security, policy and strategy

Senior leaders at this level will be expert in strategic communication and information impacts. They will comfortably implement grand strategy through future-focused policy formulation and employment of armed forces. Their expertise in national intelligence community and architecture will help them influence national security and foreign policy.

The implications of contemporary challenges on national security strategies will be understood. This depth of understanding will be drawn from a strong awareness of national powers' characteristics, capabilities and limitations combined with the civil-military relations necessary to deliver national power instruments.

Cognitive abilities

Multi-agency, political and global wicked systems are an expected reality of Level 5 roles. Those operating at this level will have the cognitive agility to respond comfortably with these challenges by exploiting paradigm shifting approaches (such as nudge theory) to improve systems to a more advantageous state.

Joint Streams

Senior officers and SES band public servants at the highest echelons will be skilled in decision cycles and information/knowledge management systems. They will understand Government processes for capability acquisition and how to exploit technology enablers within enterprise systems.

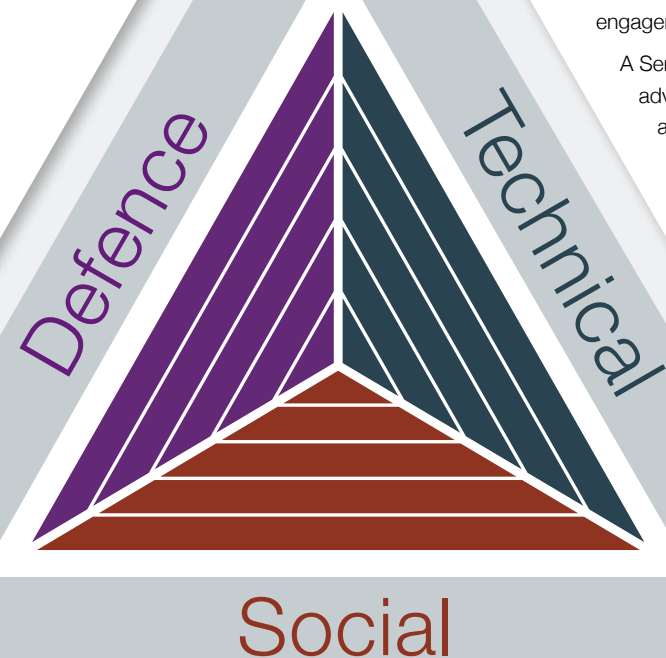
As leaders of Force Element Groups (FEGs) or Joint Task Forces (JTFs), senior military officers will integrate emerging capabilities and technology to both maintain force-in-being deterrence and deliver operations to meet Government response options. In policy and advisory roles, they will exploit emerging capabilities and technologies when shaping military strategy, policy development and implementation. Industry engagement will enhance support of sovereign capability and Australia's economic prosperity.

A Service Warrant Officer is a unique appointment within each Service, one of influence and advice rather than Command. E10 Warrant Officers have strategic leadership responsibilities as Command advisors to Senior Leadership of their Service to provide critical insight to key decisions through an alternative lived experience and with support from Senior Enlisted Personnel to give a balanced, informed and analysed perspective from the workforce.

They also play a pivotal role in the organisation's leadership, able to utilise their professional knowledge and experience to provide context and make the complex simple and the simple compelling. The unique appointment ensures the Service WO stays connected to contemporise issues for the workforce and represent those gaps and opportunities at the appropriate delegated level.

Service Warrant Officers deliberately steward, communicate and are genuinely dedicated to their Service; while always supporting strategic organisation culture and setting the conditions for long-term success.

Service Warrant Officers have a concurrent liability to foster relationships supporting Australia's national power through networking and encouraging active engagement with counterparts to promote a commonality of purpose: – Friendship, Partnership and Leadership.



Influence – lead integrated systems

Those operating at this level will be capitalising on and enhancing their peer networks across organisations, inter-agency and multinational fora. Within their own organisation, a strong, authentic leadership style will inspire excellence at all levels. They will also have robust enterprise, parliamentary, media and business acumen. These attributes will evolve from a blend of experience, advance study and self-reflection.

Military ethics and values

Stewarding the Profession of Arms at a national level will now transcend current cultural needs by anticipating emerging needs and setting the conditions for success in the future Force. Forward-leaning leadership in this area will ensure the organisation's reputation as an ethical and virtuous national asset is widely recognised by the people of Australia.

Character

A leader of character exemplar. Demonstrates meaningful commitment and creates a shared organisational understanding around the importance of character-based leadership. Provides tangible examples in personal conduct around ongoing self-development, developing others and setting an organisational climate conducive to lifelong character education and development.

Culture

Ambassadorship in this setting combines a full recognition of one's own cultural world view with the assured ability to understand culturally complex contexts, project national interests in multinational coalitions, and engage with the full range of national and international partners and operational environments. Cultural expertise will enable advancement of national interests and to negotiate strategic outcomes for Defence while representing Defence as a fluent cross-cultural ambassador.




PART 3


The Means

Holistic learning


Part 3 Executive summary




Holistic learning captures the full spectrum of how we develop Professional Wisdom. It includes not only training behavioural objectives, but also the intangible acquisition of Professional Wisdom through a wide range of sources.




Part 3 is written for both learning and development professionals and those responsible for leading or mentoring JPME systems and institutes. Some of the terminology might be challenging for those new to the intangible development of Professional Wisdom. It should, however, serve as a catalyst for deeper research into related concepts.




Defence has a mature training system for designing, managing and delivering prescriptive learning. Graduates of training are competent to perform predictable responses to known problems but are less adaptable in unexpected situations. Training is highly effective for most Technical Mastery acquisition, where exact outcomes suffice, or inexperience can be detrimental. Training, however, does not empower learners with control over content, environment or determination of attainment.




Defence Mastery and Social Mastery are constantly evolving and more conceptual in nature. This means an internalised understanding of deeper principles is required to attain Professional Wisdom. While training helps provide an initial foundation, subsequent development comes from empowering learners to take ownership of their own exploration.




Part 3 of the *JPME Continuum* complements *ADF-P-7 Learning* but expands on the intangible learning aspect of holistic learning.



Learning is complex and needs to be considered as a holistic system if learning opportunities are to be optimised. Influencing complexity implies exploring an entire system through multiple lenses to determine the best combination of effects to apply.



Viewing holistic learning through the lenses of ethos, empowerment, philosophies, cultural indicators and environment is a prerequisite to articulating how and why the organisation can maximise the development of Professional Wisdom.



Levers available for learning influencers often include subtle cultural shifts and targeted activities. Without documented links to holistic learning outcomes, however, such enablers are vulnerable to budget constraints and misguided direction changes. Published strategic plans and parallel curricula are essential if significant progress is to be made in nurturing Professional Wisdom.

Holistic learning



Enhancing Professional Wisdom requires a holistic approach to learning. Those charged with leading JPME opportunities need to pursue a deep understanding of the complex relationships intertwined in the sources and influences. Part 3 of this publication complements Defence's learning doctrine by focusing on the more nuanced art of nurturing Professional Wisdom through intangible learning.

While learning occurs in almost any situation, having a deeper understanding of how and why enables learning and development (L&D) specialists to craft and execute powerful experiences to maximise its acquisition.

Holistic learning is a complex process that needs to be considered through multi-layered lenses. While some topics can be reduced to complicated systems, and therefore simply instructed through training, advanced Professional Mastery is obtained through a more sophisticated approach of acknowledging and understanding the interdependency of all learning sources and delivery methods. Facilitators need to have a shared understanding of these influences and strategic outcomes.

Defence Mastery and Social Mastery in particular, benefit from progressing quickly beyond formal instruction into deeper understanding and internalisation of underlying principles. This allows us not only to develop unique solutions to previously unknown problems, but also to add to the organisation's collective wisdom by improving its knowledge, principles and resultantly its intellectual edge.

Enhancing Defence's Professional Wisdom should not rely on random learning opportunities. While Defence's formal training system is very effective for preparing JPME Level 1 and 2 personnel to perform in the workplace, progressing to the later stages of Level 2 and beyond requires more sophisticated approaches. To maintain an intellectual edge, Defence must consciously invest in growing Professional Wisdom in its personnel.

Professional Wisdom

Professional Wisdom is the combination of deep theoretical understanding, extensive technical experience, common sense and intelligence. The balanced combination of all four allow us not only to anticipate problems but also derive novel solutions to emerging situations. While a certain amount of wisdom can be obtained through luck and time, Defence has the opportunity to enhance its collective level of Professional Wisdom by not only accelerating wisdom acquisition but also increasing its breadth and depth.

Professional Wisdom is an intangible concept and difficult to describe or even teach in purely behavioural terms. Defence has been indirectly developing character and cognitive skills through tangible activities for centuries, yet the linkages are seldom documented in learning management plans (LMPs). Cross-referencing intangible learning with behavioural objectives ensures important outcomes are not only protected from funding cuts or ill-informed curriculum reviews but also allows progressive improvement over time.

Designing and empowering a robust JPME system requires specialists who understand not only complex systems theory but also the principles of adult learning theory – and their interdependent relationships. While Part 3 is focused on how Defence can increase Professional Wisdom, it is helpful to briefly review underlying concepts.

Systems thinking

Terms such as 'simple', 'complicated' and 'complex' are used almost interchangeably in everyday language, but are in fact very different concepts.

Understanding their true meaning is critical for the study of holistic learning.

Simple constructs have two, or very few, component parts where a singular outcome is obvious. A shirt button and buttonhole is an example of a simple system. As more component parts or steps (agents) are introduced, the system becomes more complicated. However, if the relationship between the agents remains stable, a logical process can trace the path to identify a predictable outcome. Examples of complicated systems include mathematical formulae, jet engines, air traffic control processes and the firing of an individual weapon.

A key discriminator between complicated and complex systems is the former's ability to deconstruct into its component parts without affecting the overall system. This process of reductionism describes Defence's approach to training, where set procedures are required to complete a task. Examples of Defence reducing complicated activities to checklists and flowcharts include: tactics, techniques and procedures (TTPs); and immediate actions (IAs).

Systems where the interdependent relationship between agents is dynamic and unpredictable are known as complex. A key aspect is that the stability and/or scale of relationships between agents is important in complex systems. Examples include social media, ethical problems and pandemics. Like squeezing a half-inflated balloon, it is not possible

to alter one agent or relationship without creating cascading impacts on other aspects of the system. These multi-order effects might be delayed and unpredictable in either scale or impact.

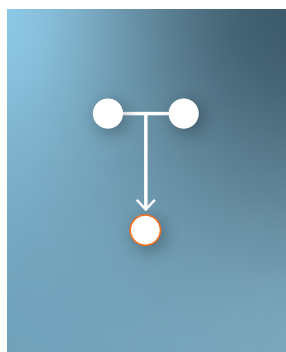
Reductionism does not work on complex systems because of the inter-relationships with other agents. The entire system must be considered as a whole. Applying reductionist problem solving techniques to complex systems does not resolve them; in fact they typically make them worse.

Intelligence analysts, much like weather forecasters, speak in terms of probability because of the vast number of interdependent and constantly changing variables that could affect an outcome. The use of indicator and warning (I&W) matrices reinforces the challenges of interpreting a complex system.

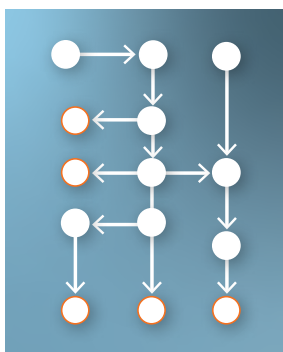
Sophisticated artificial intelligence software increasingly improves predictions, but they are still limited to the quality and comprehensiveness of input data. Anything relying on the often unpredictable behaviour of humans is always going to be complex.

Holistic

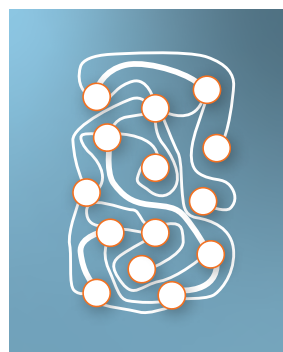
The term holistic describes complex systems where the situation must be considered in its entirety. Aristotle's discussion of holistic systems offered the term 'synergy' where 'the whole is greater than the sum of the parts'. In a modern analogy, a doctor might prescribe medication to mask symptoms, or even treat the ailment, but knows the problem will reoccur unless other factors are addressed. These might include diet, exercise or environment. Treating a problem holistically is more likely to address the root causes and provide long-term improvement.



Simple system



Complicated system



Complex system

Wicked systems

The notion of wicked systems extends complex systems thinking to the point where the situation changes every time an effect is made on it. This means the decision maker becomes part of the system, and therefore an agent in it. A so-called solution that worked in the morning, might not work again in the afternoon because the system has evolved. It is impossible to document templated solutions to complex adaptive systems. Lessons learned must be couched in general terms with consideration to the holistic system.

Another example of misinterpreting complex systems as complicated ones, is when counter-insurgency operations attack physical targets without considering the underlying ideology that fuels the enemy campaign. Eliminating a key personality might delay enemy progress, but ultimately aids the insurgent's cause by increasing local support. Understanding of the strategic situation might

suggest non-kinetic targeting of support base, rather than attritional kinetic action against leadership or fielded forces.

Wicked systems are not time-bound. The dynamic state continues to evolve and there is no single solution. Those wishing to alter the situation must accept they can only influence it into a more favourable state. Indirect techniques, such as nudge theory, can help influence the environment.

Comprehending JPME complexity

Complexity cannot be reduced to mere complicated taxonomies. By definition, any attempt to apply linear logic paths degrades the system's true essence. Comprehension comes from holistic consideration through multiple lenses.

To understand the essence of holistic learning therefore, it is important to identify alternate lenses through which the system can be considered. Defence's role of shape, deter and respond is an example of a trinity of both one and three lenses to simultaneously view concurrent and ongoing military activities. Other examples include the ends-ways-means lens this publication employs to view JPME and the three sides to the pyramid to interpret Professional Mastery development. The interdependency and overlap between the three sides, however, is not forgotten.

The labels used within the following lenses do not imply discrete categories but rather a predominance of thematic emphasis.

JPME lenses

The lenses explored here in Part 3 include a short selection of how learning can be interpreted and influenced. Each lens has sub-lenses to further refine an understanding of the thematic system's sources and influences. Leaders of learning must continue to re-evaluate their activities to ensure such opportunities are optimised for the outcome sought.

As a complex system, there are no definitive checklists or recommendations for JPME decision makers to follow. Every learning opportunity must be considered for its outcome and evolving influences. The one golden thread to developing Professional Wisdom is the importance of ongoing re-evaluation and the continual upskilling of staff.



Sources lens

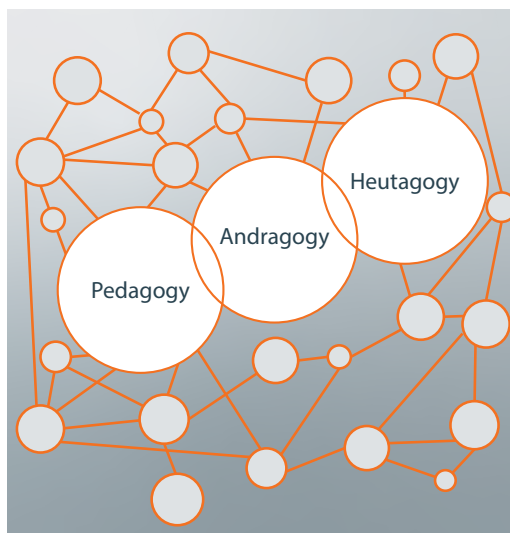
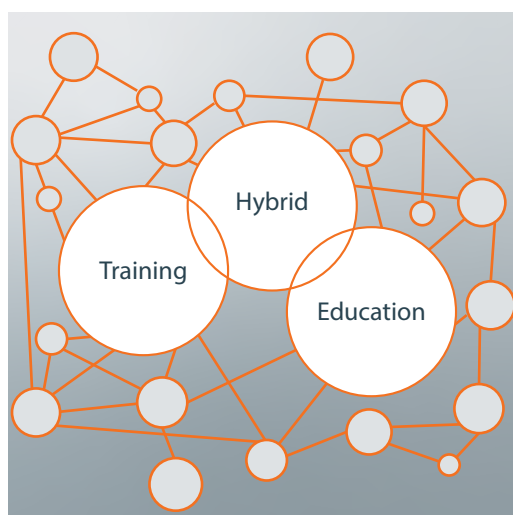
The sources of holistic learning are diverse and sophisticated. Their impact is influenced by variables such as the topic, environment and learners. An initial approach is the generalised lens of intensive, guided¹, and experiential – sometimes referred to as the 70:20:10 model. While at a simplistic level the three sources are considered discrete, they are interdependent and can occur concurrently.

Intensive learning

Full-time, dedicated and off-job courses are the most commonly considered source of Professional Military Education. Within courses, however, there can be a greater emphasis towards either training or education; very rarely are they exclusively one or the other. The danger, however, is when a course employs the wrong approach for the desired outcome.

Decision makers who have a stronger background in a particular type are more likely to unconsciously employ what they know, even if it inadvertently undermines the organisational requirements. Approaches to mitigating this cognitive bias include professional development, regular collaborative discussions and documented strategies.

Constructive alignment describes the deliberate effort to synchronise intangible development curricula



(including assessment strategies) with the behavioural objectives to ensure the learning meets workplace requirements. A JPME example is character development curricula implemented concurrently with core military skills activities.

An academic philosophy shapes the institute's learning culture by describing artefacts, relationships and environment and links them to strategic outcomes. Not all outcomes are described as behavioural objectives; some might include intangible development such as the four themes within Social Mastery. Just because something is difficult to measure, does not mean it should be ignored. The essence of complex and wicked systems is that they contain important dimensions that are unmeasurable. Often, the things that count the most are the things that can't be counted.

Training lens

Training is acquisition of specific knowledge or skills to a set standard. Unlike education, training does not require an understanding of why, nor does it allow for divergence from set standards. Training is well suited to tasks such as: changing a magazine, ceremonial drill, computer programming or refuelling a vehicle. Training is the most common form of course delivery in Defence. It is attractive because it produces

¹ Guided learning refers to any ongoing one-on-one development program involving mentors, coaches, supervisors, career managers or other trusted advisors.



Figure 1 Training is an essential aspect to developing instinctive responses to critical activities and situations.

relatively quick results and ensures predictable behaviours in dangerous or stressful situations. Popular techniques used in training include rote learning, repetition and precise instructions. Training disempowers the learner by giving full control to the organisation through its representatives. On its own, training does not lead to innovation or professional wisdom. Training does, however, facilitate the rapid acquisition of knowledge and skills of complicated tasks. Defence has a well-established system for designing, managing and delivering training.

Education lens

Education is the deeper understanding of transferable principles that enable novel problems to be solved. Education empowers learners to innovate through knowledge creation. Unlike training, education becomes a self-evolving system where the very principles employed can themselves be improved. Education is often a slower process than training and requires a degree of both base knowledge and intellect.

Given the fluidity of the international security environment and rate of change in technological systems, the factual content of course syllabuses is perishable. The greatest value of JPME courses, therefore, is not just describing current systems (for example One Defence Capability System) but instead exploring underlying principles. In the process of exploring ODCS, students should be challenged to critique and improve the current system. In doing so, they must move quickly from understanding the current system to interpreting the 'why'.

While the knowledge of a current system will help them in their immediate posting post-course, the real value comes from the intangible cognitive skills of analysis, synthesis and evaluation that will serve them for life.

Curriculum developers need to remain vigilant to requests to insert new material to a course that is purely to upskill a cohort with a new system. Advanced education courses (senior enlisted and mid-career officer) are neither just-in-time induction

training for postings to individual units nor a captive audience for the ad hoc dissemination of new policies. Any directed inclusion of such material must be interwoven into the holistic strategy linked to parallel curricula.

Cognitive development should be the central pillar to Defence Mastery courses, with carefully selected material used to complement that learning. Thus, a single course activity offers dual benefit to the organisation in its quest for the intellectual edge. When courses begin with current workplace procedures, and leave cognitive development to chance, then the course's shelf-life is limited. Independent assessments, such as essays, do not progressively develop cognitive abilities unless they are planned for progressive escalation and include guided formative feedback.

Assessment strategies involving progressively deeper cognitive abilities, combined with guided learning from skilled facilitators, helps inspire a passion for further learning. This in turn helps the organisation cultivate a collective workforce who not only remain professionally current, but also constantly seek to improve the system.

Consume, contest and contribute

Within education, there are even further lenses in which to consider learning transfer effectiveness. The three overlapping lenses of consume, contest and contribute cross reference to the broad themes of pedagogy, andragogy and heutagogy.

Pedagogy

The label pedagogy is often used to describe all learning regardless of age and experience. A more sophisticated breakdown of learning, however, confines pedagogy to the art of teaching children. Lacking the life experience or knowledge of adults, children require a significant amount of time learning facts and principles. This type of 'empty vessel filling' is necessary before a topic can be understood. Bloom's taxonomy likens this type of learning to his bottom three levels of knowledge, comprehension and application.

The proliferation of both the internet and other technology has lowered the age of pupils becoming students by negating rote learnt facts or lower order cognitive tasks. Schools are increasingly introducing

students to Bloom's higher three levels at younger age groups. Knowledge transfer retains an important role in giving Defence personnel the building blocks of esoteric military terminology and concepts. However, Defence's JPME system needs to continue evolving to match emerging cohorts of curious learners and extend their higher order cognitive abilities even further.

The role of instructors in the training system is well suited for the knowledge transfer, although traditional instructivism must give way to more interesting and engaging delivery techniques. Professional currency in effective facilitation skills is essential if Defence is to maximise learning opportunities in its workforce.

Instructional and pedagogical techniques are quick to acquire for Joint Stream postings from the wider organisation. It also remains a useful approach for the rapid transfer of knowledge in complicated tasks. The junior levels of Technical Mastery are particularly well suited to the rigidity of pedagogical learning.

Pedagogy is an important initial enabler for building a body of knowledge. Even at higher JPME levels, there are always new systems to learn. Pedagogy has a place at the start of any new learning journey and provides a foundation for subsequent topic exploration.

Andragogy

The concept of andragogy acknowledges the previous knowledge and experience learners bring. Rather than treating them as empty vessels who no longer need to be told what and how to think, andragogical techniques draw out understanding by building on previous knowledge. Using constructivism, facilitators relinquish a degree of control to the learners. This has linkages to formative assessments and guided learning, even when used on formal courses.

Simply calling an institute an adult learning environment, doesn't make it one.

Socratic questioning is perhaps the most popular technique for facilitating deeper learning. These questions differ from testing questions, in that they are designed to derive answers that the learners never realised they knew. This emboldens the learner to self-create understanding based on previous knowledge and experiences, even without a guide. The andragogical process can be improved by providing targeted new material or insights. Examples of these include pre-readings and observations from fellow learners.

Modified Oxford tutorial system (MOTS)

MOTS is a popular learning delivery approach in adult learning institutes. The original tutorial system involved regular very small group conversations on a prescribed topic. Preparation involved readings and a written paper submission. The advent of mass education saw the addition of lectures and tutorial class sizes increasing from one to two students up to 12–15. The MOTS sequence involves pre-readings, lecture, syndicate discussion, and two to three assessments for an entire module. This approach combines pedagogy for new information and andragogy for guided interpretation. The increased staff:student ratios allow greater numbers of learners but reduces the quality of personalised

learning. A further risk to learning effectiveness is when inexperienced tutors resort to pedagogical approaches in the tutorial.

An institute is not an adult learning environment simply because it occasionally employs some of these techniques. When the institute retains predominant control over what is to be learnt, when it will be learnt and how it will be learnt, then the degree of andragogy is minimal. For example, if the majority of assessments are summative, independent, and designed for ease of marking or to facilitate selection board processes, then the course is not constructively aligned towards encouraging ongoing Professional Wisdom development beyond the course.

Heutagogy

The concept of heutagogy takes andragogy to the next level. Instead of helping learners answer questions, it inspires them to ask new ones. In Defence, this equates to innovation and the relentless pursuit of increased Professional Wisdom. With empowerment over the process, the learners become the new thought leaders. Their forward leaning confidence does not give way to arrogance, but instead employs intellectual humility to question that which has never been asked.



See our footnotes for further research and cross-references to extended abstract,² contingency,³ equifinality,⁴ *energeia*,⁵ triple loop learning, Three Horizons, and the Design Thinking Educational Outcomes Ladder.⁶

In academia, the concept of heutagogy aligns with postgraduate research. Beginning with undergraduate research projects, supervised students simultaneously develop their sense of curiosity with advanced research techniques. As they progress to doctoral and post-doctoral stages, the level of supervision gives way to peer-review evaluation.

While Defence personnel seldom reach the level of professorial research fellow, scope still exists to nurture a culture of knowledge creation. Those showing an aptitude for advanced research are offered Defence scholarships. However, innovative solutions to emerging problems can come from all levels and by fostering this collaborative effort within the umbrella of design thinking, Defence personnel can contribute to their collective professional wisdom while addressing Defence's complex problems.

Design thinking includes the acknowledgment that no single person can comprehend the true nature of a complex system. With strategies to mitigate barriers (such as cognitive biases and heuristics) and the correct balance of diverse experts, significant advancements can be made in Defence's most challenging problems.⁷

Advanced JPME courses will actively move beyond andragogy and into heutagogy by encouraging their learners to write their own questions. Graduates of the course will not be expected to just answer someone else's problems; they need to recognise questions no one else has ever thought to ask. This intellectual inquiry needs habitual practice to become normalised.

The regular inclusion of design thinking and sustained exposure to multiple metacognitive techniques throughout an entire course or workplace will also



help grow an organisation of inspired thinkers who constantly seek to improve the system. This is how Defence will not only maintain, but increase, our intellectual edge.

Simplicity at the edges; complexity at the core

Defence is attracted to simplicity and structure. In fact, most operational activities involve restoring order from chaotic situations. Yet the reality of shape, deter and respond interventions are seldom anything less than complex. The art, therefore, is in translating the real-world challenges into relatively simple plans or instructions so all levels of the organisation can quickly understand and act.

Over time, the habitual process of moving from chaotic to simple becomes subconscious and transcends into other activities. This means critical (convergent) thinking becomes a well-developed skill that improves with experience. In contrast, creative (divergent) thinking is employed less frequently and therefore requires a conscious effort to develop.

Influencing complex adaptive systems requires a deeper understanding of the situation's true essence. The instinctive rush to oversimplify must be tempered with a ring-fenced opportunity to employ genuine divergent thinking. Final plans need simplicity at the edges but are developed from a true understanding of the complexity at the core.



Figure 2 Adapted Cynefin Framework developed by David Snowden (www.cognitive-edge.com).

The Cynefin Framework is a useful lens to help decision makers avoid prematurely rushing to simplicity. To appreciate a situation's essence – and develop innovative options to influence – it is necessary to move anti-clockwise from obvious around to chaos. Once the system has been explored from divergent perspectives, it can be reimagined in a more favourable state. This stage involves moving clockwise back from chaos to simplicity.

The Cynefin Framework offers JPME at least two important lenses. The first being to evaluate the learning culture's tolerance of chaos and complexity to facilitate in-depth subject matter material exploration. The second lens involves the meta-cognitive value of exploring the framework's underlying principles as part of an explicit cognitive abilities curriculum. This framework should be inter-disciplinary and extend through all modules and electives.

Meta-cognitive development transcends JPME courses. Improving intellect should be interwoven in both unit-level professional development programs and guided learning sessions.

Centricity lens

The progressive shift in focus from content-centric to learner-centric, aligns with the training–education spectrum and the pedagogy-andragogy-heutagogy spectrum. While the nuance of control and empowerment is linked, there is another dimension of perishability. Content-centric courses (including guided and workplace instruction) generally focus on positivist declarative knowledge. This can include episodic memory such as recall of facts and details but is less likely to focus on semantic memory. The latter being abilities such as speaking or driving a car. Head injuries can cause retrograde amnesia (forgetting events before the accident) yet other activities are unaffected. The relevance of this to JPME is that studying the history of a specific battle, or perhaps knowledge about an aircraft system, has a shelf-life unless currency is maintained with repetition and ongoing professional development (mandatory training being an example). The nature of cognitive abilities, however, is more transferable to multiple settings and is therefore more enduring.

Coursework-only post graduate qualifications (including doctorate and stackable micro-credential learning), for example, give the benefit of factual knowledge acquisition, but on their own, lack a progressive development in the transferable cognitive skills essential for deeper understanding and greater professional wisdom. The true value of long JPME courses and guided learning (supervised research), is the ability to progressively advance cognitive abilities through a holistic learning lens. The complexity of learning can be harnessed as a strength.

Stackable micro-credentialism is still preferable to no professional development and in many cases, is the only viable way for those in busy or dynamic roles to maintain professional currency. Care just needs to be taken not to conflate the deeper value

**Train for certainty.
Educate for
uncertainty.**

of qualifications when they are acquired through different paths. One mitigation to unstructured cognitive development is ongoing learning guides who transcend the micro-credential accumulation. This same approach can help improve the weaknesses of distance course delivery over full-time residential ones.

See our footnotes for further research and cross-references with transferable and enduring cognitive skills Trivium, Form over Substance (Hylomorphism), International Baccalaureate's Theory of Knowledge (TOC), and liberal education.

Control lens

The level of control over content, achievement and accreditation ranges from institute to learner. Often activities will overlap. However, consideration of the dominant influence allows decision makers to reflect on whether the learning opportunities they create are in fact achieving the desired outcome. Assuming all learning is the same, excessive control undermines the opportunity to enhance Professional Wisdom. The three main control themes are: Formal, Non-

formal and Informal. Incidental learning is uncontrolled by all actors involved in the engagement.

Formal learning

Within structured/institutional/off-work learning there is a continuum of approaches available. The dominant approach for training and lower order education is formal learning.

Formal learning is when full control resides within the institution. The institute decides what will be learned, how it will be learned, when it will be learned, and if it has been learned. This approach is successful when the content is treated as complicated. While the reality of a workplace means there might be some element of complexity, the risk (probability and/or impact) of second order impacts is accepted in the interest of rapid transition to workplace effectiveness. This suits Defence for tactical level tasks (mainly at JPME Levels 1 and 2) within Technical Mastery where the systems are considered bounded (closed systems).

Formal learning cross-references with pedagogy, training and content-centric learning.



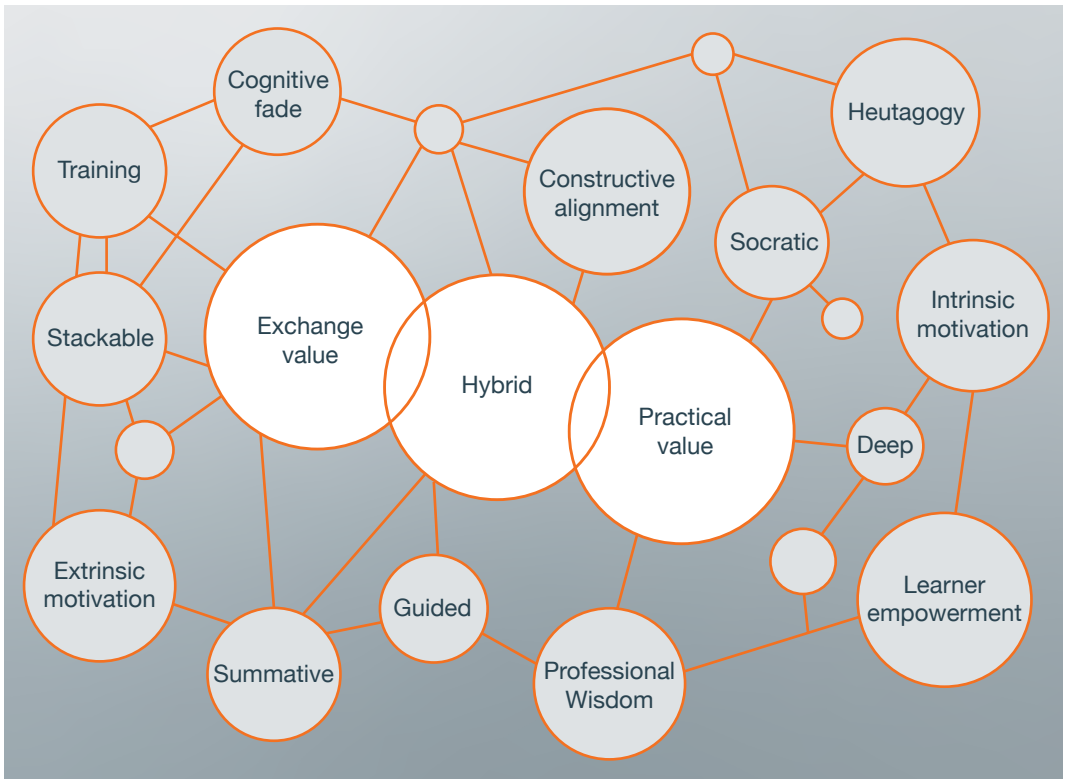


Figure 3 Neither extremes of exchange value or practical value are ideal.



Non-formal learning

Non-formal describes additional activities included by institutes that contribute to student understanding. These are not listed as measurable behavioural objectives per se, but instead are achieved through the way lessons are conducted or the additional self-paced learning required to meet learning or assessment requirements. Examples of non-formal learning include time management, computer skills, research techniques and stress management. While sometimes mentioned briefly in a course's curriculum, they are not taught formally and are typically only assessed indirectly insofar as they enable behavioural objectives to be met.

Non-formal learning is a significant source of Social Mastery development. Apart from initial theory lessons, the nature of Social Mastery requires internalisation, which can only really be acquired through habitual practice. For example, learning the theory of ethics does not make a person ethical. The same can be said of leadership, character and culture. Social Mastery, however, is often subjective and contextual, which means it is intangible and harder to quantify.

Non-formal cross-references with guided learning (including course tutors), whitespace learning, and the hidden curriculum. When articulated more explicitly, non-formal learning outcomes cross-reference with the parallel curriculum.

Accreditation lens

Throughout the Cold War, JPME was focused almost exclusively on preparing to defeat a known adversary. This relatively stable era meant subject matter was top-down. Since the 1990s, militaries faced an explosion of regional conflicts involving imaginative insurgents. This period also saw a proliferation of technological advancements that outpaced Defence's bureaucratic training review system. To match emerging adversaries, militaries around the world turned to crowd-sourcing its innovation from within. This meant partnering with civilian universities to enhance professional wisdom.

Funded formal qualifications are treated as a motivator for course completion and continuing schooling. This emphasis on credentialism continues

to encourage personal growth and thus raises Defence's collective intellectual edge. Linking such qualifications to internal career advancement has further incentivised such study.

Incremental accumulation of stackable micro-credentialism, however, needs deeper consideration through a critical lens. While it is a practical, and often the only, solution for those juggling family and career opportunities, it should not be considered equivalent to full-time study. Key decision makers, and their financial advisors, must remain cognisant of the negative aspects of part-time and remote study. Although incremental accumulation of coursework credits has advantages, it lacks the depth of informal and non-formal learning where the quality of guided and peer learning is diminished. Furthermore, without intervention, micro-credentialism lacks the holistic trivium-style education where interdisciplinary linkages are facilitated through the social aspects of colloquia, plenaries, reflection sessions and journaling.

Micro-credentialism retains an important place in JPME, but the negative aspects need proactive intervention. Learning guides and decision makers of advanced JPME institutes can ensure the system remains valuable by scaffolding what is often a largely self-designed qualification. Civilian universities are not the employer of their graduates and are therefore unaware of Defence's needs when designing public courses. Partnered universities delivering in-house Defence courses help overcome this problem.

Even within advanced, full-time JPME courses, care needs to be taken with micro-credential-based electives or when the course is designed around accreditation authorities and promotion boards. Defence-funded JPME must remain focused on improving workplace performance without becoming dominated by qualifications.

Depth in Professional Wisdom is not achieved through the extrinsically motivated accumulation of accreditation. The nature of accreditation demands measurable and observable objectives. Not all learning can or should be reduced to behaviourism. A passion for lifelong learning, for example, requires a genuine desire to improve.

Limiting learning outcomes solely to behavioural objectives highlights cognitive bias weaknesses in the JPME system. The most common being availability bias, illusory correlation and systemic error.

Another lens to consider accreditation through, is the practical versus exchange value. Exchange value describes courses orientated purely towards accreditation and emphasise summative assessments. These courses are often linked indirectly to promotion board criteria or gateways to key positions (including civilian recognition). Both the syllabus and student motivation become driven by the need to achieve tangible grades.

The alternate extreme to exchange value is practical value. This is when learning has no accreditation but directly improves workplace performance. Learners who are motivated by practical value will seek opportunities to improve their areas of weakness, rather than those who will simply yield the highest grade. In contrast, strategic learning involves the use of incremental achievements to help focus planned development.

Both practical and exchange value have strengths and weaknesses. Most courses are a hybrid of both, but when left unexamined, they can become dominated by either extreme or some cultural levers might clash and become counter-productive to the overall aim.

Neither non-formal nor informal learning contribute directly to accreditation. Leaders of learning have the ability to positively influence, but not control, both types to engage the learners in a more meaningful way. The shift from formal to non-formal learning indicates a partial transfer of power from the institute to the learner.

**A coach assists,
challenges and
encourages rather
than directs, advises
or teaches.**

As a complex system, there is no single solution to higher learning. Decision makers must seek to balance advantages and disadvantages of each dimension. Such decisions need to be informed by the deeper appreciation of interdependent relationships created in alternate scenarios. The accreditation lens is just one of several perspectives to consider when shaping academic philosophies, parallel curricula and strategic plans.

Informal learning

Informal learning occurs during activities that are institute influenced but student controlled. Examples of these include spontaneous student discussions while waiting in a coffee queue or over lunch with other students.

Informal learning is a powerful way to improve learning depth through connectivity. Institute leaders can enhance the opportunities for this learning by explicitly identifying and budgeting for initiatives that promote opportunities. Examples include the provision of onsite catering, scheduling timetables to increase students remaining onsite, provision of funded morning teas and residential accommodation. Without an informal learning plan, such initiatives are prone to funding cuts or progressive value erosion by staff who do not appreciate the linkages.

Incidental learning

The final theme within the control lens is incidental learning. This is where spontaneous learning opportunities happen by chance. Neither the institute nor the learner controls what, when, where or if something is learned. The holistic nature of learning means they can occur anywhere and anytime, but to be considered part of JPME they would contribute in some way to developing Professional Wisdom. The value of such opportunities is enhanced when they are reflected on. This can be as simple as internal interpretation or journalling but are even more powerful when shared. Examples of these include safety moment talks at staff meetings, publishing a blog, discussions with learning guides and group reflection sessions when on courses.

Incidental learning cross-references with water-cooler and serendipitous learning.



Figure 4 Guided learning improves any one-on-one development process. Examples include coaches, mentors and workplace leaders such as supervisors, divisional staff and career managers.

Guided learning lens

Guided learning captures any relationship where professional wisdom is improved through a personalised support relationship. While coaching and mentoring in the workplace are the most commonly recognised examples, others are equally important. Facilitators delivering off-job courses, for example, have the potential to offer powerful support to learning. Coaches and mentors outside Defence can be as broad as family members or informal arrangements with appropriate guides. Within the workplace, learning guides will often include immediate supervisors and others in the command chain, but can expand to other areas such as career managers and medical and welfare professionals.

Differences between coaching and mentoring definitions vary. As a general rule, mentors have previous personal experience in the position and provide more directive and specific advice where appropriate.

They are typically recognised for their wisdom and assist with resolving specific challenges. This tends to result in reactionary learning and can lack holistic development if not consciously mitigated.

In contrast, coaches do not offer their own advice or opinion, but help the learner find their own solution. A coach assists, challenges and encourages rather than directs, advises or teaches.

Coaches are less likely to be experts in the situation but are well placed to recommend additional learning opportunities to help develop more broadly. For example, they might not be a good public speaker themselves, but they know of learning opportunities that could help.

The delineation between coaching and mentoring is often blurred because the two can occur simultaneously. The same person might switch from a mentoring to a coaching role in the same session. Importantly, both are improved by having

an awareness of deeper learning goals and are intertwined with applied experiential learning opportunities.

The impact of guided learning on actual growth is impacted by the power imbalance between the two parties. For example, workplace supervisors, career managers or course staff who also report on the individual are more likely to see behaviour changes due to the consequences. Such extrinsic motivation is less likely to produce internalised changes compared with suggestions from someone without power. Coaches and mentors, therefore, are often sought from those who have no influence over career advancement or other extrinsic motivators. Those in positions of power are more effective when genuine delineation is made between formative and summative assessments.

Effective guided learning occurs when indirect methods are used. Rather than giving specific advice, guides should use andragogical and heutagogical techniques to allow the recipient to derive their own solution. The use of Socratic questioning and other constructivist techniques help develop enduring cognitive abilities beyond the guided learning relationship. Pure andragogy, however, only teaches a student how to answer questions; even deeper learning occurs when they learn to ask new questions.

Extensive support is available for developing learning guides, both in and outside Defence. Ongoing professional development as a learning guide is an important part of all Defence personnel holding leadership roles.

Experiential learning lens

Although slower to develop, experiential learning is a significant contributor to Professional Wisdom. Extensive workplace experience does not always lead to Professional Wisdom. To be truly effective, the practical exposure must be complemented with intermittent and increasing levels of theoretical understanding. Furthermore, the experience needs to include breadth, depth and currency in the given field.

Experiential learning consolidates theoretical understanding with applied learning opportunities. Often it includes extensive repetition to automate

Leaders of learning have the ability to positively influence, but not control, both types to engage the learners in a more meaningful way.

responses as well as give opportunities to recognise exceptions to the general principles. With sufficient diversity in exposure, experience compensates for differences between idealism and pragmatism.

Through a process of heuristic learning, practitioners develop mental short cuts to improve processes and acquire personalised strategies to improve both efficiency and effectiveness. Heuristics can, however, introduce problems.

Heuristic learning is similar to cognitive biases in that it can lead to hasty decisions being made based on previous experience, without full consideration of the information available. Heuristics can lead to bad habits that are difficult to change when subsequent interventions are introduced. Heuristics also can suffer from limited sample sizes or non-representative experiences. Furthermore, emotional factors can impact on rational decision making when a situation closely resembles a previous bad experience.

To maximise the value of experiential learning in JPME, practitioners and guides need to mitigate the risks through awareness raising and proactive seeking of diverse experiences.

Uniformed members of Defence are generally posted to new work areas every two to three years to deliberately increase learning opportunities. APS and those whose jobs do not require significant movement should actively seek diverse experiences.

In consultation with career managers, supervisors and other learning guides, deliberate Joint Stream

postings and variations with one's normal role should seek to progressively stretch and expand experience. In addition to position changes, other opportunities such as secondments, exchanges, exercises, deployments and short-term appointments should be actively sought.

Managing own career learning experiences should be conducted at both a macro and micro level. Macro opportunities (postings and exchanges) can be mapped out over multi-year plots while micro opportunities can be seized at short notice within a posting cycle.

Experiential learning can be enhanced by regular reflection sessions, journal keeping and sharing of experience through blogs, essay competitions and workplace professional development sessions.

Learning through second-hand observations is also highly valuable and opportunities to observe others performing in specialised or rare events can be helpful in developing professional wisdom.

Often the most memorable experiences are also the most challenging. Those that involve deep emotional engagement are not always pleasant but are powerful. Neurotransmitter substances in the brain such as dopamine, adrenaline, serotonin, endorphins and oxytocin are memory fixatives and help to improve memory recall. This however can be a disadvantage when decisions are incorrectly influenced by a similar but different event. In general though, extensive and diverse experience is a significant contributor to acquiring professional wisdom.



Figure 5 Operational deployments are a powerful experiential learning opportunity.

Don't just seize opportunities, create them.

Undiscovered lenses

Not all JPME activities are equal. Viewing them through different lenses helps value them for different purposes and thus employ them in a constructively aligned way. Reading lists (such as books, journals, podcasts and JPME blogs) or seminars are an example of pedagogy. On their own, they are simply conveying another person's perspective. The real value comes from challenging the author's argument through rebuttals. This can be through written counter-argument papers to the same source, or through facilitated workplace reflection sessions or personal guided learning events.

By contesting conventional wisdom through academic debate, individuals not only deepen their understanding of the topic, but also their cognitive skills. The process itself becomes a cultural artefact

to encourage ongoing divergent and convergent thinking. Developing professional wisdom implies simultaneously developing both intellectual courage and intellectual humility.

Current examples of heutagogy in Defence include: Domain Centre essay competitions, fellowships, sponsored advanced study, wargaming, continuing schooling, guided learning relationships, unit level professional development systems requiring staff to publish research papers or submit articles (either supervised or peer-reviewed) and regular workplace colloquia to ensure all staff are actively involved in developing their Professional Wisdom. Arguments about not having time to engage in professional development merely indicate a relegation of priority for enduring learning over short-term content. When the temptation for immediate results dominates, Professional Wisdom development languishes.

Within Social Mastery development, an array of lenses can help understand and optimise learning opportunities. Without a common and deeper understanding of techniques, for example, staff will inadvertently mix approaches rather than optimise them for the outcomes sought. For example, a shared understanding of the differences between coercion, indoctrination, inculcation, acculturation, socialisation and assimilation will improve character development programs.

Closing reflections

Those charged with commanding, directing or facilitating learning systems have an excellent opportunity to combine individual professional development with upskilling their unit's collective understanding of specialist concepts and their application to learning environments. Routine staff development sessions where all personnel are given the opportunity to research, interpret, reimagine and then share specific approaches, or lenses, provides a dual benefit in developing Professional Wisdom.

The lenses offered here are just a small selection of the endless ways to explore, and ultimately improve, learning systems across Defence. The true value from continuous improvement in JPME is when these lenses are not just considered – but contested. Progressive refinements or even completely new lenses are essential if Defence is to maintain an





intellectual edge. If Part 3's discussion on holistic learning does not generate some degree of academic resistance, then it has failed. At best, these ideas are perishable in terms of increased understanding of adult learning; at worst it is a shelf-ware monologue.

Those expecting a definitive road map to grow Professional Wisdom reinforce the very point of Part 3. That is: Defence needs to invest more in growing leaders who not just survive, but thrive in complex adaptive systems. There is no recommended Course of Action (COA) with definitive lines of operation and decisive points for holistic JPME. Every situation is unique and constantly evolving.

Building connections between the ADF and APS learning ecosystems will be a long journey starting with discovery and establishing shared language and definitions. There is great unrealised potential currently partitioned in the APS and ADF learning paradigms. Synergy across each will deliver dividends for the entire organisation. This document represents a joint commitment to commencing this critical work.

The essence of managing JPME wicked systems is building an agile team of members who share a common understanding of – and passion for – the strategic intent. This foundation is then enhanced through continued exploration of the system's dynamic nature through multiple lenses. Appreciating that the principles of complex adaptive systems include no steady state, no end state, and no single perfect solution, means the enablers of learning will be comfortable in remaining dynamic and responsive. Higher JPME systems will be further improved when rigid structures are minimised.

Developing Professional Wisdom requires organisational trust in those being developed and their facilitators. To build this trust, however, the facilitators need investment in their own professional development as well as the conditions for success. Given the right strategic culture and empowerment of diverse options, advanced JPME can unleash the power of mission command and ensure that Defence attains, sustains and retains the intellectual edge.

Glossary



The Australian Defence Glossary defines the majority of terms used in this publication and should be used as a primary reference. Certain concepts, however, have a unique meaning in the context of JPME. The following list provides additional clarity to such terms but is not intended to be comprehensive. Further academic research of key concepts is necessary to understand the constantly improving concepts within learning and development.

Acculturation The process of subtle cultural alignment. Is less direct and confrontational than inculcation.

Andragogy Learning where students and facilitators share the process through constructing understanding. Often associated with Adult Learning Theory.

Behavioural Actions that are both measurable and observable.

Body of Knowledge The information associated with a specialised discipline. It includes the unique language and concepts necessary to perform in an area.

Character The consistent mental and moral qualities of an individual.

Climate A social group's current state. Similar to culture but more transient based on recent events and their relationship to traditional artefacts.

Coach A learning guide who helps develop others in a tailored way. Is seldom an expert in the coachee's field, but assists by finding relevant learning opportunities.

Colloquia (plural of colloquium) Academic conferences or seminars coordinated through the Defence College. Within JPME these typically involve open topics.

Complex A system involving multiple interdependent agents (elements or sub-systems) where the relationship is as important as the agent. Complex systems must be considered holistically rather than isolated sub-elements.

Complicated A system with two or more parts that act in a predictable manner. The increasing number of agents means the system is more complicated.

Constructive Alignment The deliberate synchronisation of assessment strategies and parallel curricula with a body of knowledge syllabus.

Constructivism The process of building deeper understanding of new learning by linking it to existing expertise.

Cross Cultural The differences between two or more cultures.

Cultural Artefacts Tangible indicators of a social group's unique identity.

Culture The customary beliefs, social norms and material traits of a social group.

Defence Mastery The balanced and continual development in the fields of Cognitive Abilities, Profession of Arms, and National Security Policy and Strategy.

Education The transfer of theoretical principles to facilitate understanding in new and unique settings.

Espirit de corps A group's collective morale.

Ethics Moral principles or standards of acceptable behaviour by which any particular person is guided.

Ethos The very identity of an organisation or unit. It is used to describe characteristics such as inner spirit, morale, esprit de corps, standards and values, purpose and mission. Also used to describe one of Aristotle's three modes of persuasion.

Experiential Learning Heuristically acquired understanding and skills developed through practical experience.

Explicit Knowledge Information that can be articulated, codified, stored and accessed (aka expressive knowledge).

Extrinsic Motivation Behaviour driven by external rewards rather than a personal belief.

Facilitator A person who helps others learn through skilled employment of learning theories.

Formative Assessment Describes assessment to assist and support a process, especially a learning process, during the undertaking of that process. Example: advising the learner about the quality of performance and progress towards the attainment of a competency.

Fundamental Inputs to Capability (FIC) A standard checklist designed to report on all of the inputs that enable the effective and ongoing generation of Defence capabilities.

Guided Learning The process of developing through one-on-one support by a coach, mentor or other facilitator of learning.

Heutagogy The highest level of education where learners control what and how new learning occurs. Learners craft their own questions to extend understanding greater than previously considered.

Holistic Learning The full exploitation of different opportunities to develop. Spans, intensive education and training, as well as guided and experiential learning delivered in multi-modal formats.

Influence The combination of leadership, management and command, to achieve outcomes through others. It includes personal conduct and communication skills.

Instructivism The delivery method used for training and pedagogy where the organisation retains control over what, how and if learning has occurred.

Instructor A person who imparts expert knowledge in a training setting.

Intellectual Edge The relative advantage over an adversary derived from the collective professional wisdom of an organisation's members.

Intensive Learning Off-job learning opportunities where the sole purpose is professional development.

Internalising The process of moving from knowledge of values to accepting them as part of one's character identity.

Intrinsic Motivation Behaviour driven by an internal desire rather than the recognition or reward from others.

Joint Professional Military Education (JPME)

A heritage label retained due to its international recognition. This Continuum, however, transcends the doctrinal definitions of joint, military and education.

Joint Streams Additional areas within Defence in which experienced personnel can be employed, regardless of their primary specialisation.

Learning In the Defence context, the combined training, education, learning and development of individuals, teams and force elements to build the knowledge, skills, behaviours, attitudes and values to enable Defence to achieve mission success.

Learning Opportunities Any activity, whether planned or not, where participants increase their Professional Wisdom.

Mentor A learning guide who has previous experience in a role and can offer advice on specific problems.

Micro-credentialism The reduction of major qualifications into short learning opportunities where graduates are rewarded with limited academic standing. It can facilitate articulation to full qualifications.

Mission Command A philosophy for command and a system for conducting operations in which subordinates are given clear direction by a superior of their intentions. Note: The result required, the task, the resources and any constraints are clearly enunciated; however, subordinates are allowed the freedom to decide how to achieve the required result.

Morals Applied ethics expressed in explicit statements such as commandments, codes of conduct and rules.

One Defence Capability System (ODCS) The activities, processes and systems used as an integrated system to develop and manage capability within Defence.

Parallel Curriculum A written plan of implicit learning outcomes linked to an explicit body of knowledge syllabus and delivered concurrently. The explicit syllabus is used as a vehicle for developing the tacit areas such as cognitive abilities and Social Mastery.

Pedagogy The process of knowledge and skills acquisition by direct instruction. Control of what and how new material is learned resides with the teacher. Often associated with teaching children or those with no previous awareness and experience in the field.

Plenary A compulsory attendance learning setting but is generally recognised as a question and answer session following a lecture.

Professional Mastery The balanced and continual development of Defence, Technical and Social Mastery.

Professional Wisdom The balanced and continual development of Professional Mastery (acquired through both education and guided experience), intellect and common sense.

Social Mastery The balanced and continual development of Influence, Military Ethics and Values, Character, and Cultural awareness.

Socratic Questioning A teaching technique where facilitators use questions to draw new understanding out of the learner.

Stackable Learning Modular learning where micro-credential courses accumulate to a substantial qualification or articulate to a higher level.

Summative Assessment Describes assessment on completion of a process, and in training it can be used to determine both achievement of a training program/course and whether a unit of competency has been achieved. Example: recognition of prior learning.

Systems Thinking The interpretation of a situation in its entirety. Includes open, closed, simple, complicated, complex and complex adaptive systems.

Tacit Knowledge Information learned through activities without awareness and cannot be described. Has linkage to heuristic learning.

Teacher A facilitator of education.



Technical Mastery The combination of an individual's training, knowledge, experience and skills that ensures their ability to carry out a specific employment function with a high level of competence.

Training The transfer of specific knowledge, skills and attitudes to prescribe standards.

Vices Negative values as judged by society. The opposite of virtues.

Virtues Positive values. Often thought of as the highest group of values as judged by society. The opposite of vices.

Volatile Uncertain Complex Ambiguous and Novel (VUCAN) Sometimes referred to as just VUCA.

Wicked Systems Complex adaptive systems where the situation changes whenever an effect is made on it. Decision makers become part of the system. It is impossible to define set procedures, as future occurrences will always be different.

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